

LAVAR WARE

UTAH UPLAND GAME Annual Report 1973

PUBLICATION NUMBER 74-9

Federal Aid Project W-65-R-D-22



STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

John E. Phelps, *Director*

UTAH
UPLAND GAME
Annual Report
1973

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PUBLICATION NO. 74-9
Completion Report for Federal Aid Project W-65-R-D-22

Utah State Department of Natural Resources
DIVISION OF WILDLIFE RESOURCES

John E. Phelps
Director

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JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT
(Inventory)

State of U T A H

Project No. W-65-R-D-22

Project Title: State-wide Wildlife
Management Inventory

Job No. A-4

Job Title: State-wide Upland Game
Inventory and Management

Period Covered: January 1, 1973 to June 30, 1974

Abstract: This report includes upland game inventory and harvest data relating to the 1973-74 hunting seasons. Results of annual inventory and harvest surveys and long-term trends of indexes derived by each method are included. Data obtained in 1973 are compared to 1972 and long-term averages.

Objectives: To conduct annual inventories and determine the population trend and annual harvest of upland game.

Procedures: Annual inventory procedures for ring-necked pheasants included winter sex-ratio counts and summer roadside counts. The winter sex-ratio counts were conducted from December 15, 1972, through February 10, 1973, as snow cover conditions allowed. Indexes derived include hen-cock ratios and pheasants observed per 100 hours. Annual summer roadside counts (three or more per route) were conducted from July 22 - August 3 on permanently established routes. Indexes derived include pheasants per mile, young per mile, young per hen, mean brood and percent of hens with young.

Mourning dove breeding population trend was determined via the annual call-count survey. This survey is part of a nation-wide survey administered by the Bureau of Sport Fisheries and Wildlife. Call-counts are conducted over 15 permanent, 20-mile routes. One count was made on each route between May 20-30. Doves were banded during the pre-season banding period (June 1 - August 20) primarily using mist nets at waterholes.

Random brood counts were conducted on chukar and Hungarian partridge, forest grouse (ruffed and blue), sage grouse, wild turkey and quail from July 10-August 5. Indexes derived for each species include mean brood size, young per 100 adults and birds observed per 100 hours effort.

Sage grouse strutting ground counts were conducted from March 15-May 15. Total cocks counted, average cocks per ground and percent change from 1972 for comparable grounds were determined on a county basis.

One Gambel's quail call-count route was run in Washington County in late April and early May. Long-period waterhole counts were completed in July and August.

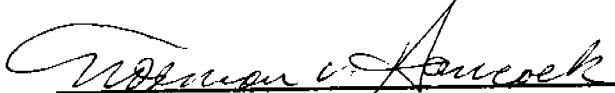
Cottontail rabbit roadside counts were conducted over pre-established routes between July 15 and August 5. Indexes derived include rabbits per mile and young per 100 adults.

Two separate harvest questionnaires were mailed to an approximate 11 percent sample of eligible licensees. One, concerning the harvest of game birds excluding wild turkeys, was mailed in January 1974, and the other concerning cottontails was mailed following the close of the season in March 1974. Questions were asked concerning the number harvested and the number of days hunted in each county by species. Additional questions were asked of cottontail hunters concerning harvest by month and whether or not they hunted upland game birds in 1973. A separate questionnaire was also sent to all wild turkey permittees following the close of the spring season. Upland game bird and cottontail rabbit questionnaires were processed by the University of Utah Computer Center and turkey questionnaires by Game Management Section personnel. Total harvest, hunters and hunter-days afield were estimated using standard projection factors based on total eligible licensees and total questionnaire returns. Hunter success per day and per hunter was determined as well as the distribution of harvest and hunting pressure by county.

Field bag checks of upland game hunters were made at random or at checking stations during each hunting season. Indexes derived include bag per hunter (per day), bag per 100 hours, average hours per hunter-day and average hours per bird bagged.

Recommendations: This project should be continued for the purpose of determining trends of upland game inventory and harvest statistics in Utah.

Approved by:


Chief, Game Management


Federal Aid Coordinator

Date:

August 6, 1974

INTRODUCTION

The objective of Utah's upland game management program is to provide recreational hunting opportunity for sportsmen within the limits of the annual harvestable surplus for each species. It is based on the knowledge that populations of upland game experience relatively high rates of annual turnover. High reproductive rates are naturally compensated for by high death rates, whether hunting is allowed or not. Annual surveys are conducted to measure the production, trend and harvest of each upland game population hunted.

This is the third edition of this annual Upland Game Report. It is a consolidation of, and annual completion report for, information compiled during all inventory and harvest surveys conducted under Federal Aid Project, W-65-R, Job A-4. Information contained herein was compiled by conservation officers, biologists and game managers of the Division of Wildlife Resources. Harvest information previously published in the annual Upland Game Harvest Book is included.

This report serves as a handbook of inventory and harvest trend data. It is designed primarily for the use of those concerned with the management of upland game in Utah. A separate section is devoted to each form of upland game hunted in Utah. Data is presented primarily in tabular form with limited narrative comment. The first page of each section provides a brief summary of population status and trend as indicated by inventory and harvest data.

During 1973, a total of 92,098 Utah sportsmen spent 606,925 days afield in pursuit of various upland game species. The harvest of upland game totaled 719,308. The proportion of the total upland game hunters which pursued each species is shown in Appendix Table 2 and the percentage failing to bag at least one bird of each species in Appendix Table 3. The framework for 1973 upland game hunting seasons is shown in Appendix Table 4. Harvest statistics by species were as follows:



Species	Hunters Afield	Total Harvest	Hunter Days	Bag/ Hunter-day	Bag/Hunter for Season
Pheasant	75,968	196,012	278,033	0.70	2.58
Mourning dove	27,435	307,062	97,788	3.14	11.19
Chukar partridge	13,888	48,135	50,677	0.95	3.47
Sage grouse	10,017	13,926	19,049	0.73	1.39
Forest grouse	17,588	45,232	44,738	1.01	2.57
Quail	5,654	14,324	17,777	0.81	2.53
Hungarian partridge	3,566	6,014	11,516	0.52	1.69
Wild turkey					
spring	135	0	311	0.00	0.00
fall - no season					
Cottontail	20,109	88,603	87,036	1.02	4.41

Total hunters afield for all species of upland game birds = 85,986
Hunters afield for cottontails who did not hunt game birds = 6,112
Total upland game hunters afield = 92,098

The harvest of game birds was based on a 45.5 percent return of 17,572 questionnaires and cottontail harvest data on a 34.7 percent return of 17,020 questionnaires.

Weather conditions during the early part of 1973 were almost the exact opposite of 1972, especially in the southern one-half of the State, where the first quarter of the year was the driest in history. Weather conditions in 1973 were characterized by near record snow and cold in January and well below normal temperatures during most of February, March and April. This delayed the development of most agricultural crops and probably had a similar effect on upland game species. Early summer was unusually wet in southern and eastern counties but was relatively dry in the northern mountains and along the Wasatch Front. The pattern reversed during July with above normal moisture in the north and dry weather in the south. Temperatures were above normal in May and continued that way through August. In September a cold front brought heavy precipitation in the north and below normal temperatures over most of the State. The opening weekend of the mourning dove season was wet and cool. Warm, dry weather prevailed through October and into November. The opening of the pheasant season was warm and dry but later in November above normal precipitation occurred statewide. December had relatively dry weather except in the northern mountains and along the Wasatch Front. Temperatures for the year were generally normal or below while precipitation accumulations were above normal, especially along the Wasatch Front.

It is probably that the heavy winter snows proved detrimental to most species and tended to depress breeding population levels. The late spring was harmful to the production of pheasants and California quail, while most other species seemed to benefit from the added moisture and improved forage conditions.

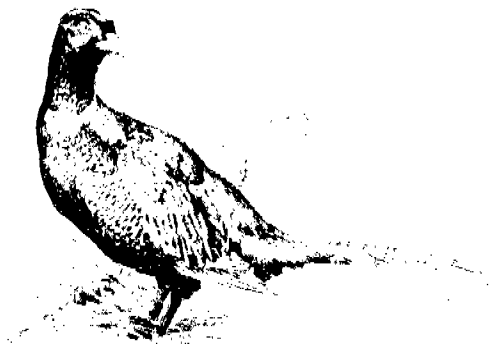
RING-NECKED PHEASANT

SUMMARY

The fall pheasant population in 1973 dropped to what was probably its lowest level in several decades. This was the result of a combination of generally below average production since 1968 and gradually deteriorating habitat. The greatest reduction in pheasant density has occurred in the more intensely farmed areas of the Northern Region and in the Southeastern Region.

The breeding population was lower than in 1972; however, such a decrease was not reflected in sex-ratio counts due to concentration of pheasants and resultant greater counting efficiency. Production improved in the Northern, Northeastern and Southeastern regions to near normal but decreased in the Central and Southern regions resulting in a statewide index similar to 1972 but slightly below average.

Harvest statistics reflected the decreased population level as hunting pressure, harvest and hunter success all declined. Total hunters and hunter success per day were the lowest on record. Reduced hunter participation resulted primarily from reduced bag and possession limits and an advertised reduction in pheasant abundance. Bag and possession limits were reduced from 3 and 6 to 2 and 4 respectively. Weather conditions for the opening weekend of the season were generally warm and dry.



Winter Sex-ratio Counts

Results of this survey for the winter of 1972-73 and long-term trends are shown in Tables 1 and 2 of this section. Comparisons to the winter of 1971-72 and the average on a statewide basis are as follows:

	<u>Winter of</u> <u>1972-73</u>	<u>Percent change from</u>	
		<u>1971-72</u>	<u>Average</u>
Total pheasants counted (roadside)	14,758	+27	-7
Hens per cock	5.6	+14	+33
Pheasants observed per 100 hours	1,692	+9	-5
Total hours effort (roadside)	953	+28	+17

Total sample size was about one-fourth greater than in 1972 but still slightly below average. Pheasants observed per 100 hours effort was higher than 1972 but below average.

The above suggests an increased breeding population level for 1973 which is not in concert with the reduced harvest and hunter success of 1972. It is probable that the relatively severe winter of 1972-73 concentrated pheasants facilitating increased counting efficiency. The 1973 breeding population level was probably lower than 1972. Hen-cock ratios were wider than both 1971-72 and the average reflecting both greater hunting pressure in 1972 and counting conditions. Assuming a pre-season sex ratio of 1.1 hens per cock, hunters harvested approximately 80 percent of the 1972 fall population.

Roadside Counts

A summary of pheasant roadside counts for 1973 is shown in Table 3. Long-term trends of pheasants per mile, young per mile, young per hen, percent of hens with young and mean brood size are found in Tables 4-8. Survey results for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total pheasants observed	1,894	-53	-54
Total miles driven	2,561	-15	-9
Pheasants per mile	0.74	-44	-51
Average brood size	5.65	+1	+3
Young per hen	3.95	+1	-7
Percent of hens with young	74	+3	-3

Indicated pheasant density was only about one-half that of both 1972 and the average. Because of a late spring, grain and second-crop hay were not harvested by the survey period, resulting in poor counting conditions. This probably biased density indexes downward. Production statewide was similar to 1972 and only slightly less than average. Production improved in the Northern, Northeastern and Southeastern regions to near average. Fall pheasant populations appeared to be down from 1972 but probably not to the degree indicated by the pheasants per mile index. The decline was primarily attributable to a reduced breeding population level.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1973 are shown in Table 9. Long-term trends of pheasants bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 10-12 and total statewide harvest statistics in Table 13. Following is a comparison of 1973 harvest statistics to 1972 and the average:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Pheasant hunters	75,968	-10	-10
Pheasants harvested	196,012	-18	-22
Hunter-days afield	278,033	-15	+34
Pheasants per hunter	2.58	-9	-13
Pheasants per hunter-day	0.70	-4	-42

In 1973, the daily bag limit was reduced from 3 to 2 and the possession limit from 6 to 4. This, coupled with an advertised reduction in pheasant abundance, resulted in only 75,968 hunters afield, the lowest number of hunters on record. The number of hunter-days afield also declined from 1972 but was well above average due to the relatively long season (up to 30 days). Total harvest and hunter success declined as expected because of the reduced bag limit and fewer pheasants. Weather conditions were generally warm and dry on the opening weekend of the hunting season (November 10 and 11).

Long-term trends (1948-73) of total pheasant hunters, harvest and hunter success are shown in Figure 1.

Field Bag Checks

A summary of pheasant field bag check data for 1973 is shown in Table 14. The hunter success trend determined via bag check since 1966 is found in Table 15. A comparison of 1973 data on a statewide basis to 1972 and the average follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	6,957	+57	+83
Total hours hunted	24,043	+47	+79
Pheasants per hunter (complete hunts)	0.70	-15	-32
Pheasants bagged per 100 hours	14	-12	-36
Average hours per hunter-day (complete hunts)	4.4	-12	-8
Hours hunted per pheasant bagged	6.3	+3	+34

Hunter success indicated by this survey for 1973 was the lowest recorded since it was initiated in 1966. The statewide index of 0.70 pheasants bagged per hunter-day was identical to that derived via questionnaire.

The average hunter checked spent 4.4 hours per day afield, a decrease from both 1972 and the average. Slightly more hours were required to bag one pheasant.

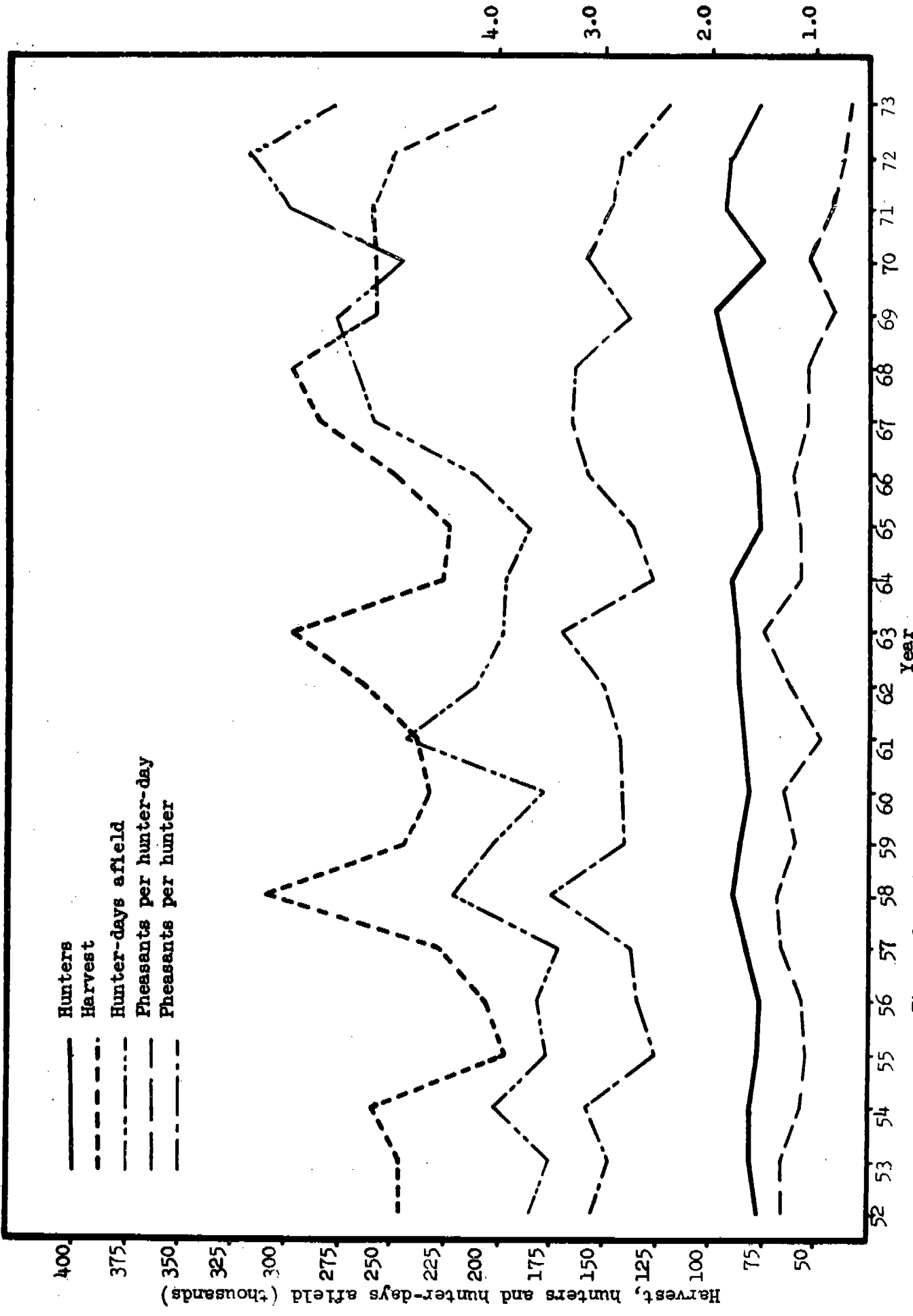


Figure 1. State-wide trend of pheasant harvest statistics.

Table 1. Summary of pheasant winter sex-ratio counts, 1972-73.

Region & County	Roadside Observations			Flushing Observations			Effort Expended			Pheas. Obs. 100 Hrs. o Road Obs.			
	Cocks	Hens	Total	Hens/100 Cocks	Cocks/100 Hens	Total	Hens/Cock	Cocks/Hens	Vehicle Miles		Hours Effort		
Northern Region													
Box Elder	161	635	796	3.94	25	0	0	0	481	41	0	41	1941
Cache	30	280	310	9.33	11	3	50	53	518	34	5	39	912
Davis	10	111	121	11.10	9	0	0	0	99	5	0	5	2420
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	58	571	629	9.84	10	14	73	87	220	21	4	25	2995
REGIONAL TOTALS	259	1597	1856	6.17	16	17	123	140	1318	101	9	110	1838
Central Region													
Juab	13	194	207	14.92	7	0	0	0	161	12	0	12	1725
Salt Lake	422	2106	2528	4.99	20	19	165	184	1468	120	4	124	2107
Sanpete	209	1214	1423	5.81	17	3	6	9	785	85	6	91	1674
Tooele	283	2959	3242	10.46	10	0	0	0	794	70	0	70	4631
Utah	295	1609	1904	5.45	18	0	0	0	1290	133	0	133	1432
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1222	8082	9304	6.61	15	22	171	193	4498	420	10	430	2215
Southern Region													
Beaver	13	135	148	10.38	10	0	0	0	294	21	0	21	705
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	15	147	162	9.80	10	1	33	34	899	33	10	43	491
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	69	636	705	9.22	11	0	0	0	460	49	3	52	1439
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	66	506	572	7.67	13	0	0	0	450	38	0	38	1505
Washington	19	92	111	4.84	21	10	57	67	233	25	10	35	444
Wayne (w.w.)	19	35	54	1.84	54	3	16	19	485	12	4	16	450
REGIONAL TOTALS	201	1551	1752	7.72	13	14	106	120	2821	178	27	205	984
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	149	346	495	2.32	43	13	17	30	1127	59	8	67	839
Uintah	232	468	700	2.02	50	17	28	45	734	39	5	44	1795
REGIONAL TOTALS	381	814	1195	2.14	47	30	45	75	1861	98	13	111	1219
Southeastern Region													
Carbon	55	101	156	1.84	54	12	27	39	405	27	8	35	578
Emery	110	358	468	3.25	31	35	79	114	838	41	14	55	1141
Grand	6	11	17	1.83	55	0	0	0	254	7	0	7	243
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	171	470	641	2.75	36	47	106	153	1497	75	22	97	855
STATE TOTALS	2234	12514	14758	5.60	18	130	551	681	11995	872	81	953	1692

Table 2. Trend of Pheasant Winter Sex-ratio Counts, 1968-73

Region & County	1968-69		1969-70		1970-71		1971-72		1972-73	
	Hens/ Cock	Birds/ 100 hr.	Hens/ Cock	Birds/ 100 hr.	Hens/ Cock	Birds/ 100 hr.	Hens/ Cock	Birds/ 100 hr.	Hens/ Cock	Birds/ 100 hr.
Northern Region										
Box Elder	4.4	2612	4.8	1900	4.0	2653	5.2	3327	3.9	1941
Cache	4.5	7685	3.2	372	3.6	1900	4.1	772	9.3	912
Davis	4.6	2141	7.7	1733	9.5	3890	9.7	2703	11.1	2420
Morgan	1.3	433	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	0.3	262	--	--	--	--	--	--	--	--
Weber	6.3	2959	6.7	1244	12.1	3140	8.7	2085	9.8	2995
REGIONAL TOTALS	4.6	3454	5.1	1163	5.1	2651	5.6	1727	6.2	1838
Central Region										
Juab	4.1	6017	5.1	1585	3.6	4886	3.2	284	14.9	1725
Salt Lake	5.4	5076	6.0	2362	7.3	3155	6.5	1651	5.0	2107
Sanpete	3.3	1001	3.1	1377	3.5	1590	3.4	1838	5.8	1674
Tooele	6.1	8120	5.0	2311	4.9	4245	5.8	2698	10.5	4631
Utah	5.4	2660	4.6	1567	4.6	1762	5.3	1782	5.4	1432
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5.2	3339	4.7	1899	4.8	2419	5.2	1818	6.6	2215
Southern Region										
Beaver	5.8	1225	2.3	486	8.8	612	7.7	538	10.4	705
Garfield	1.8	206	3.3	390	21.0	880	0	67	--	--
Iron	2.5	1150	--	--	--	--	9.8	634	9.8	491
Kane	--	--	--	--	--	--	--	--	--	--
Millard	4.7	587	5.4	767	3.9	1351	8.0	1341	9.2	1439
Piute	4.0	556	3.1	650	3.7	467	2.2	1733	--	--
Sevier	5.0	3268	6.0	1527	4.6	2546	6.1	1740	7.7	1505
Washington	4.4	415	4.0	294	4.5	592	1.5	416	4.8	444
Wayne	--	--	--	--	--	--	1.7	375	1.8	450
REGIONAL TOTALS	4.5	836	4.9	820	4.4	1430	5.3	1005	7.7	984
Northeastern Region										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	1.8	770	2.2	428	2.1	1036	1.7	847	2.3	839
Uintah	3.0	2834	3.0	3087	4.2	2069	3.3	1783	2.0	1795
REGIONAL TOTALS	2.5	1492	2.7	915	3.0	1414	2.5	1222	2.1	1219
Southeastern Region										
Carbon	3.9	817	1.3	694	2.0	924	1.3	857	1.8	578
Emery	3.3	3593	3.5	1623	3.5	1353	3.6	1235	3.2	1141
Grand	--	--	--	--	--	--	--	--	1.8	243
San Juan	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.4	2760	3.1	1333	2.8	1150	3.3	1197	2.8	855
STATE TOTALS	4.4	2167	4.3	1353	4.4	2044	4.9	1555	5.6	1692

Table 3. Pheasant Summer Inventory Summary, 1973.

Region & County	No. Routes	Total Miles	Distinct Broods		Mixed Observ.	Adults w/o Young		Total Yng.	Total Cocks	Total Hens	Total Pheas.	Mile	Pheas./Mile	Yng./Mile	Mean Brood Ad.	Yng./Hen w/Yng.	% Hens
			Yng.	Hens		Yng.	Cocks										
Northern Region																	
Box Elder	2	151	8	38	0	4	2	5	13	42	2	57	0.38	0.28	4.75	3.23	62
Cache	1	63	1	5	0	15	1	1	2	20	1	23	0.36	0.32	5.00	10.00	50
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	1	108	20	131	21	55	19	9	50	186	19	255	2.36	1.72	6.55	3.72	82
REGIONAL TOTALS	4	322	29	174	21	74	22	15	65	248	22	335	1.04	0.77	6.00	3.82	77
Central Region																	
Juab	1	48	0	--	2	8	1	0	2	8	1	11	0.23	0.17	--	4.00	100
Salt Lake	2	171	12	55	0	0	3	5	17	55	3	75	0.44	0.32	4.58	3.24	71
Sanpete	2	56	12	71	2	9	5	1	15	80	5	100	1.78	1.43	5.92	5.33	93
Tooele	1	60	0	0	0	0	1	3	3	0	1	4	0.07	0.00	--	0.00	0
Utah	4	356	49	283	19	80	14	41	109	363	14	486	1.36	1.02	5.78	3.33	62
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	10	691	73	409	23	97	24	50	146	506	24	676	0.98	0.73	5.60	3.46	66
Southern Region																	
Beaver	1	100	9	39	0	0	7	5	14	39	7	60	0.60	0.39	4.33	2.78	64
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	2	80	1	6	2	35	1	0	3	41	1	45	0.56	0.51	6.00	13.67	100
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2	242	20	110	0	5	4	0	20	115	4	139	0.57	0.48	5.50	5.75	100
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	2	201	21	129	7	42	4	5	33	171	4	208	1.03	0.85	6.14	5.18	85
Washington	2	117	9	39	12	45	15	11	32	84	15	131	1.12	0.72	4.33	2.62	66
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	9	740	60	323	21	127	31	21	102	450	31	583	0.79	0.61	5.38	4.41	79
Northeastern Region																	
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	3	356	11	62	2	3	29	3	16	65	29	110	0.31	0.18	5.64	4.06	81
Uintah	2	132	7	44	3	18	7	1	11	62	7	80	0.61	0.47	6.28	5.64	91
REGIONAL TOTALS	5	488	18	106	5	21	36	4	27	127	36	190	0.39	0.26	5.89	4.70	85
Southeastern Region																	
Carbon	2	150	0	--	0	0	1	0	0	0	1	1	0.01	--	--	--	--
Emery	3	170	9	56	4	24	12	4	17	80	12	109	0.64	0.47	6.22	4.70	76
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	320	9	56	4	24	13	4	17	80	13	110	0.34	0.25	6.22	4.70	76
STATE TOTALS	33	2561	189	1068	74	343	126	94	357	1411	126	1894	0.74	0.55	5.65	3.95	74

Table 4. Trend of pheasants observed per mile during summer roadside counts, 1962-73.

Region & County	Year												Averages 1962-72
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	
Northern Region													
Box Elder	3.06	1.29	2.00	1.56	1.85	0.91	0.82	0.68	0.57	1.75	1.10	0.38	
Cache	1.90	1.15	0.71	1.62	2.30	1.50	2.20	1.46	1.90	1.98	1.10	0.36	
Davis	3.12	1.06	1.26	0.70	2.12	1.39	0.83	4.04	0.70	2.75	1.77	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	0.32	--	--	--	--	--	--	
Weber	2.31	2.11	2.15	1.81	2.48	1.67	2.00	3.18	0.71	1.82	2.44	2.36	
Regional Totals	2.47	1.31	1.38	1.39	2.13	1.24	1.27	1.89	1.20	2.04	1.45	1.04	1.61
Central Region													
Juab	4.06	1.61	1.56	1.32	1.28	1.30	1.07	0.46	1.20	0.32	0.64	0.23	
Salt Lake	2.37	1.94	1.80	1.80	1.98	1.40	3.04	2.60	0.88	1.74	1.29	0.44	
Sanpete	2.47	1.60	0.88	1.63	2.03	1.00	2.61	2.33	3.34	2.22	3.27	1.78	
Tooele	1.90	1.82	1.78	2.03	5.96	1.40	3.70	2.82	3.18	1.69	2.52	0.07	
Utah	3.80	4.87	3.97	2.67	2.37	2.40	2.74	2.49	1.84	2.31	2.02	1.36	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	2.75	3.05	2.11	2.21	2.38	1.77	2.74	2.38	1.97	2.00	2.06	0.98	2.31
Southern Region													
Beaver	1.15	1.00	1.20	0.41	--	0.83	0.88	0.46	0.96	0.69	0.75	0.60	
Garfield	--	0.84	0.75	1.10	0.75	0.41	0.79	1.05	0.36	0.03	--	--	
Iron	3.38	0.88	0.19	0.43	0.86	0.69	--	0.73	0.87	0.77	0.51	0.56	
Kane	--	--	--	0.75	--	--	--	--	--	--	--	--	
Millard	1.48	2.05	1.70	1.84	1.48	1.19	1.61	1.68	1.01	1.15	1.09	0.57	
Piute	--	0.16	0.31	0.89	1.02	0.39	--	0.64	0.53	0.35	--	--	
Sevier	3.33	1.83	0.70	0.88	1.90	1.67	1.71	1.66	1.99	4.13	2.37	1.03	
Washington	--	2.77	--	1.39	1.89	1.49	0.99	0.67	0.29	1.32	0.92	1.12	
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	2.60	1.61	0.86	1.11	1.54	1.08	1.37	1.12	0.92	1.48	1.19	0.79	1.35
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.51	0.42	0.48	0.42	0.37	0.31	0.30	0.36	0.45	0.32	0.27	0.31	
Uintah	0.26	2.16	1.36	3.10	1.40	0.47	1.14	1.27	0.66	0.82	0.74	0.61	
Regional Totals	0.49	1.22	0.72	1.21	0.66	0.36	0.46	0.70	0.51	0.51	0.42	0.39	0.66
Southeastern Region													
Carbon	2.03	0.87	0	0	0.23	0	2.34	0.09	0.20	0.05	0.15	0.01	
Emery	--	1.92	1.00	1.19	1.12	1.21	0.32	0.69	0.83	0.55	1.32	0.64	
Grand	--	--	--	--	--	--	--	--	--	--	1.03	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	2.03	1.26	0.69	0.80	0.82	0.84	0.93	0.39	0.57	0.31	0.76	0.34	0.85
STATE TOTALS	2.24	1.86	1.35	1.40	1.57	1.15	1.58	1.40	1.18	1.40	1.33	0.74	1.50

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1962-73.

Region & County	Year											Averages 1962-72
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	
Northern Region												
Box Elder	2.44	0.93	1.55	1.18	1.34	0.71	0.51	0.40	0.35	1.32	0.76	0.28
Cache	1.63	0.88	0.59	1.25	1.94	1.25	1.84	1.05	1.39	1.62	0.81	0.32
Davis	2.17	0.86	0.97	0.53	1.59	0.95	0.65	3.11	0.54	2.25	1.28	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	0.19	--	--	--	--	--	--
Weber	1.91	1.61	1.50	1.52	1.55	1.33	1.60	2.35	0.58	1.35	1.74	1.72
Regional Totals	1.67	0.98	1.07	1.08	1.60	0.99	0.97	1.37	0.86	1.62	1.04	0.77
Central Region												
Juab	3.19	1.25	1.17	1.02	0.90	1.10	0.90	0.27	0.95	0.18	0.50	0.17
Salt Lake	1.93	1.27	1.30	1.26	1.44	1.00	2.14	1.91	0.61	1.31	1.04	0.32
Sanpete	2.08	1.25	0.60	1.12	1.74	0.80	2.10	1.90	2.54	1.74	2.64	1.43
Tooele	1.67	1.53	1.43	1.72	5.06	1.20	3.15	2.49	2.74	1.41	2.09	0.00
Utah	3.06	3.87	3.13	2.18	1.96	1.80	2.11	1.88	1.30	1.68	1.35	1.02
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
Regional Totals	2.27	2.38	1.59	1.73	1.91	1.40	2.10	1.84	1.46	1.50	1.53	0.73
Southern Region												
Beaver	1.08	0.40	0.76	0.21	--	0.55	0.80	0.26	0.64	0.48	0.57	0.39
Garfield	--	0.57	0.47	0.86	0.57	0.30	0.63	0.74	0.19	0	--	--
Iron	2.75	0.67	0.09	0.33	0.65	0.48	--	0.53	0.55	0.62	0.39	0.51
Kane	--	--	--	0.00	--	--	--	--	--	--	--	--
Millard	1.29	1.64	1.30	1.51	1.19	0.86	1.39	1.32	0.84	0.90	0.87	0.48
Piute	--	0.13	0.24	0.68	0.81	0.28	--	0.53	0.31	0.25	--	--
Sevier	2.87	1.39	0.40	0.57	1.50	1.38	1.49	1.26	1.58	3.21	1.93	0.85
Washington	--	2.07	--	0.86	1.27	1.03	0.71	0.46	0.17	0.95	0.65	0.72
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
Regional Totals	2.13	1.21	0.61	0.85	1.19	0.81	1.15	0.85	0.69	1.14	0.95	0.61
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	0.35	0.30	0.36	0.32	0.27	0.19	0.20	0.25	0.27	0.21	0.15	0.18
Uintah	0.16	1.70	0.98	2.50	1.10	0.33	0.86	0.86	0.40	0.55	0.55	0.47
Regional Totals	0.32	0.94	0.53	0.96	0.50	0.23	0.32	0.47	0.31	0.34	0.28	0.47
Southeastern Region												
Carbon	1.69	0.70	0	0	0.20	0	1.82	0.03	0.17	0.03	0.10	--
Emery	--	1.52	0.70	0.94	0.77	0.89	0.18	0.58	0.56	0.30	0.96	0.47
Grand	--	--	--	--	--	--	--	--	--	--	0.67	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
Regional Totals	1.69	1.01	0.48	0.60	0.58	0.61	0.67	0.31	0.39	0.17	0.54	0.25
STATE TOTALS	1.82	1.43	1.01	1.09	1.20	0.88	1.23	1.06	0.86	1.06	0.99	0.55

Table 6. Trend of young per adult hen ratios found during summer roadside pheasant counts, 1962-73.

Region & County	Year												Averages 1962-72
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	
Northern Region													
Box Elder	5.26	3.49	4.86	3.38	3.15	4.02	2.07	2.00	2.19	4.02	3.26	3.23	
Cache	8.54	4.30	5.91	4.20	6.59	6.29	5.65	3.38	3.65	6.64	3.88	10.00	
Davis	4.55	3.33	4.50	3.86	3.71	2.75	4.82	4.00	4.00	5.45	3.42	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	1.75	--	--	--	--	--	
Weber	5.52	3.33	3.17	7.38	2.23	4.47	4.74	3.70	4.22	3.40	3.49	3.72	
Regional Totals	5.85	3.70	4.55	4.10	2.97	4.58	3.89	3.27	3.32	5.02	3.50	3.82	4.07
Central Region													
Juab	5.48	4.58	4.20	3.41	3.27	6.30	5.40	3.25	4.22	2.33	4.50	4.00	
Salt Lake	4.95	3.33	3.48	2.86	3.36	3.40	3.02	3.63	2.96	4.08	4.74	3.24	
Sanpete	7.44	4.93	3.26	3.04	7.40	5.60	4.71	5.48	4.02	4.73	5.52	5.33	
Tooele	8.33	7.25	4.53	7.15	6.54	8.40	7.08	7.89	6.78	5.95	5.95	0.00	
Utah	4.98	4.75	5.03	5.66	4.51	3.80	3.94	3.85	3.69	3.28	2.71	3.33	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	5.30	4.65	4.38	4.54	5.06	4.20	3.92	4.30	3.94	3.86	3.78	3.46	4.36
Southern Region													
Beaver	16.20	1.35	2.40	1.60	--	2.05	10.67	1.86	5.33	3.27	5.38	2.78	
Garfield	--	2.87	3.60	4.10	4.80	3.83	4.00	3.50	2.00	--	--	--	
Iron	4.73	5.48	3.80	5.30	6.40	2.93	--	3.21	2.53	4.43	4.54	13.67	
Kane	--	--	--	0	--	--	--	--	--	--	--	--	
Millard	9.07	5.14	5.20	5.00	5.70	4.91	6.10	4.58	5.89	4.62	5.65	5.75	
Piute	--	3.67	3.00	3.57	4.90	2.50	--	5.33	1.75	5.00	--	--	
Sevier	6.90	4.16	2.00	4.50	4.80	5.89	6.72	3.74	4.30	4.34	4.94	5.18	
Washington	--	3.89	--	2.32	3.00	3.33	3.42	2.88	1.50	3.45	3.50	2.62	
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	6.37	4.09	3.67	4.19	4.68	3.98	5.75	3.84	3.92	4.19	4.98	4.41	4.51
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	4.36	6.00	4.60	5.60	4.70	3.21	5.92	5.00	2.51	3.50	3.00	4.06	
Uintah	1.57	5.72	3.90	6.40	5.70	4.27	4.24	3.37	2.62	3.08	4.84	5.64	
Regional Totals	3.62	5.77	4.20	6.00	5.20	3.60	4.93	3.77	2.56	3.23	3.92	4.70	4.25
Southeastern Region													
Carbon	5.00	6.08	0	0	8.00	0	4.52	1.40	5.00	5.00	4.33	--	
Emery	5.68	3.76	3.53	4.30	5.30	5.17	2.46	6.78	3.55	2.25	3.34	4.70	
Grand	--	--	--	--	--	--	--	--	--	--	2.22	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	5.62	4.51	3.53	4.30	5.50	5.17	3.91	5.61	3.74	2.36	3.20	4.70	4.31
STATE TOTALS	5.35	4.31	4.22	4.62	4.40	4.20	4.25	3.94	3.68	4.09	3.93	3.95	4.27

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1963-73.

Region & County	Year											Averages 1963-72
	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	
Northern Region												
Box Elder	85	90	75	86	88	57	58	59	75	69	62	
Cache	83	81	74	82	86	65	62	66	86	78	50	
Davis	62	80	65	76	62	91	56	82	87	85	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	38	--	--	--	--	--	
Weber	91	74	100	61	100	87	80	100	77	54	82	
Regional Totals	82	81	75	78	86	66	66	68	82	70	77	75
Central Region												
Juab	83	100	75	100	100	100	75	100	67	100	100	
Salt Lake	74	76	80	53	71	69	76	62	66	78	71	
Sanpete	83	81	67	100	81	97	91	78	95	91	93	
Tooele	100	94	100	89	100	88	100	100	84	74	0	
Utah	82	78	79	78	66	72	74	60	69	57	62	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	82	79	79	77	71	76	79	71	74	69	66	76
Southern Region												
Beaver	42	50	60	--	75	100	72	100	82	88	64	
Garfield	81	100	85	100	100	100	83	50	--	--	--	
Iron	80	75	90	71	76	--	75	59	62	54	100	
Kane	--	--	0	--	--	--	--	--	--	--	--	
Millard	82	79	88	96	74	100	77	94	81	88	100	
Piute	67	100	57	85	50	--	100	50	100	--	--	
Sevier	56	40	35	98	100	100	96	88	85	90	85	
Washington	74	--	39	65	67	92	42	67	74	62	66	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	--	75	73	84	78	98	79	77	80	83	79	81
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	100	92	95	95	53	92	81	44	68	68	81	
Uintah	92	70	100	84	91	65	59	42	55	84	91	
Regional Totals	88	80	98	90	67	76	65	43	60	76	85	74
Southeastern Region												
Carbon	75	0	0	100	0	74	20	75	100	67	--	
Emery	72	74	55	92	86	77	94	70	42	66	76	
Grand	--	--	--	--	--	--	--	--	--	56	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	70	74	55	96	86	75	78	71	44	64	76	71
STATE TOTALS	78	72	82	85	76	78	74	69	75	72	74	76

Table 8. Trend of average brood size for pheasants, 1962-1973.

Region & County	Year													Averages 1962-72
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973		
Northern Region														
Box Elder	5.58	4.11	5.42	4.70	3.75	4.93	3.80	3.53	3.68	4.96	4.81	4.75		
Cache	6.04	4.93	7.55	5.50	6.17	5.86	6.88	5.63	7.12	8.34	5.47	5.00		
Davis	4.00	4.10	4.44	5.67	4.78	5.17	5.14	6.67	5.14	6.52	4.50	--		
Morgan	--	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	4.67	--	--	--	--	--		
Weber	5.52	4.79	4.44	6.00	3.73	3.00	5.69	5.33	3.43	4.80	6.07	6.55		
Regional Totals	5.31	4.56	5.49	5.29	4.54	5.13	5.25	5.56	5.28	6.33	5.13	6.00	5.26	
Central Region														
Juab	5.32	5.50	4.20	4.50	3.78	6.30	5.40	4.33	4.22	7.00	4.50	--		
Salt Lake	5.64	4.08	4.22	3.43	5.25	4.67	5.28	5.35	4.95	5.76	6.93	4.58		
Sanpete	5.88	5.88	2.64	4.57	6.39	5.18	4.68	5.13	5.52	4.94	6.11	5.92		
Tooele	8.33	7.25	4.81	7.15	--	8.38	8.10	7.89	6.78	6.81	8.07	--		
Utah	5.95	5.79	6.44	6.20	5.76	5.94	5.07	5.08	5.13	5.89	5.31	5.78		
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--		
Regional Totals	5.93	5.63	5.26	5.26	5.69	5.83	5.28	5.37	5.41	5.70	5.92	5.60	5.57	
Southern Region														
Beaver	6.00	3.50	3.17	2.67	--	4.75	10.67	--	--	5.75	6.17	4.33		
Garfield	--	3.67	3.60	4.82	4.78	4.25	4.00	4.25	3.00	--	--	--		
Iron	5.50	4.61	5.00	5.89	6.40	5.62	--	11.00	4.50	7.17	5.67	6.00		
Kane	--	5.20	--	--	--	--	--	--	--	--	--	--		
Millard	6.38	6.14	5.40	5.70	5.09	6.88	--	5.74	6.24	4.44	5.31	5.50		
Piute	--	--	3.00	6.25	5.67	5.00	--	5.00	3.50	5.00	--	--		
Sevier	5.95	5.84	5.00	5.48	5.88	5.35	--	4.22	5.00	5.24	5.67	6.14		
Washington	--	5.06	--	5.91	4.90	5.72	4.31	8.00	--	5.25	6.33	4.33		
Wayne	--	--	--	--	--	--	--	--	--	--	--	--		
Regional Totals	5.84	5.27	4.89	5.48	5.45	5.78	5.37	5.42	5.30	5.13	5.60	5.38	5.41	
Northeastern Region														
Daggett	--	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	6.00	6.00	4.79	5.94	4.95	6.10	6.45	6.45	4.82	6.50	4.45	5.64		
Uintah	2.20	6.22	5.62	6.79	6.73	4.70	6.54	6.65	6.14	6.05	5.75	6.28		
Regional Totals	4.88	6.03	5.18	6.51	5.90	5.40	6.50	6.59	5.33	6.21	5.13	5.89	5.79	
Southeastern Region														
Carbon	5.00	8.11	--	5.40	6.25	--	7.50	1.00	4.00	5.00	6.50	--		
Emery	5.69	5.22	4.79	5.15	6.71	6.67	4.00	8.42	5.64	6.00	5.08	6.22		
Grand	--	--	--	--	--	--	--	--	--	--	4.00	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--	--		
Regional Totals	5.62	5.42	4.79	5.18	6.68	6.67	6.45	7.85	5.29	5.89	5.00	6.22	5.89	
STATE TOTALS	5.72	5.30	5.20	5.62	5.42	5.70	5.40	5.59	5.36	5.73	5.62	5.65	5.51	

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-day	Birds per Hunter*	% of Pressure	% of Harvest
<u>Northern</u>							
Box Elder	518	1,569	1,329	0.85	3.31	10.71	12.86
Cache	400	1,350	1,168	0.87	3.41	9.21	11.31
Davis	318	1,179	589	0.50	2.75	8.05	5.70
Morgan	17	62	39	0.63	2.91	0.42	0.38
Rich	2	2	0	0.00	0.00	0.01	0.00
Summit	5	12	4	0.33	2.37	0.08	0.04
Weber	404	1,354	859	0.63	2.62	9.24	8.31
REGIONAL TOTALS	1,664	5,528	3,988	0.72	2.92	37.72	38.60
<u>Central</u>							
Juab	77	211	90	0.43	1.64	1.44	0.87
Salt Lake	465	1,318	806	0.61	2.22	8.99	7.80
Sanpete	254	879	711	0.81	3.45	6.00	6.88
Tooele	109	398	193	0.48	2.10	2.72	1.87
Utah	827	2,444	1,636	0.67	2.38	16.68	15.84
Wasatch	2	4	0	0.00	2.65	0.03	0.00
REGIONAL TOTALS	1,734	5,254	3,436	0.65	2.34	35.85	33.26
<u>Southern</u>							
Beaver	48	161	85	0.53	2.21	1.10	0.82
Garfield	5	8	7	0.88	1.00	0.05	0.07
Iron	73	243	109	0.45	1.63	1.66	1.06
Kane	0	0	0	0.00	2.75	0.00	0.00
Millard	247	725	621	0.86	3.37	4.95	6.01
Piute	14	47	36	0.77	2.73	0.32	0.35
Sevier	194	576	419	0.73	2.61	3.93	4.06
Washington	67	211	76	0.36	1.57	1.44	0.74
Wayne	6	21	33	1.57	4.62	0.14	0.32
REGIONAL TOTALS	654	1,992	1,386	0.70	2.42	13.59	13.42
<u>Northeastern</u>							
Daggett	2	4	2	0.50	3.00	0.03	0.02
Duchesne	135	399	460	1.15	5.06	2.72	4.45
Uintah	142	474	438	0.92	3.37	3.23	4.24
REGIONAL TOTALS	279	877	900	1.03	3.97	5.98	8.71
<u>Southeastern</u>							
Carbon	101	301	156	0.52	2.60	2.05	1.51
Emery	148	400	240	0.60	1.60	2.73	2.32
Grand	4	10	3	0.30	1.80	0.07	0.03
San Juan	5	12	13	1.08	2.50	0.08	0.13
REGIONAL TOTALS	258	723	412	0.57	2.31	4.93	3.99
Unknown counties	107	276	206	0.75	1.93	1.88	1.99
Mixed counties	3	4	3	0.75	0.00	0.03	0.03
STATE TOTALS	4,699	14,654	10,331	0.70	2.58	100	100

*Based on county of residence.

Table 10. Summary of pheasants bagged per hunter-day by region and county, 1965-1973.

Region and county	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	1.61	1.72	1.52	1.46	1.10	1.25	1.18	0.85	0.85
Cache	1.49	1.52	1.35	1.35	0.87	1.29	1.09	0.85	0.87
Davis	0.80	0.85	0.76	0.70	0.60	0.69	0.67	0.54	0.50
Morgan	0.80	0.42	0.50	0.86	0.25	0.95	1.02	0.54	0.63
Rich	1.45	--	1.00	0.88	0.17	1.00	1.00	0.38	0.00
Summit	--	1.00	0.00	0.50	0.64	0.50	0.00	1.00	0.33
Weber	1.02	0.93	0.95	0.81	0.72	0.79	0.72	0.69	0.63
REGIONAL TOTALS	1.28	1.29	1.20	1.12	0.82	1.02	0.92	0.75	0.72
<u>Central</u>									
Juab	0.98	1.08	0.98	1.10	0.96	1.09	0.93	0.52	0.43
Salt Lake	0.90	0.84	0.89	0.90	0.69	0.76	0.59	0.55	0.61
Sanpete	1.07	1.13	1.17	1.32	1.01	1.32	1.14	0.91	0.81
Tooele	0.86	0.58	0.85	1.05	0.80	0.95	0.69	0.46	0.48
Utah	1.01	1.06	1.11	1.12	0.89	1.11	0.86	0.75	0.67
Wasatch	--	0.00	0.20	1.10	0.60	0.00	0.41	0.25	0.00
REGIONAL TOTALS	0.96	0.96	1.01	1.07	0.83	1.01	0.80	0.68	0.65
<u>Southern</u>									
Beaver	0.56	1.33	0.72	1.22	1.14	0.91	1.00	0.70	0.53
Garfield	0.67	1.30	0.69	0.75	1.00	1.00	0.95	0.50	0.88
Iron	0.74	1.02	0.94	1.29	0.96	0.69	0.75	0.63	0.45
Kane	--	--	--	--	--	--	3.00	--	--
Millard	1.25	1.10	1.31	1.45	1.27	1.18	0.99	0.81	0.86
Piute	0.47	1.33	0.91	0.59	1.22	0.79	0.93	0.39	0.77
Sevier	1.02	1.13	1.11	1.28	1.01	1.28	1.02	0.84	0.73
Washington	1.08	0.60	0.62	0.72	0.69	0.47	0.54	0.49	0.36
Wayne	0.02	1.83	--	0.00	0.00	1.17	0.88	0.00	1.57
REGIONAL TOTALS	1.02	1.07	1.07	1.24	1.07	1.04	0.90	0.74	0.70
<u>Northeastern</u>									
Daggett	--	--	--	2.33	0.71	0.50	0.47	1.00	0.50
Duchesne	1.54	1.64	1.12	1.00	1.18	1.22	1.19	1.09	1.15
Uintah	1.13	1.69	1.14	1.22	1.30	1.13	1.10	0.82	0.92
REGIONAL TOTALS	1.30	1.67	1.14	1.13	1.25	1.16	1.13	0.93	1.03
<u>Southeastern</u>									
Carbon	1.05	1.25	0.78	0.95	0.89	0.70	0.58	0.45	0.52
Emery	1.16	1.54	1.14	1.19	1.53	1.07	0.92	0.92	0.60
Grand	0.33	0.83	0.50	1.30	0.71	0.50	0.75	0.20	0.30
San Juan	2.25	--	--	--	0.08	2.00	0.75	--	1.08
REGIONAL TOTALS	1.12	1.42	1.01	1.11	1.24	0.94	0.76	0.73	0.57
Unknown counties	1.40	0.00	0.93	0.95	--	0.58	0.67	0.75	0.75
Mixed counties	0.83	--	0.90	--	--	4.00	--	0.00	0.75
STATE TOTALS	1.14	1.19	1.10	1.11	0.90	1.02	0.88	0.73	0.70

Table 12. Distribution of pheasant hunting pressure by county hunted, 1969-1973.

Region and County	1969	1970	1971	1972	1973
<u>Northern</u>					
Box Elder	12.31	12.23	11.47	14.61	10.71
Cache	9.85	10.64	9.23	10.42	9.21
Davis	11.29	10.35	8.73	9.28	8.05
Morgan	0.53	0.37	0.31	0.50	0.42
Rich	0.04	0.01	0.01	0.06	0.01
Summit	0.10	0.02	0.01	0.01	0.08
Weber	11.87	9.79	11.23	9.76	9.24
REGIONAL TOTALS	45.99	43.41	40.99	44.64	37.72
<u>Central</u>					
Juab	1.55	1.54	1.42	1.84	1.44
Salt Lake	10.26	10.27	9.64	8.46	8.99
Sanpete	3.24	3.63	3.99	3.95	6.00
Tooele	1.97	1.53	3.19	2.31	2.72
Utah	14.01	14.62	15.78	14.27	16.68
Wasatch	0.04	0.01	0.21	0.03	0.03
REGIONAL TOTALS	31.07	31.60	34.23	30.86	35.85
<u>Southern</u>					
Beaver	0.64	0.55	0.66	0.83	1.10
Garfield	0.11	0.04	0.15	0.10	0.05
Iron	1.42	2.03	1.49	1.66	1.66
Kane	--	0.00	0.01	--	--
Millard	4.17	4.86	3.89	4.60	4.95
Piute	0.20	0.12	0.11	0.16	0.32
Sevier	3.90	3.40	3.74	3.70	3.93
Washington	1.14	1.15	1.72	1.39	1.44
Wayne	0.04	0.05	0.06	0.07	0.14
REGIONAL TOTALS	11.62	12.20	11.83	12.50	13.59
<u>Northeastern</u>					
Daggett	0.05	0.07	0.11	0.01	0.03
Duchesne	2.62	2.99	3.13	2.22	2.72
Uintah	3.85	4.19	3.26	3.52	3.23
REGIONAL TOTALS	6.52	7.25	6.50	5.76	5.98
<u>Southeastern</u>					
Carbon	1.85	1.61	1.98	1.71	2.05
Emery	2.73	3.05	2.41	2.88	2.73
Grand	0.13	0.05	0.12	0.14	0.07
San Juan	0.09	0.02	0.03	--	0.08
REGIONAL TOTALS	4.80	4.73	4.54	4.73	4.93
Unknown counties	--	0.78	1.92	1.49	1.88
Mixed counties	--	0.03	--	0.03	0.03
STATE TOTALS	100	100	100	100	100

Table 13. State-wide summary of pheasant harvest statistics, 1948-1973.

Year	Total hunters	Total harvest	Hunter-days afield	Pheasants per hunter	Pheasants per hunter-day
1948	96,534	280,914	--	2.91	--
1949	88,369	263,340	189,453	2.98	1.39
1950	92,724	249,428	235,309	2.69	1.06
1951	76,576	246,575	171,233	3.22	1.44
1952	78,773	246,559	185,383	3.13	1.33
1953	82,595	245,307	176,480	2.97	1.39
1954	82,370	260,289	201,774	3.16	1.29
1955	78,793	196,195	178,359	2.49	1.10
1956	77,826	206,239	182,512	2.65	1.13
1957	83,025	228,319	170,387	2.75	1.34
1958	88,290	309,015	220,725	3.50	1.40
1959	86,268	243,276	202,730	2.82	1.21
1960	81,976	232,812	177,719	2.84	1.31
1961	83,493	238,439	243,305	2.86	0.98
1962	86,336	262,448	209,921	3.04	1.25
1963	87,647	297,873	198,582	3.40	1.50
1964	88,242	225,775	196,314	2.56	1.15
1965	77,409	211,876	186,215	2.74	1.14
1966	78,721	249,814	209,082	3.17	1.19
1967	85,664	284,000	257,033	3.32	1.10
1968	90,453	297,752	267,788	3.29	1.11
1969	90,573	250,241	277,887	2.76	0.90
1970	78,585	250,503	244,958	3.19	1.02
1971	87,878	259,189	294,618	2.95	0.88
1972	84,311	240,573	327,669	2.85	0.73
1973	75,968	196,012	278,033	2.58	0.70
<hr/>					
TOTALS (1948-73)	2,189,399	6,472,763	5,483,469	2.96	1.18
<hr/>					
AVERAGES (1948-72)	84,537	251,070	208,217	2.97	1.21
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Region and County	ALL HUNTS				COMPLETE HUNTS				Birds/100 hrs. Hunter		
	Total Parties	Total Hunters	Total Hours	Total Birds	Total Birds/100 hrs.	Total Hunts	Total Hours	Total Birds			
<u>Northern</u>											
Box Elder	486	1,165	3,775	505	13	291	660	2,276	338	15	0.51
Cache	358	929	3,088	480	16	77	215	828	149	18	0.69
Davis	153	328	827	107	13	45	98	343	51	15	0.52
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	115	312	699	94	13	51	144	389	53	14	0.37
REGIONAL TOTALS	1,112	2,734	8,389	1,186	14	464	1,117	3,836	591	15	0.53
<u>Central</u>											
Juab	11	36	98	6	6	2	5	21	4	19	0.80
Salt Lake	89	209	468	68	15	24	55	186	39	21	0.71
Sanpete	76	237	814	161	20	7	19	50	32	64	1.68
Tooele	124	267	666	111	17	8	12	34	8	24	0.67
Utah	210	628	1,932	251	13	26	84	247	52	21	0.62
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	510	1,377	3,978	597	15	67	175	538	135	25	0.77
<u>Southern</u>											
Beaver	29	81	246	28	11	7	18	77	17	22	0.94
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	21	69	185	13	7	0	0	0	0	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	144	504	1,316	187	14	8	28	153	22	14	0.79
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	169	481	2,056	286	14	44	127	706	102	14	0.80
Washington	21	75	209	36	17	5	20	101	16	16	0.80
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	384	1,210	4,012	550	14	64	193	1,037	157	15	0.81
<u>Northeastern</u>											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	246	582	2,884	475	16	167	369	2,454	416	17	1.13
Uintah	169	437	2,063	318	15	104	267	1,453	239	16	0.89
REGIONAL TOTALS	415	1,019	4,947	793	16	271	636	3,907	655	17	1.03
<u>Southeastern</u>											
Carbon	22	73	229	13	6	10	32	120	5	4	0.15
Emery	161	516	2,390	214	9	46	125	530	53	10	0.42
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan (w.w.)	14	28	98	12	12	13	25	79	10	13	0.40
REGIONAL TOTALS	197	617	2,717	239	9	69	182	729	68	9	0.37
STATE TOTALS	2,618	6,957	24,043	3,365	14	935	2,303	10,047	1,606	16	0.70

Region and County	1969		1970		1971		1972		1973	
	Birds/100 hr.	Birds/Day	Birds/100 hr.	Birds/Day	Birds/100 hr.	Birds/Day	Birds/100 hr.	Birds/Day	Birds/100 hr.	Birds/Day
Northern										
Box Elder	9	0.41	24	1.00	10	0.30	18	1.18	13	0.51
Cache	19	0.51	35	1.10	21	0.63	19	0.70	16	0.69
Davis	25	0.58	27	0.98	16	--	16	1.12	13	0.52
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	12	0.50	10	0.52	13	0.35	18	0.65	13	0.37
REGIONAL TOTALS	16	0.50	24	0.99	16	0.52	18	0.59	14	0.53
Central										
Juab	--	--	50	--	13	2.00	--	--	6	0.80
Salt Lake	13	0.53	16	0.28	15	0.32	13	0.39	15	0.71
Sanpete	13	0.69	21	0.61	34	0.71	15	0.58	20	1.68
Tooele	30	1.90	20	2.18	19	0.72	10	0.64	17	0.67
Utah	17	1.05	26	0.77	27	1.13	15	0.65	13	0.62
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	16	0.98	21	0.61	22	0.77	14	0.51	15	0.77
Southern										
Beaver	65	2.00	19	0.67	39	1.33	22	0.86	11	0.94
Garfield	--	--	20	0.50	23	0.33	--	--	--	--
Iron	46	2.22	19	0.77	26	1.32	25	1.07	7	--
Kane	--	--	--	--	--	--	--	--	--	--
Millard	68	2.00	12	0.98	18	0.79	14	0.87	14	0.79
Piute	--	--	32	1.32	36	3.00	--	--	--	--
Sevier	38	1.11	25	1.36	26	1.10	24	1.30	14	0.80
Washington	46	--	7	0.43	21	0.31	14	0.31	17	0.80
Wayne	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	52	1.61	18	1.07	22	0.89	19	1.13	14	0.81
Northeastern										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	15	1.36	15	0.99	22	1.73	15	1.14	16	1.13
Uintah	21	0.93	19	1.16	24	1.36	16	0.88	15	0.89
REGIONAL TOTALS	17	1.24	17	1.06	23	1.56	16	1.09	16	1.03
Southeastern										
Carbon	15	3.00	5	0.10	15	1.00	3	0.08	6	0.15
Emery	16	1.02	24	0.96	13	0.53	15	0.62	9	0.42
Grand	--	--	--	--	9	0.33	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	12	0.40
REGIONAL TOTALS	16	1.04	23	0.90	13	0.51	14	0.54	9	0.37
STATE TOTALS	21	1.00	20	0.97	21	1.05	16	0.82	14	0.70

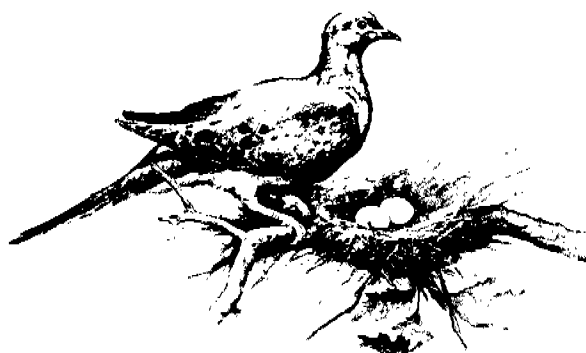
MOURNING DOVE

SUMMARY

The breeding density index (BDI) derived from the annual call-count survey indicated a slight decline from both 1972 and the average, but this was possibly biased downward by the late spring and resultant delayed nesting. Banding data suggested increased production.

Hunters declined slightly but total hunter-days increased, as did hunter success, resulting in a record harvest of 307,062 mourning doves.

Mourning dove banding efforts netted only 755 doves in 1973 of which 51.4 percent were immatures and 48.6 percent adults.



Call-Count Survey

Results of the 1973 call-count survey are found in Table 1 of this section. The long-term trend of the State's Breeding Density Index (average doves heard per route) is shown in Table 2. Indexes shown in each of these tables are unweighted and consequently differ somewhat from those published in the annual Mourning Dove Status Report compiled by the Bureau of Sport Fisheries and Wildlife. Indicated trends are similar. Following is a comparison of the results of the 1973 survey to 1972 and the average for the period 1964-72:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total doves heard per route	12.8	-10	-7
Total calls heard per route	46.3	-17	-33
Total doves seen per route	4.5	-48	-75

The breeding density index was down slightly from both 1972 and the average, possibly due to the late spring and delayed nesting.

The long-term trend of Utah's dove population as shown in the Mourning Dove Status Report for 1973 is downward but not to a degree that is statistically significant. The trend since 1964 as shown in Table 2 is relatively stable. It is probable that habitat deterioration over the past several years has had a detrimental influence upon the State's dove population.

Harvest

Hunter Questionnaire

Information obtained from the hunter questionnaire for 1973 is summarized in Table 3. Long-term trends of mourning doves bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 4-6 and total State-wide harvest statistics in Table 7. Harvest statistics for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Mourning dove hunters	27,435	-6	+66
Mourning dove harvest	307,062	+29	+108
Hunter-days afield	97,788	+4	+107
Mourning doves per hunter	11.19	+38	+29
Mourning doves per hunter-day	3.14	+24	-17

Weather conditions during August consisted of near normal temperature and slightly below normal precipitation. The week preceding the opening of the dove season was generally dry with but few scattered showers and minimum temperatures in the mid-forties and fifties. The opening weekend of the season (September 1, 2) was marked by rain showers in the north but relatively dry weather in the south. The inclement weather did not seem to hamper dove hunting.

Results of the harvest questionnaire showed a slight decrease in total hunters, possibly attributable to stormy weather in the north, but a marked increase in total hunter-days afield. The increased total days was probably a response to improved hunter success. The total harvest of 307,062 doves was an all-time record as was the number of doves bagged per hunter for the season. Success per hunter-day was considerably higher than 1972 but still below average.

Long-term harvest trends are depicted in Figure 1.

Field Bag Checks

A summary of field bag check data for 1973 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1973 survey compare to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	1,329	+4	-3
Total hours hunted	3,704	+10	-2
Doves per hunter (complete hunts)	3.51	+16	+1
Doves bagged per 100 hours	126	+46	+34
Average hours per hunter-days (complete hunts)	3.6	+12	+3
Hours hunted per dove bagged	1.0	-17	-9

Hunter success shown by field bag checks in 1973 was somewhat higher than in 1972, consistent with the increased success shown by questionnaire data, but indicated better success than did the questionnaire. This is probably attributable to the fact that bag check data is compiled primarily on the opening weekend when hunting is at its best success-wise.

Dove hunters spent slightly more time afield per day than in 1972 but less time was required to bag a dove.

Banding

Results of the annual preseason mourning dove banding program for 1973 are shown in Table 10. The trend of doves banded since 1961 is shown in Table 11. Band recovery rates and distribution of recoveries by State and country for Utah banded doves are shown in Tables 12 and 13 respectively. Table 14 is a summary of the number of doves banded in other states that have been recovered in Utah.

During 1972, only 755 doves were banded in Utah, all by Division personnel. Banding was distributed among nine counties.

Age composition of doves banded was 51.4 percent immatures and 48.6 percent adults. This suggests increased reproductive success in 1973 as compared to 1972 when 36.9 percent of the doves banded were immatures.

The direct recovery rate or the percentage of doves killed during the first hunting season following banding for immatures and adults combined from 1949-62 was 1.1 percent. From 1964-71 this value was 1.4 percent. Total recovery rate (direct recoveries plus all subsequent recoveries) for both periods, was 2.7 percent. Expansion of the direct recovery rate of 1.4 percent for the period 1964-71 using an assumed band reporting rate of 30 percent indicates that only 4.7 percent of the State's mourning doves were harvested by hunters during this period. If crippling loss is considered, the total death rate due to hunting would still not exceed 5-10 percent of the population.

The distribution of band recoveries for Utah banded doves shows that 78.6 percent of combined recoveries (including recoveries, returns or foreign retraps) have been made in Utah. Recoveries from Utah and apparent primary dove wintering areas in Arizona, California and Mexico combined account for 97.7 percent of all recoveries received as of March 31, 1972.

Only 31 bands have been recovered in Utah from doves banded in other states. Of this number, 14 were originally banded in Arizona, primarily during the winter months.

In summary, it is evident that Utah hunters primarily harvest doves that are raised in Utah. They do not harvest a significant number of migrating doves. Doves produced in Utah, but harvested elsewhere, are probably not harvested while migrating, but rather on the wintering area indicating rapid movement from summer to winter habitat.

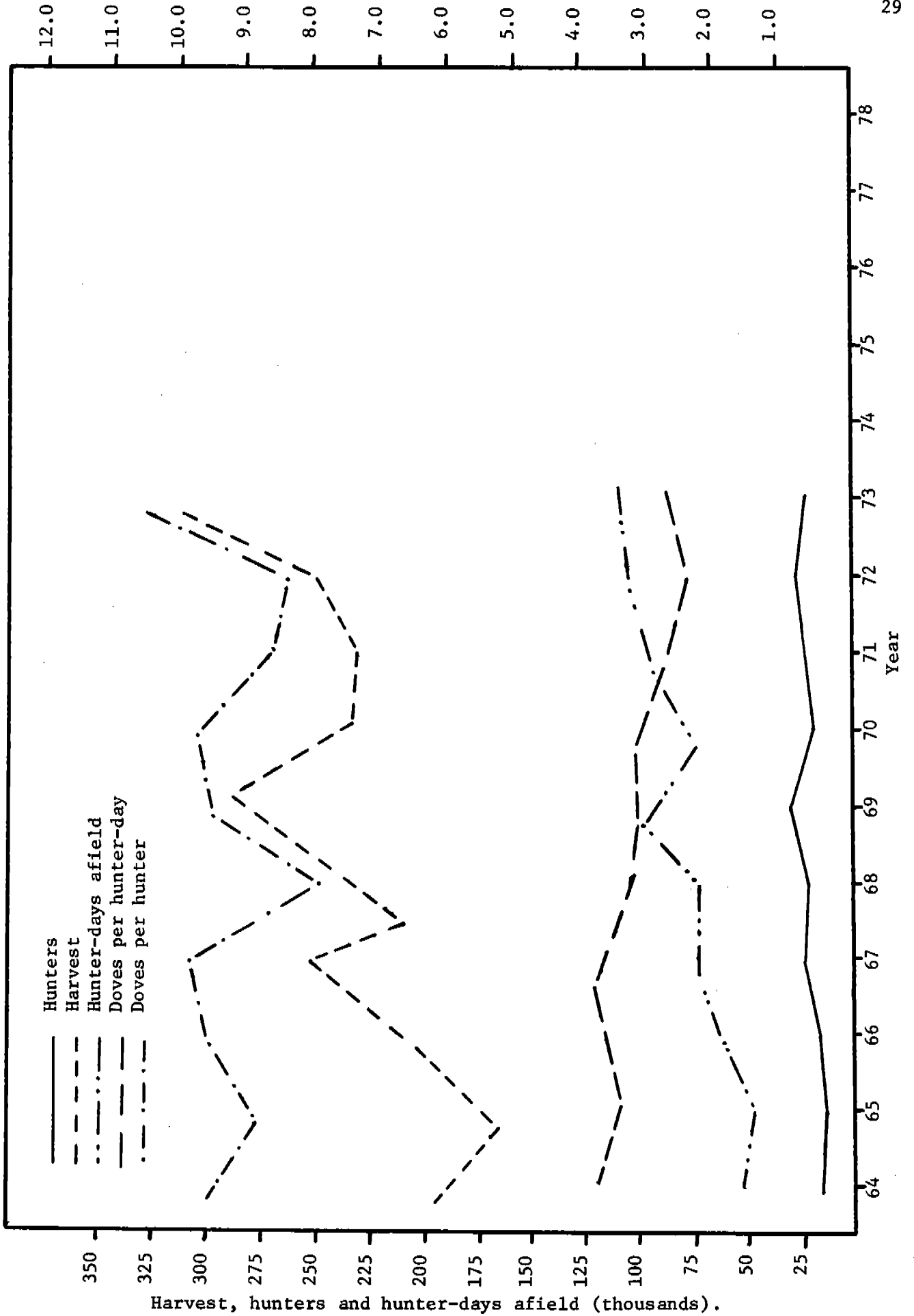


Figure 1. Statewide trends of mourning dove harvest statistics.

Table 1. Summary of the mourning dove call-count survey for 1973.

Region and County	Route Number	Total Doves Heard Per Route	Total Calls Heard Per Route	Total Doves Seen Per Route
<u>Northern</u>				
Summit	R1020	3	14	3
Box Elder	R1500	5	14	0
REGIONAL TOTALS		8	28	3
<u>Central</u>				
Juab	R2830	17	39	4
REGIONAL TOTALS		17	39	4
<u>Southern</u>				
Sevier-Sanpete	R0370	0	0	0
Wayne-Sevier	R0660	11	30	0
Garfield	R1090	0	0	0
Millard	R3640	24	160	2
Beaver	R3820	6	19	5
Iron	R4000	35	71	1
Washington	R4310	26	99	14
REGIONAL TOTALS		102	379	22
<u>Northeastern</u>				
Duchesne	R0080	3	6	0
Uintah	R0220	18	54	4
REGIONAL TOTALS		21	60	4
<u>Southeastern</u>				
Emery	R0540	27	82	13
San Juan	R1170	17	106	21
San Juan	R1450	Automatic Zero		
REGIONAL TOTALS		44	188	34
STATE TOTALS		192	694	67
STATE AVERAGE		12.8	46.3	4.5
PERCENT CHANGE (from previous year)		-10	-17	-48

Table 2. Regional and county summary of mourning dove breeding population trend as indicated by the number of doves heard per route during random call-count surveys, 1964-73.

Region and County	Route Number	Number of Doves Heard per Route										
		1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	
Northern Region												
Summit	R1020	11	9	16	10	16	7	11	10	7	3	
Box Elder	R1500	2	5	6	2	6	3	7	4	2	5	
Regional Totals		13	14	22	12	22	10	18	14	9	8	
Central Region												
Juab	R2830	28	17	22	42	23	8	15	32	6	17	
Regional Totals		28	17	22	42	23	8	15	32	6	17	
Southern Region												
Sevier-Sanpete	R0370	3	3	0	7	1	0	1	1	0	0	
Wayne-Sevier	R0660	8	8	5	12	7	2	8	11	20	11	
Garfield	R1090	22	19	29	27	17	18	6	14	29	0	
Millard	R3640	--	18	18	40	43	26	7	17	19	24	
Beaver	R3820	9	17	19	9	23	9	17	12	13	6	
Iron	R4000	26	33	13	19	13	26	15	24	20	35	
Washington	R4310	33	36	36	40	21	38	54	64	61	26	
Regional Totals		101	134	120	154	125	119	108	143	162	102	
Northeastern Region												
Duchesne	R0080	10	7	23	62	11	10	3	16	8	3	
Uintah	R0220	6	9	12	17	33	38	15	66	4	18	
Regional Totals		16	16	35	79	44	48	18	82	12	21	
Southeastern Region												
Emery	R0540	6	6	3	2	7	11	9	10	1	27	
San Juan	R1170	5	5	1	6	7	18	33	60	24	17	
San Juan	R1450	--	2	0	0	0	Automatic	Zero				
Regional Totals		11	13	4	8	14	29	42	70	25	44	
STATE TOTALS												
		169	194	203	295	228	214	201	341	214	192	
STATE AVERAGES												
		13.0	12.9	13.5	19.7	15.2	14.3	13.4	22.7	14.3	12.8	
PERCENT CHANGE (from previous year)												
		-1	+5	+46	-23	-6	+69	-37	-10			

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-Day	Birds per Hunter*	% of Pressure	% of Harvest
<u>Northern</u>							
Box Elder	114	299	1,271	4.25	13.00	5.80	7.85
Cache	77	232	532	2.29	7.89	4.50	3.29
Davis	48	204	292	1.43	9.14	3.96	1.80
Morgan	24	60	205	3.42	16.70	1.16	1.27
Rich	4	10	13	1.30	4.00	0.19	0.08
Summit	14	37	98	2.65	7.92	0.72	0.61
Weber	81	242	329	1.36	7.32	4.70	2.03
REGIONAL TOTALS	362	1,084	2,740	2.53	8.67	21.03	16.93
<u>Central</u>							
Juab	123	258	1,388	5.38	14.25	5.01	8.58
Salt Lake	143	546	1,287	2.36	10.32	10.59	7.95
Sanpete	52	163	407	2.50	6.87	3.16	2.51
Tooele	119	380	982	2.58	10.06	7.37	6.07
Utah	310	831	2,314	2.78	10.80	16.12	14.30
Wasatch	20	85	180	2.12	12.82	1.65	1.11
REGIONAL TOTALS	767	2,263	6,558	2.90	10.45	43.91	40.52
<u>Southern</u>							
Beaver	24	85	366	4.31	16.00	1.65	2.26
Garfield	5	29	175	6.03	19.00	0.56	1.08
Iron	53	230	911	3.96	16.89	4.46	5.63
Kane	12	44	219	4.98	16.44	0.85	1.35
Millard	90	281	1,302	4.63	13.66	5.45	8.04
Piute	5	25	50	2.00	8.83	0.49	0.31
Sevier	37	164	528	3.22	16.00	3.18	3.26
Washington	31	150	588	3.92	19.48	2.91	3.63
Wayne	5	19	128	6.74	12.67	0.37	0.79
REGIONAL TOTALS	262	1,027	4,267	4.15	16.16	19.93	26.37
<u>Northeastern</u>							
Daggett	4	39	32	0.82	10.00	0.76	0.20
Duchesne	15	55	260	4.73	17.25	1.07	1.61
Uintah	28	101	300	2.97	10.76	1.96	1.85
REGIONAL TOTALS	47	195	592	3.04	12.79	3.78	3.66
<u>Southeastern</u>							
Carbon	47	154	562	3.65	15.42	2.99	3.47
Emery	31	123	327	2.66	7.93	2.39	2.02
Grand	21	106	407	3.84	24.00	2.06	2.51
San Juan	28	118	514	4.36	19.60	2.29	3.18
REGIONAL TOTALS	127	501	1,810	3.61	17.09	9.72	11.18
Unknown counties	31	84	217	2.58	3.29	1.63	1.34
Mixed counties	0	0	0	0.00	0.00	0.00	0.00
STATE TOTALS	1,596	5,154	16,184	3.14	11.19	100	100

*Based on county of residence.

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	4.97	5.37	4.35	3.79	3.88	3.60	3.85	3.16	4.25
Cache	2.96	3.83	3.27	3.03	2.49	3.27	2.62	2.23	2.29
Davis	1.75	1.81	1.76	1.56	1.68	1.56	1.64	1.30	1.43
Morgan	3.94	4.79	4.18	3.69	3.88	3.70	3.63	2.11	3.42
Rich	9.50	--	3.20	2.18	4.27	3.44	3.80	3.08	1.30
Summit	3.17	3.57	2.60	1.70	3.15	5.00	2.77	2.03	2.65
Weber	2.25	2.33	2.45	1.68	2.12	1.98	1.59	1.67	1.36
Regional Totals	3.32	3.57	3.30	2.59	2.84	2.77	2.53	2.23	2.53
Central									
Juab	5.86	5.67	6.21	5.05	4.88	5.89	5.06	3.83	5.38
Salt Lake	2.42	2.75	3.14	2.29	2.26	2.18	2.03	1.81	2.36
Sanpete	3.00	5.25	3.03	2.82	3.14	3.64	3.90	2.04	2.50
Tooele	3.70	3.39	3.78	3.23	3.33	3.76	2.98	2.38	2.58
Utah	3.27	3.27	3.32	2.92	3.10	3.41	2.71	2.24	2.78
Wasatch	3.90	2.71	4.48	4.11	1.49	2.41	1.75	1.48	2.12
Regional Totals	3.18	3.39	3.70	3.03	3.07	3.16	2.75	2.31	2.90
Southern									
Beaver	4.78	3.96	4.55	4.85	5.65	4.28	4.00	4.71	4.31
Garfield	2.44	1.20	3.61	1.60	3.11	1.33	3.25	4.93	6.03
Iron	4.83	4.55	3.59	4.97	2.91	3.72	3.41	3.35	3.96
Kane	8.04	5.00	5.86	1.64	3.60	3.00	3.53	2.60	4.98
Millard	4.90	5.35	4.41	4.81	3.84	5.83	4.45	3.84	4.63
Piute	3.64	2.00	6.78	0.55	2.16	7.67	3.60	3.54	2.00
Sevier	1.93	2.79	1.99	2.31	3.20	2.95	3.32	2.44	3.22
Washington	4.17	4.02	4.21	2.71	4.04	4.38	3.87	3.33	3.92
Wayne	5.69	10.00	0.47	2.50	--	2.58	3.00	2.50	6.74
Regional Totals	4.15	4.10	3.75	3.56	3.55	4.15	3.79	3.42	4.15
Northeastern									
Daggett	2.75	--	3.69	4.00	1.67	7.30	5.86	2.70	0.82
Duchesne	2.00	3.73	2.00	1.12	2.67	4.54	3.00	4.91	4.73
Uintah	4.13	3.59	2.37	2.62	2.21	3.05	2.30	1.58	2.97
Regional Totals	3.77	3.62	2.42	2.10	2.26	3.70	2.60	2.39	3.04
Southeastern									
Carbon	2.37	2.87	2.56	3.17	3.56	2.26	0.89	2.95	3.65
Emery	1.58	2.89	4.68	3.69	2.81	1.28	2.39	2.68	2.66
Grand	2.82	2.00	4.00	3.67	3.71	5.79	2.71	3.14	3.84
San Juan	3.88	5.60	4.65	7.00	3.27	2.29	3.15	3.94	4.36
Regional Totals	2.48	3.08	3.76	3.81	3.24	2.38	1.93	3.15	3.61
Unknown counties	2.18	1.84	3.28	2.88	--	4.55	2.49	2.90	2.58
Mixed counties	3.76	--	3.88	1.00	--	0.00	--	10.00	0.00
STATE TOTALS	3.36	3.51	3.56	2.96	3.07	3.14	2.79	2.53	3.14

Table 6. Distribution of mourning dove hunting pressure by region and county, 1965-73*.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	16.31	10.12	9.63	8.96	9.44	8.83	7.23	8.11	5.80
Cache	8.49	5.34	5.81	5.59	3.56	5.22	4.39	4.65	4.50
Davis	6.66	5.25	3.43	6.18	5.15	6.66	4.45	3.30	3.96
Morgan	1.50	1.59	1.96	1.83	2.20	1.50	0.71	1.49	1.16
Rich	0.17	--	0.28	0.33	0.25	0.44	0.53	0.31	0.19
Summit	--	1.31	0.83	0.68	0.77	0.44	0.68	0.94	0.72
Weber	4.33	6.28	6.64	8.85	7.73	5.58	8.08	7.68	4.70
Regional Totals	37.46	29.89	28.58	32.43	29.10	28.68	26.07	26.48	21.03
Central									
Juab	3.66	7.12	4.98	4.62	5.60	3.50	4.45	5.39	5.01
Salt Lake	18.30	16.21	10.38	13.05	13.86	17.38	15.23	12.37	10.59
Sanpete	1.16	2.34	3.85	2.25	2.18	3.14	1.89	2.65	3.16
Tooele	5.16	9.09	9.71	9.53	7.87	4.61	7.97	6.38	7.37
Utah	6.49	20.52	14.11	15.98	14.29	16.10	17.94	18.66	16.12
Wasatch	0.17	0.28	0.75	0.56	0.84	0.94	2.68	0.65	1.65
Regional Totals	34.94	44.56	43.77	45.98	44.64	45.67	50.17	46.10	43.91
Southern									
Beaver	1.16	0.75	1.30	1.63	0.77	0.89	1.29	1.86	1.65
Garfield	0.50	0.37	0.50	0.15	0.64	0.08	0.53	0.36	0.56
Iron	0.83	1.87	1.36	2.22	3.52	3.86	2.26	2.34	4.46
Kane	0.67	0.09	0.39	0.33	1.25	0.03	0.39	0.12	0.85
Millard	3.33	3.47	3.43	3.34	5.62	3.36	3.58	3.11	5.45
Piute	0.50	0.09	0.25	1.12	0.86	0.08	0.13	0.63	0.49
Sevier	1.33	2.16	2.21	2.63	2.40	3.22	3.00	3.85	3.18
Washington	1.00	1.12	1.72	2.07	2.49	0.94	2.47	3.06	2.91
Wayne	0.33	0.09	0.47	0.12	--	0.33	0.16	0.10	0.37
Regional Totals	9.65	10.01	11.62	13.61	17.55	12.80	13.81	15.41	19.93
Northeastern									
Daggett	0.50	--	0.36	0.09	0.14	0.28	0.18	0.24	0.76
Duchesne	0.50	0.56	0.86	0.98	0.54	0.36	0.39	0.79	1.07
Uintah	0.83	1.50	1.80	1.54	2.65	2.03	2.47	2.55	1.96
Regional Totals	1.83	2.06	3.02	2.62	3.33	2.67	3.05	3.59	3.78
Southeastern									
Carbon	3.16	1.12	1.69	1.92	2.45	3.97	2.00	2.36	2.99
Emery	1.00	0.66	1.02	1.07	2.11	2.28	0.95	1.13	2.39
Grand	0.67	0.09	0.80	0.44	0.32	0.92	0.74	1.40	2.06
San Juan	0.50	0.28	1.02	0.44	0.50	1.55	0.87	1.25	2.29
Regional Totals	5.33	2.15	4.54	3.88	5.38	8.72	4.55	6.14	9.72
Unknown counties	3.16	0.28	2.24	1.48	--	1.47	2.34	2.17	1.63
Mixed counties	7.65	--	6.23	0.03	--	0.00	--	0.12	0.00
STATE TOTALS	100	100	100	100	100	100	100	100	100

* Distribution of hunting pressure for 1967 and later is based on hunter-days rather than number of hunters reporting.

Table 7. State-wide summary of mourning dove harvest statistics, 1951-73.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Doves per Hunter Day	Doves per Hunter
1951	3,007	20,448	4,455	4.59	6.80
1952	6,420	49,498	10,784	4.59	7.71
1953	9,887	75,636	17,797	4.25	7.65
1954	9,901	75,941	19,724	3.85	7.67
1955	9,653	79,444	19,282	4.12	8.23
1956	10,744	95,729	20,411	4.69	8.91
1957	11,298*	86,769*	18,620*	4.66	7.68
1958	11,853	85,934	21,591	3.98	7.25
1959	12,142	110,856	24,911	4.45	9.13
1960	12,440	108,477	25,766	4.21	8.72
1961	15,192	128,001	33,434	3.89	8.42
1962	14,663	144,826	34,281	4.23	9.89
1963	18,258	162,769	40,490	4.02	8.91
1964	19,829	193,538	51,671	3.75	9.76
1965	18,710	164,087	48,835	3.36	8.69
1966	20,594	212,696	60,608	3.51	10.33
1967	25,161	263,949	74,171	3.56	10.49
1968	25,105	207,922	70,186	2.96	8.28
1969	29,131	279,311	90,965	3.07	9.59
1970	23,908	232,469	73,984	3.14	9.72
1971	26,064	226,645	81,271	2.79	8.70
1972	29,341	238,354	94,046	2.53	8.12
1973	27,435	307,062	97,788	3.14	11.19
TOTALS					
1951-1973	390,733	3,550,543	1,135,244	3.13	9.09
AVERAGES					
(1951-1972)	16,514	147,430	47,157	3.77	8.67

*Estimated

Region and County	ALL HUNTS						COMPLETE HUNTS					
	Total			Total			Total			Total		
	Parties	Hours	Birds/100 hrs.	Hunters	Hours	Birds/100 hrs.	Hunts	Hours	Birds/100 hrs.	Hunters	Hours	Birds/100 hrs.
<u>Northern</u>												
Box Elder	168	433	1,709	1,449	85	166	423	1,691	1,443	85	3.41	
Cache	1	2	6	2	33	0	0	0	0	--	--	
Davis	10	23	37	11	30	3	6	8	2	25	0.33	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	6	20	29	16	55	0	0	0	0	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	16	32	47	39	83	2	6	15	21	140	3.50	
REGIONAL TOTALS	201	510	1,828	1,517	83	171	435	1,714	1,466	86	3.37	
<u>Central</u>												
Juab	16	49	129	154	119	1	3	12	30	250	10.00	
Salt Lake	60	118	218	124	57	23	44	110	51	46	1.16	
Sanpete	27	75	232	110	47	6	18	56	35	62	1.94	
Tooele	45	90	220	182	83	2	4	22	31	141	7.75	
Utah	81	179	282	296	105	8	19	38	74	195	3.89	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	229	511	1,081	866	80	40	88	238	221	93	2.51	
<u>Southern</u>												
Beaver	1	2	6	9	150	1	2	6	9	150	4.50	
Garfield	3	5	4	6	150	2	4	4	6	150	1.50	
Iron	15	37	89	222	249	7	15	30	115	383	7.67	
Kane	7	16	30	66	220	3	6	16	40	250	6.67	
Millard	20	63	265	234	88	7	21	105	90	86	4.29	
Piute	1	3	1	2	200	0	0	0	0	--	--	
Sevier	16	42	100	105	105	3	7	26	39	150	5.57	
Washington	20	39	66	28	42	0	0	0	0	--	--	
Wayne	3	4	8	7	88	3	4	8	7	88	1.75	
REGIONAL TOTALS	86	211	569	679	119	26	59	195	306	157	5.19	
<u>Northeastern</u>												
Daggett	6	12	44	9	20	6	12	44	9	20	0.75	
Duchesne	15	32	61	145	238	8	17	31	115	371	6.76	
Uintah	14	28	90	161	179	7	9	40	64	160	7.11	
REGIONAL TOTALS	35	72	195	315	162	21	38	115	188	163	4.95	
<u>Southeastern</u>												
Carbon	5	10	12	11	92	1	2	1	2	200	1.00	
Emery	9	15	19	28	147	0	0	0	0	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	14	25	31	39	126	1	2	1	2	200	1.00	
STATE TOTALS	565	1,329	3,704	3,416	92	259	622	2,263	2,183	96	3.51	

Region and County	1968		1969		1970		1971		1972		1973	
	Doves/ 100 hrs. Hunter	Doves/ Hunter	Doves/ 100 hrs. Hunter	Doves/ Hunter	Doves/ 100 hrs. Hunter	Doves/ Hunter	Doves/ 100 hrs. Hunter	Doves/ Hunter	Doves/ 100 hrs. Hunter	Doves/ Hunter	Doves/ 100 hrs. Hunter	Doves/ Hunter
Northern												
Box Elder	84	3.83	79	3.30	81	3.20	70	3.43	84	3.43	85	3.41
Cache	158	4.62	91	1.88	164	4.44	106	7.00	79	1.88	33	1.00
Davis	22	1.40	62	0.80	--	--	--	--	--	--	30	0.33
Morgan	--	--	--	--	--	--	131	3.70	45	1.20	--	--
Rich	186	6.92	118	2.20	--	--	67	3.00	39	0.85	55	0.80
Summit	--	--	191	4.66	91	1.44	12	0.43	--	--	--	--
Weber	29	0.35	85	1.98	116	3.75	33	0.37	108	2.26	83	3.50
REGIONAL TOTALS	84	3.75	82	3.08	86	3.20	71	3.22	84	3.20	83	3.37
Central												
Juab	61	--	130	8.00	95	4.33	83	3.00	135	3.83	119	10.00
Salt Lake	35	0.85	43	0.65	72	1.28	71	1.36	47	1.53	57	1.16
Sanpete	52	1.12	--	--	19	0.47	22	0.82	167	3.17	47	1.94
Tooele	43	2.56	46	1.58	36	0.60	61	0.78	41	2.72	83	7.15
Utah	64	3.58	75	1.50	85	4.20	111	5.27	82	1.38	105	3.89
Masatch	--	--	70	4.00	--	--	--	--	--	--	--	--
REGIONAL TOTALS	46	2.12	63	1.92	66	1.46	70	1.58	73	1.95	80	2.51
Southern												
Beaver	--	--	--	--	--	--	88	--	81	1.30	150	4.50
Garfield	--	--	143	--	72	2.23	--	--	--	--	150	1.50
Iron	209	5.00	--	--	486	5.45	205	5.36	300	6.60	249	7.67
Kane	--	--	143	3.33	75	--	--	--	233	3.00	220	6.67
Millard	105	2.58	--	--	--	--	119	6.33	108	3.16	88	4.29
Piute	133	3.57	190	2.78	158	6.00	92	--	--	--	200	0.66
Sevier	--	--	--	--	217	--	133	5.33	76	0.80	105	5.57
Washington	86	1.29	220	6.24	238	4.33	--	--	175	3.50	42	0.72
Wayne	--	--	--	--	--	--	--	--	93	3.50	88	1.75
REGIONAL TOTALS	110	2.77	205	4.06	217	4.42	124	5.86	118	4.45	119	5.19
Northeastern												
Daggett	--	--	38	0.69	--	--	152	4.20	94	2.03	20	0.75
Duchesne	--	--	78	1.83	36	3.00	--	--	69	1.85	238	6.76
Uintah	143	3.67	141	5.77	132	3.39	147	3.29	149	3.26	179	7.11
REGIONAL TOTALS	143	3.67	122	3.98	109	3.37	150	3.78	122	2.74	162	4.95
Southeastern												
Carbon	--	--	175	3.71	0	0.00	--	--	--	--	92	1.00
Emery	--	--	161	3.54	159	6.44	207	--	--	--	147	1.87
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	339	10.00	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	246	4.00	155	6.44	207	--	--	--	126	1.00
STATE TOTALS	76	3.62	87	3.00	87	2.98	82	3.07	86	3.03	92	3.51

Table 10. Summary of preseason mourning dove banding in Utah during 1973.

County	Immatures	Adults	Unclassified	Total
Beaver	6	4		10
Daggett	0	137		137
Duchesne	1	2		3
Iron	4	0		4
Kane	206	17		223
Millard	1	56		57
San Juan	7	10		17
Tooele	27	57		84
Washington	136	84		220
TOTALS	388 (51%)	367 (49%)		755

In 1973, all 755 doves were banded by Division of Wildlife Resources personnel.

Table 11. Summary of mourning doves banded in Utah, 1969-73.

Region and County	1969		1970		1971		1972		1973		Total 1961-73**							
	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total						
Northern																		
Box Elder	30	189	14	83	97	--	--	2	5	7	--	--	995	2422	3417			
Cache	30	36	--	--	--	--	--	--	--	--	--	--	30	39	69			
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Morgan	--	--	--	--	--	22	20	45*	--	--	--	--	22	20	45*			
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
REGIONAL TOTALS	60	225	14	83	97	22	20	45*	2	5	7	--	1047	2481	3531*			
Central																		
Juab	213	148	67	58	125	64	53	117	71	151	229*	--	--	1587	2559	4209*		
Salt Lake	31	59	90	--	--	--	--	--	--	--	--	--	--	47	214	261		
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Tooele	227	447	674	126	228	354	85	370	455	60	158	218	57	84	1242	2108	3375*	
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	61	155	216	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	471	654	193	286	479	149	423	572	131	309	447*	27	57	84	2937	5036	8061*	
Southern																		
Beaver	--	--	--	--	--	--	--	--	--	--	--	6	4	10	12	30	42	
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	179	49	228	113	1	114	125	124	249	4	--	4	421	174	595	
Kane	--	--	--	--	--	--	--	--	--	--	--	206	17	223	292	85	377	
Millard	79	61	140	28	35	63	38	13	51	12	27	1	56	57	304	513	818*	
Piute	172	171	343	132	268	400	166	211	377	75	15	90	--	--	545	665	1210	
Sevier	--	--	--	--	--	2	0	2	--	--	--	--	--	--	4	26	30	
Washington	17	24	41	13	26	40*	41	2	43	37	17	55*	136	84	220	253	1062	1317*
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	8	12	
REGIONAL TOTALS	268	256	524	378	731*	360	227	587	252	168	421*	353	161	514	1835	2563	4401*	
Northeastern																		
Daggett	--	--	7	2	9	7	28	35	39	60	99	0	137	137	54	230	284	
Duchesne	--	--	4	26	30	7	64	71	15	128	143	1	2	3	27	220	247	
Uintah	3	12	15	38	83	121	49	123	172	9	85	94	--	--	368	1167	1535	
REGIONAL TOTALS	3	12	15	49	111	160	63	215	278	63	273	336	1	139	140	449	1617	2066
Southeastern																		
Carbon	7	2	9	--	--	--	--	--	--	--	--	--	--	--	8	4	12	
Emery	39	14	53	--	--	--	--	--	--	--	--	--	--	--	39	14	53	
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	52	17	69	
San Juan	--	--	15	5	20	37	52	89	73	129	202	7	10	17	446	229	675	
REGIONAL TOTALS	46	16	62	15	5	37	52	89	73	129	202	7	10	17	545	264	809	
STATE TOTALS	848	1163	2011	623	863	1487*	631	937	1571	521	884	1413	388	367	755	6813	11961	18868*

*Includes some unclassified birds.

**Long-term total.

Table 12. Summary of mourning dove band recovery rates for the period 1949-71.

Time Period	Doves Banded	Number of Recoveries		Recovery Rates	
		Direct*	Total**	Direct	Total
1949-62	4,001	43	110	.011	.027
1964	1,945	37	68	.019	.035
1965	1,416	33	57	.023	.040
1966	973	1	7	.001	.007
1967	2,233	37	60	.017	.027
1968	640	6	14	.009	.022
1969	2,006	36	55	.018	.027
1970	1,487	16	40	.011	.027
1971	1,571	8	13	.005	.008
<hr/>					
TOTALS 1964-71	12,271	174	314	.014	.026
<hr/>					
GRAND TOTALS	16,272	217	424	.013	.026

*Direct recovery - A banded dove that is killed during the first hunting season following banding.

**Total recovery - Direct recoveries plus all subsequent recoveries for any given cohort of banded doves.

Table 13. Summary of combined recoveries, returns and foreign retraps of mourning doves banded in Utah, 1961-71.

State and Country of Recovery	Recoveries as of August, 1970	(Percent)	Recoveries During 1970 and 1971*	Total Recoveries	(Percent)
UNITED STATES					
Utah	540	(81.3)	15	555	(78.6)
Arizona	38	(5.7)	16	54	(7.6)
Northern	2		--	--	
Southern	36		--	--	
California	21	(3.2)	2	23	(3.2)
Northern	3		--	--	
Central	4		--	--	
Southern	14		--	--	
New Mexico	4	(0.6)	1	5	(0.7)
Northern	2		--	--	
Southern	2		--	--	
Idaho	2	(0.3)	0	2	(0.3)
Texas	2	(0.3)	0	2	(0.3)
Oregon	2	(0.3)	0	2	(0.3)
Colorado	2	(0.3)	0	2	(0.3)
Nevada	1	(0.2)	0	1	(0.1)
Iowa	1	(0.2)	0	1	(0.1)
States Other Than Utah	73	(11.0)	19	92	(13.0)
United States Total	613	(92.3)	34	647	(91.6)
MEXICO					
Jalisco	20	(3.0)	1	21	(3.0)
Michoacan	7	(1.0)	4	11	(1.6)
Sinaloa	9	(1.4)	0	9	(1.3)
Sonora	5	(0.8)	0	5	(0.7)
Unknown State	1	(0.2)	3	4	(0.6)
Durango	2	(0.3)	0	2	(0.3)
Guanajuato	1	(0.2)	0	1	(0.1)
Aguascalientes	1	(0.2)	0	1	(0.1)
Colima	1	(0.2)	0	1	(0.1)
Nayarit	1	(0.2)	0	1	(0.1)
Mexico State	1	(0.2)	0	1	(0.1)
Baja California	1	(0.2)	0	1	(0.1)
Mexico Total	50	(7.5)	8	58	(8.2)
HONDURAS	1	(0.2)	0	1	(0.1)
TOTAL RETURNS	664	(100)	42	706	(100)

*As per reports received as of March 31, 1972

Table 14. Summary of mourning doves banded in other states and recovered in Utah through August, 1970.

<u>State Where Banded</u>	<u>Number of Returns</u>
Arizona	14
Idaho	7
Washington	4
Nevada	3
Texas	2
Oregon	<u>1</u>
Total Recoveries and Returns of Doves Banded In Other States:	31

CHUKAR PARTRIDGE

SUMMARY

Harvest data for the 1972 hunting season indicated a reduced breeding population level for 1973. Brood counts yielded fewer chukars than average but indicated production was good, suggesting increased chukar abundance in the fall.

Harvest questionnaire data reflected the increased production as both total harvest and hunter success increased. The number of hunters declined, apparently in response to reduced bag limits and poor success in 1972, but those going afield spent more total hunter-days than in 1972. Bag and possession limits were reduced from 8 and 16 to 5 and 10 respectively.

Hunter success indexes derived from field bag checks were contradictory with one (chukars/100 hours) showing increased success and the other (chukars/hunter) showing a slightly decreased success rate. Hunters checked spent fewer hours afield than in 1972. Less time was required to bag one chukar than in 1972 but slightly more than average. It is evident that the improved production of 1973 resulted in an increased fall population level.



Brood Counts

Results of the annual random brood survey for 1973 are shown in Table 1 of this section. Long-term trends of young-adult ratios, mean brood size and chukars observed per 100 hours are found in Tables 2-4. Survey results for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total chukars observed	545	-75	-67
Young per 100 adults	519	+121	+26
Mean brood size	10.65	+6	+20
Chukars observed per 100 hours	150	-73	-71
Total hours effort	363	-6	-8

Low hunter success and harvest during 1972 indicated a decreased breeding population level for 1973.

Accumulated moisture levels were high during the late-winter and spring of 1972-73 and consequently forage conditions were good. As a result, production was high with a 121 percent increase in young per adult over 1972 and 26 percent over the average.

Less time was devoted to chukar brood counts in 1973. Additionally, because of generally abundant forage and slightly below normal temperatures in July chukars did not seem to concentrate around water. These two factors were apparently responsible for a substantial decrease in chukars observed during brood counts as well as the number observed per 100 hours effort.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1973 are shown in Table 5. Long-term trends of chukars bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 6-8 and total State-wide harvest statistics in Table 9. Following is a comparison of 1973 harvest statistics to 1972 and the average:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Chukar hunters	13,888	-17	-13
Chukars harvested	48,135	+30	+12
Hunter-days afield	50,677	+9	+14
Chukars per hunter	3.47	+57	+46
Chukars per hunter-day	0.95	+20	+4

The daily bag limit for chukars was decreased from 8 to 5 and the possession limit from 16 to 10 for the 1973 season. This, in combination with the relatively poor success of 1972, was apparently responsible for a reduction in chukar hunters afield. Those who hunted chukars found improved success in the Northern, Central and Southeastern regions with the result being an increased number of hunter-days afield. Total harvest and hunter success, per day and for the season, increased over both 1972 and the average.

Long-term trends of chukar harvest statistics are shown in Figure 1.

Field Bag Checks

A summary of field-bag-check data for 1973 is shown in Table 10. The hunter success trend determined via bag check since 1966 is shown in Table 11. Data for the 1973 season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	401	-30	-49
Total hours hunted	1,857	-47	-50
Chukars per hunter (complete hunts)	0.91	-6	-21
Chukars bagged per 100 hours	17	+21	-32
Average hours per hunter-day (complete hunts)	4.9	-26	+2
Hours hunted per chukar bagged	5.4	-29	+9

Field bag check sample sizes were poor in most counties. Total hunters checked statewide was down considerably from both 1972 and the average. Hunter success per 100 hours effort increased over 1972, in concert with the questionnaire, but success per day (where sample sizes were lowest) showed a slight decrease from 1972.

The average hunter spent fewer hours afield per day than in 1972 but slightly more than average. Less hours were spent per chukar bagged than in 1972 but still more than average.

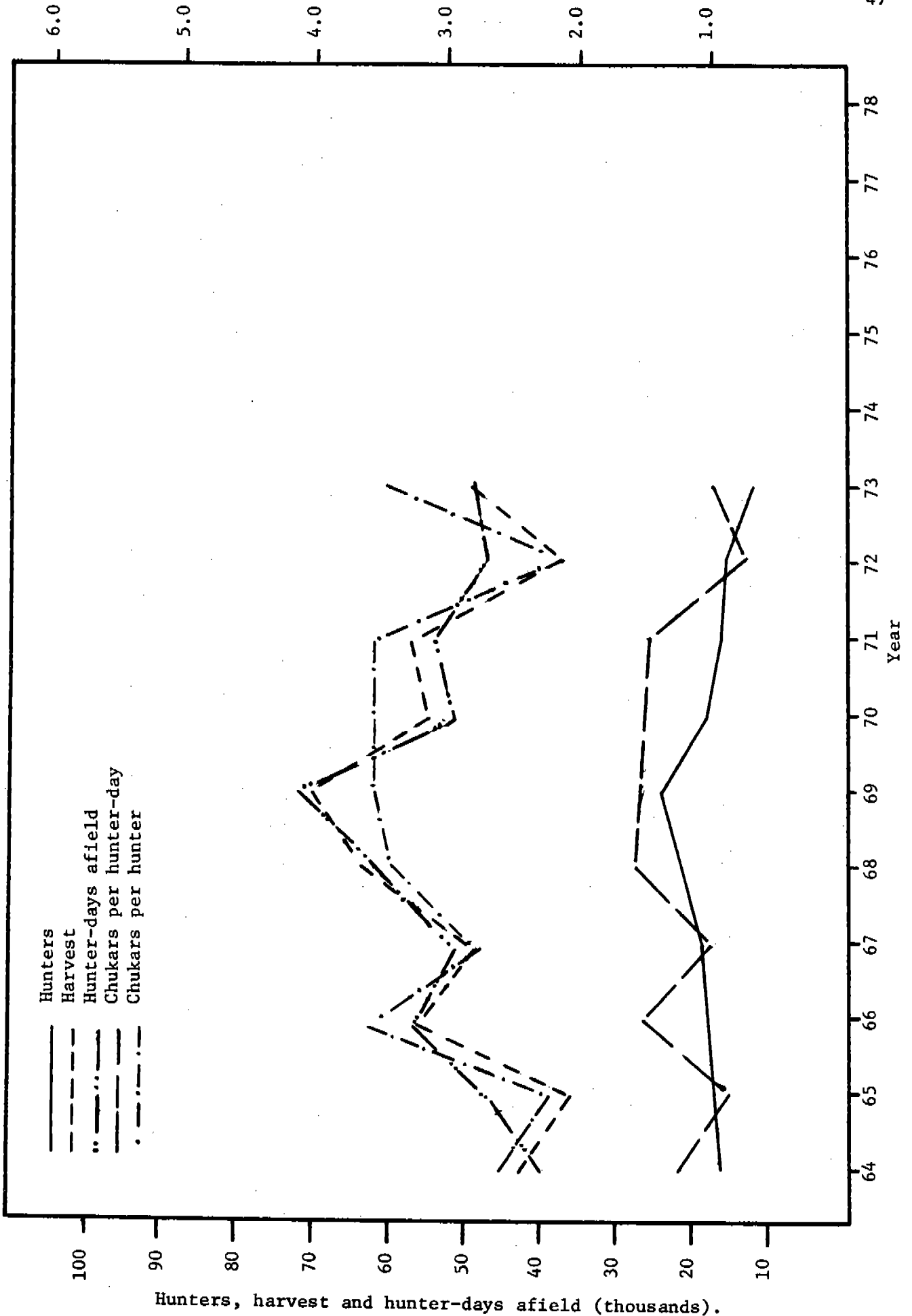


Figure 1. Statewide trends of chukar partridge harvest statistics.

Table 1. Chukar summer inventory summary, 1973.

Region and County	Distinct Broods		Mean		Mixed Yng. & Adults		Adults Yng. w/o Yng.	Total Adults	Total Yng.	Total Young/100 Ad.	Vehicle Miles		Hours Effort		Birds/100 hrs.		
	No. Ad.	Yng.	Brood	Ad.	Yng.	Ad.					Veh.	Horse	Walk	Total			
Northern																	
Box Elder	3	3	39	13.00	4	37	3	10	76	760	1,063	61	43	8	112	77	
Cache	3	3	39	13.00	0	0	5	8	39	488							
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6	6	78	13.00	4	37	8	18	115	639	1,063	61	43	8	112	119	
Central																	
Juab	3	4	29	9.67	0	0	0	4	29	725	288	17	0	2	19	174	
Salt Lake	0	0	0	--	0	0	3	3	0	0	20	1	0	4	5	60	
Sanpete	0	0	0	--	0	0	2	2	0	0	226	7	11	12	30	7	
Tooele	2	2	30	15.00	7	48	6	19	78	410	784	40	0	9	49	198	
Utah	5	5	42	8.40	12	15	0	17	57	335	176	22	0	0	22	336	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	10	11	101	10.10	19	63	11	45	164	364	1,494	87	11	27	125	167	
Southern																	
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	0	0	0	--	0	0	0	0	0	--	72	0	0	10	10	0	
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	0	--	0	0	0	0	0	--	72	0	0	10	10	0	
Northeastern																	
Daggett	0	0	0	--	0	0	0	0	0	--	90	21	0	0	21	0	
Duchesne	0	0	0	--	0	0	0	0	0	--	275	10	0	2	12	0	
Uintah	0	0	0	--	0	0	0	0	0	--	340	10	0	5	15	0	
REGIONAL TOTALS	0	0	0	--	0	0	0	0	0	--	705	41	0	7	48	0	
Southeastern																	
Carbon	1	1	9	9.00	5	30	0	6	39	650	118	7	0	5	12	375	
Emery	2	2	24	12.00	4	34	2	8	58	725	330	19	0	15	34	194	
Grand	1	2	1	1.00	5	60	0	7	61	871	244	18	0	1	19	358	
San Juan	0	0	0	--	4	20	0	4	20	500	10	3	0	0	3	800	
REGIONAL TOTALS	4	5	34	8.50	18	144	2	25	178	712	702	47	0	21	68	298	
STATE TOTALS	20	22	213	10.65	41	244	21	88	457	519	4,036	236	54	73	363	150	

Table 2. Trend of chukar young per 100 adults ratios, 1962-73.

Region and County	Year													Averages 1962-72
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973		
Northern Region														
Box Elder	--	214	535	410	416	360	455	600	247	529	492	760		
Cache	--	467	625	700	317	220	--	1011	250	258	--	488		
Davis	--	--	--	0	500	0	--	1100	--	--	--	--		
Morgan	--	933	600	135	680	88	315	668	178	950	--	--		
Rich	--	480	950	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	254	--	350	--	--	525	--	--	--		
Weber	--	1200	--	--	600	--	--	91	--	286	--	--		
Regional Totals	--	350	574	210	429	276	420	510	267	382	475	639		
Central Region														
Juab	900	26	300	--	--	475	450	607	421	594	420	725		
Salt Lake	608	208	670	--	--	671	409	372	0	367	--	0		
Sanpete	765	758	375	--	--	368	400	194	256	171	216	0		
Tooele	1267	628	--	--	--	--	1733	1360	922	372	154	410		
Utah	860	300	405	--	--	--	240	463	360	352	552	335		
Wasatch	--	--	480	--	--	--	--	767	--	--	--	--		
Regional Totals	729	201	473	643	638	445	407	496	471	386	208	364		
Southern Region														
Beaver	--	--	--	--	--	--	--	--	--	--	--	--		
Garfield	183	530	500	160	--	--	--	--	495	275	--	--		
Iron	--	--	--	--	--	500	--	--	--	--	--	--		
Kane	512	320	--	--	--	--	--	--	--	--	--	--		
Millard	1038	390	--	770	514	--	1108	812	700	255	66	--		
Piute	600	650	600	--	--	--	--	--	--	550	500	--		
Sevier	1425	179	857	1350	833	--	--	--	--	--	800	--		
Washington	--	660	--	--	817	315	--	--	--	--	--	--		
Wayne	1036	619	364	0	--	--	--	--	--	67	--	--		
Regional Totals	643	392	548	462	608	315	1108	812	581	245	131	531		
Northeastern Region														
Daggett	182	--	--	--	1056	436	709	1250	150	--	--	--		
Duchesne	833	--	--	833	--	0	515	548	--	120	--	--		
Uintah	--	--	--	600	1273	1075	482	463	450	678	--	--		
Regional Totals	235	--	--	654	1217	485	540	575	279	479	--	558		
Southeastern Region														
Carbon	--	--	--	50	--	--	1000	--	383	474	372	650		
Emery	264	--	722	300	1100	317	--	--	900	--	--	725		
Grand	--	--	--	825	539	367	1000	--	446	205	274	871		
San Juan	151	--	400	375	678	57	590	138	234	161	317	500		
Regional Totals	169	--	655	389	604	269	635	138	338	226	324	712		
STATE TOTALS	434	292	571	338	638	306	523	511	382	311	235	519		

Table 3. Trend of chukar mean brood size from 1963-73.

Region and County	Year											Averages 1963-72
	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	
<u>Northern</u>												
Box Elder	--	--	--	--	7.53	10.09	8.00	10.59	6.17	13.23	13.00	
Cache	--	--	--	--	8.00	--	12.00	10.00	3.43	--	13.00	
Davis	--	--	--	--	--	--	10.50	--	--	--	--	
Morgan	--	--	--	--	7.50	--	10.17	8.00	9.50	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	7.00	--	--	7.33	--	--	--	
Weber	--	--	--	--	--	--	--	--	20.0	--	--	
REGIONAL TOTALS	7.88	9.08	7.50	7.38	7.52	10.09	9.67	9.91	6.25	13.23	13.00	8.85
<u>Central</u>												
Juab	--	--	--	--	7.00	9.00	11.62	5.25	9.33	9.53	9.67	
Salt Lake	--	--	--	--	--	11.25	16.50	--	--	--	--	
Sanpete	--	--	--	--	7.00	6.00	--	6.67	7.00	6.00	--	
Tooele	--	--	--	--	--	17.33	14.50	12.14	11.29	10.83	15.00	
Utah	--	--	--	--	--	5.62	9.40	9.00	8.14	7.50	8.40	
Wasatch	--	--	--	--	--	--	11.50	--	--	--	--	
REGIONAL TOTALS	7.92	6.00	6.43	8.50	7.00	9.22	11.38	9.00	9.88	9.98	10.10	8.53
<u>Southern</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	5.00	--	--	8.20	5.00	--	--	
Iron	--	--	--	--	--	--	--	--	0	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	15.43	9.67	--	11.50	10.00	--	
Piute	--	--	--	--	--	--	--	--	5.50	5.67	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	6.00	--	--	
REGIONAL TOTALS	8.98	11.50	6.17	8.83	5.00	15.43	9.67	8.20	7.80	6.75	--	8.83
<u>Northeastern</u>												
Daggett	--	--	--	--	7.71	19.00	15.50	4.00	--	--	--	
Duchesne	--	--	--	--	--	7.64	11.50	--	6.00	--	--	
Uintah	--	--	--	--	--	--	9.00	4.50	7.00	10.00	--	
REGIONAL TOTALS	--	--	8.50	10.00	7.71	8.58	12.00	4.33	6.86	10.00	--	8.50
<u>Southeastern</u>												
Carbon	--	--	--	--	--	10.00	--	7.67	7.29	9.29	9.00	
Emery	--	--	--	--	7.33	--	--	9.00	--	--	12.00	
Grand	--	--	--	--	9.35	10.00	--	7.20	8.33	7.20	1.00	
San Juan	--	--	--	--	6.50	--	6.60	6.50	5.82	9.00	--	
REGIONAL TOTALS	9.83	10.48	9.25	9.68	8.48	10.00	6.60	7.36	6.88	8.50	8.50	8.71
STATE TOTALS	8.50	9.08	7.52	9.27	7.91	10.16	10.47	8.34	7.81	10.08	10.65	8.91

Table 4. Trend of chukars observed per 100 hours ratios, 1967-73.

Region and County	Year							Averages 1967-72
	1967	1968	1969	1970	1971	1972	1973	
Northern Region								
Box Elder	165	274	1322	386	71	374	77	
Cache	291	0	911	175	358	--	--	
Davis	50	--	600	--	--	--	--	
Morgan	107	--	1670	500	262	--	--	
Rich	0	0	---	--	--	--	--	
Summit	19	--	--	--	--	--	--	
Weber	--	--	928	--	--	--	--	
Regional Totals	125	288	1196	445	132	374	119	427
Central Region								
Juab	230	367	450	197	1724	613	174	
Salt Lake	270	830	354	15	108	--	60	
Sanpete	202	48	91	371	475	527	7	
Tooele	--	688	730	1022	592	2044	198	
Utah	--	567	938	177	210	833	336	
Wasatch	--	0	867	0	--	--	--	
Regional Totals	222	285	408	320	510	997	167	457
Southern Region								
Beaver	--	--	0	--	--	--	--	
Garfield	300	--	0	761	123	--	0	
Iron	--	--	--	--	0	--	--	
Kane	--	--	0	--	--	--	--	
Millard	--	--	3950	--	529	573	--	
Piute	0	--	0	0	650	2400	--	
Sevier	--	--	--	--	--	900	--	
Washington	372	--	0	--	--	--	--	
Wayne	--	--	--	--	600	--	--	
Regional Totals	216	--	484	1448	259	543	0	590
Northeastern Region								
Daggett	2143	741	2700	1333	0	--	0	
Duchesne	4	496	438	0	41	--	0	
Uintah	115	200	255	110	350	48	0	
Regional Totals	199	433	396	82	162	16	0	258
Southeastern Region								
Carbon	288	550	--	--	1282	621	375	
Emery	3550	0	0	--	--	--	194	
Grand	3329	37	--	693	643	710	358	
San Juan	419	1144	438	731	321	431	800	51
Regional Totals	1550	284	211	816	364	541	298	753
STATE TOTALS	328	382	516	459	325	556	150	513

Table 5. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-day	Birds per Hunter*	% of Pressure	% of Harvest
<u>Northern</u>							
Box Elder	150	491	691	1.41	5.57	18.38	27.24
Cache	68	202	138	0.68	3.78	7.56	5.44
Davis	18	68	76	1.12	4.19	2.55	3.00
Morgan	27	111	182	1.64	9.82	4.16	7.17
Rich	3	5	4	0.80	2.00	0.19	0.16
Summit	20	43	43	1.00	3.57	1.61	1.69
Weber	27	74	26	0.35	3.66	2.77	1.02
REGIONAL TOTALS	313	994	1,160	1.17	4.40	37.21	45.72
<u>Central</u>							
Juab	38	101	82	0.81	1.62	3.78	3.23
Salt Lake	48	156	158	1.01	2.13	5.84	6.23
Sanpete	15	26	29	1.12	6.22	0.97	1.14
Tooele	147	441	389	0.88	4.18	16.51	15.33
Utah	112	487	412	0.85	4.21	18.23	16.24
Wasatch	13	46	67	1.46	6.22	1.72	2.64
REGIONAL TOTALS	373	1,257	1,137	0.90	3.26	47.06	44.82
<u>Southern</u>							
Beaver	0	0	0	0.00	3.00	0.00	0.00
Garfield	1	1	0	0.00	0.00	0.04	0.00
Iron	3	6	2	0.33	0.00	0.22	0.08
Kane	0	0	0	0.00	0.00	0.00	0.00
Millard	33	75	72	0.96	1.95	2.81	2.84
Piute	7	26	15	0.58	2.17	0.97	0.59
Sevier	23	104	43	0.41	0.44	3.89	1.69
Washington	0	0	0	0.00	3.00	0.00	0.00
Wayne	1	1	0	0.00	0.00	0.04	0.00
REGIONAL TOTALS	68	213	132	0.62	1.42	7.97	5.20
<u>Northeastern</u>							
Daggett	2	3	0	0.00	0.00	0.11	0.00
Duchesne	6	14	10	0.71	1.50	0.52	0.39
Uintah	7	18	4	0.22	1.20	0.67	0.16
REGIONAL TOTALS	15	35	14	0.40	1.29	1.31	0.55
<u>Southeastern</u>							
Carbon	18	57	20	0.35	0.89	2.13	0.79
Emery	5	15	10	0.67	11.50	0.56	0.39
Grand	8	33	26	0.79	2.25	1.24	1.02
San Juan	9	13	19	1.46	0.00	0.49	0.75
REGIONAL TOTALS	40	118	75	0.64	1.81	4.42	2.96
Unknown counties	15	54	19	0.35	3.33	2.02	0.75
Mixed counties	0	0	0	0.00	0.00	0.00	0.00
STATE TOTALS	824	2,671	2,537	0.95	3.47	100	100

*Based on county of residence.

Table 6. Summary of chukars bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	1.37	1.75	1.55	1.28	1.31	1.00	1.66	0.88	1.41
Cache	0.66	0.89	1.02	1.21	0.82	1.28	0.91	0.75	0.68
Davis	0.45	0.56	0.48	1.35	0.70	0.93	0.98	0.89	1.12
Morgan	0.43	0.55	1.09	2.09	1.52	1.75	1.68	0.85	1.64
Rich	0.00	--	1.00	0.45	0.25	1.78	1.00	0.67	0.80
Summit	1.75	0.45	0.19	0.63	1.23	0.47	0.67	1.28	1.00
Weber	0.61	0.49	0.46	0.64	0.83	0.60	0.86	1.10	0.35
REGIONAL TOTALS	1.05	1.36	1.28	1.28	1.16	1.09	1.36	0.90	1.17
<u>Central</u>									
Juab	0.76	0.70	0.12	1.33	1.75	1.22	1.24	0.87	0.81
Salt Lake	0.67	0.93	0.99	0.92	0.71	1.15	0.77	0.64	1.01
Sanpete	0.67	1.05	0.93	0.47	0.48	0.21	0.83	0.63	1.12
Tooele	0.69	0.69	0.54	1.34	1.46	1.30	1.45	0.77	0.88
Utah	0.36	0.36	0.31	1.06	0.58	1.05	0.48	0.67	0.85
Wasatch	0.50	0.21	1.11	1.05	0.76	0.88	0.52	0.23	1.46
REGIONAL TOTALS	0.57	0.61	0.57	1.08	1.12	1.17	1.04	0.72	0.90
<u>Southern</u>									
Beaver	0.00	--	0.00	1.00	0.00	0.50	--	0.00	--
Garfield	--	1.00	0.55	1.25	2.00	2.57	0.00	0.50	0.00
Iron	0.00	--	--	--	--	2.00	1.17	1.74	0.33
Kane	5.00	--	0.00	--	--	0.00	2.00	0.00	--
Millard	1.35	0.90	0.26	3.77	2.53	2.10	1.63	1.33	0.96
Piute	0.28	1.00	0.83	0.40	1.50	0.42	1.15	1.29	0.58
Sevier	0.37	0.51	0.99	0.59	0.35	0.88	0.34	0.29	0.41
Washington	0.00	--	0.00	0.00	0.60	0.00	0.00	1.50	--
Wayne	0.10	0.78	1.75	0.60	0.00	0.44	0.80	0.87	0.00
REGIONAL TOTALS	0.54	0.72	0.69	1.29	1.22	1.29	0.86	0.90	0.62
<u>Northeastern</u>									
Daggett	0.17	0.82	2.50	1.95	0.11	0.00	0.00	0.00	0.00
Duchesne	0.36	1.62	1.21	0.69	1.53	0.29	0.88	0.59	0.71
Uintah	1.17	2.33	1.56	1.27	1.12	0.60	0.81	0.69	0.22
REGIONAL TOTALS	0.91	2.04	1.44	1.22	1.16	0.46	0.82	0.60	0.40
<u>Southeastern</u>									
Carbon	0.46	1.75	0.60	1.27	0.62	0.54	0.26	0.62	0.35
Emery	0.47	1.42	1.32	1.52	1.30	0.46	0.79	0.04	0.67
Grand	0.38	2.07	0.92	1.15	0.69	1.72	0.63	0.42	0.79
San Juan	2.00	1.56	0.50	1.64	0.67	5.00	0.11	0.25	1.46
REGIONAL TOTALS	0.46	1.85	0.85	1.29	0.80	0.94	0.44	0.40	0.64
Unknown counties	0.02	1.02	0.93	0.82	--	2.00	1.49	0.43	0.35
Mixed counties	1.85	--	0.78	--	--	0.00	--	0.00	--
STATE TOTALS	0.78	1.13	0.97	1.19	1.13	1.12	1.10	0.79	0.95

Table 8. Distribution of chukar hunting pressure by region and county, 1965-73.

Region and County	1965	1966	1967*	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	23.03	27.24	28.64	23.98	20.47	18.48	16.95	27.51	18.38
Cache	6.58	6.70	6.08	9.20	5.15	10.62	5.71	6.82	7.56
Davis	3.88	2.50	2.03	3.38	1.55	2.84	2.01	1.75	2.55
Morgan	1.41	1.36	3.24	3.92	4.46	2.18	3.13	2.92	4.16
Rich	0.24	--	0.34	0.37	0.58	0.37	0.23	0.44	0.19
Summit	0.71	0.79	0.29	1.35	0.89	0.70	0.81	2.63	1.61
Weber	8.58	3.52	2.55	2.54	5.53	2.59	4.29	3.85	2.77
REGIONAL TOTALS	44.43	42.11	44.35	44.74	38.63	37.78	33.13	45.91	37.21
<u>Central</u>									
Juab	1.76	2.84	1.38	1.42	4.03	2.43	3.17	2.92	3.78
Salt Lake	11.99	8.40	6.24	8.42	6.82	6.26	4.94	6.82	5.84
Sanpete	2.82	1.25	1.13	1.01	0.72	0.78	1.35	0.93	0.97
Tooele	6.82	10.67	9.36	8.25	21.15	18.81	23.24	17.67	16.51
Utah	11.99	13.85	12.39	14.98	11.14	12.55	12.99	8.08	18.23
Wasatch	0.82	0.79	2.15	1.25	0.95	0.99	2.43	0.63	1.72
REGIONAL TOTALS	36.20	37.80	32.64	35.34	44.81	41.81	48.11	37.05	47.06
<u>Southern</u>									
Beaver	0.12	--	0.04	0.07	0.06	0.08	--	0.10	--
Garfield	--	0.11	0.81	0.14	0.12	0.29	0.12	0.10	0.04
Iron	0.12	--	0.00	--	--	0.21	0.23	0.93	0.22
Kane	0.12	--	0.12	--	--	0.00	0.04	0.00	--
Millard	1.06	1.70	2.19	1.45	2.91	2.84	3.01	2.04	2.81
Piute	0.94	0.79	0.49	0.17	0.52	0.49	0.77	0.34	0.97
Sevier	2.59	2.27	3.48	4.60	4.05	4.12	4.48	2.73	3.89
Washington	0.12	--	0.45	0.07	0.14	0.08	0.23	0.10	--
Wayne	1.06	0.68	0.32	0.17	0.29	0.66	0.19	1.12	0.04
REGIONAL TOTALS	6.13	5.55	7.90	6.66	8.09	8.77	9.07	7.45	7.97
<u>Northeastern</u>									
Daggett	0.24	0.68	0.08	0.68	0.26	0.12	0.04	0.19	0.11
Duchesne	1.06	3.18	1.74	1.22	0.98	1.40	1.24	1.90	0.52
Uintah	2.47	4.31	2.84	3.18	1.93	1.98	1.81	1.70	0.67
REGIONAL TOTALS	3.77	8.17	4.66	5.07	3.17	3.50	3.09	3.80	1.31
<u>Southeastern</u>									
Carbon	2.12	2.72	1.01	1.76	2.22	3.33	1.62	2.04	2.13
Emery	0.94	0.79	0.77	0.91	1.24	1.07	0.73	1.22	0.56
Grand	1.29	1.59	1.58	2.03	1.41	1.93	1.47	1.27	1.24
San Juan	0.12	0.79	0.65	0.37	0.43	0.08	0.73	0.19	0.49
REGIONAL TOTALS	4.47	5.89	4.01	5.07	5.30	6.42	4.56	4.72	4.42
Unknown counties	3.17	0.45	2.31	3.11	--	1.73	2.05	1.02	2.02
Mixed counties	1.88	--	4.13	--	--	0.00	--	0.05	--
STATE TOTALS	100	100	100	100	100	100	100	100	100

*Distribution of hunting pressure for 1967 and later is based on hunter-days rather than number of hunters reporting.

Table 9. State-wide summary of chukar partridge harvest statistics, 1956-73.

Year	Total hunters	Total harvest	Hunter days afield	Chukars per hunter-day	Chukars per hunter
1956	--	--	--	--	0.91
1957	--	--	--	--	0.92
1958	11,124	19,578	25,100	0.78	1.76
1959	11,154	8,700	26,364	0.33	0.78
1960	13,252	21,733	30,610	0.71	1.64
1961	14,046	20,821	35,675	0.58	1.48
1962	11,638	33,500	35,010	0.95	2.88
1963	14,532	42,806	40,824	1.05	2.95
1964	16,090	42,974	39,971	1.08	2.67
1965	16,431	35,335	45,067	0.78	2.15
1966	17,133	61,370	54,448	1.13	3.58
1967	17,485	48,906	50,671	0.97	2.80
1968	20,744	73,218	61,402	1.19	3.53
1969	22,529	80,917	71,674	1.13	3.59
1970	18,013	56,053	49,911	1.12	3.11
1971	17,917	61,151	55,378	1.10	3.41
1972	16,685	36,925	46,502	0.79	2.21
1973	13,888	48,135	50,677	0.95	3.47
<hr/>					
TOTALS (1958-73)	252,661	692,122	719,284	0.96	2.74
<hr/>					
AVERAGES (1958-72)	15,918	42,932	44,573	0.91	2.37
<hr/>					

Table 10. Chukar field bag check summary, 1973.

Region and County	ALL HUNTS			COMPLETE HUNTS			Total Birds/100 hrs.	Total Birds/100 hrs. Hunter			
	Total Parties	Total Hunters	Total Hours	Total Complete Hunts	Total Hunters	Total Hours			Total Birds/100 hrs.		
<u>Northern</u>											
Box Elder	79	212	900	184	20	72	187	825	183	22	0.98
Cache	32	81	368	71	19	25	65	314	59	19	0.91
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	1	3	18	3	17	1	3	18	3	17	1.00
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	112	296	1,286	258	20	98	255	1,157	245	21	0.96
<u>Central</u>											
Juab	11	35	273	21	8	8	24	231	12	5	0.50
Salt Lake	1	3	9	1	11	1	3	9	1	11	0.33
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	18	49	246	29	12	12	29	165	23	14	0.79
Utah	3	6	14	0	0	1	2	4	0	0	0.00
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	33	93	542	51	9	22	58	409	36	9	0.62
<u>Southern</u>											
Beaver											
Garfield											
Iron											
Kane											
Millard											
Piute											
Sevier											
Washington											
Wayne											
REGIONAL TOTALS									NO DATA COLLECTED		
<u>Northeastern</u>									NO DATA COLLECTED		
Daggett											
Duchesne											
Uintah											
REGIONAL TOTALS									NO DATA COLLECTED		
<u>Southeastern</u>									NO DATA COLLECTED		
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	2	5	11	2	18	1	3	3	2	67	0.67
Grand	4	7	18	12	67	4	7	18	12	67	1.71
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	12	29	14	48	5	10	21	14	67	1.40
STATE TOTALS	151	401	1,857	323	17	125	323	1,587	295	19	0.91

Table 11. Chukar field bag check trend as determined via field bag checks, 1968-73.

Region and County	1968		1969		1970		1971		1972		1973	
	Birds/ 100 hrs. Hunter	Birds/ Hunter	Birds/ 100 hrs. Hunter	Birds/ Hunter	Birds/ 100 hrs. Hunter	Birds/ Hunter	Birds/ 100 hrs. Hunter	Birds/ Hunter	Birds/ 100 hrs. Hunter	Birds/ Hunter	Birds/ 100 hrs. Hunter	Birds/ Hunter
Northern												
Box Elder	16	0.90	20	1.08	20	0.86	17	0.89	24	1.35	20	0.98
Cache	24	0.89	14	0.47	--	--	29	1.03	18	0.72	19	0.91
Davis	20	0.50	--	--	12	0.47	--	--	--	--	--	--
Morgan	--	--	--	--	37	2.86	36	1.00	--	--	--	--
Rich	100	1.00	--	--	--	--	--	--	--	--	--	--
Summit	28	1.00	--	--	96	3.00	--	--	--	--	17	1.00
Weber	--	--	100	0.50	7	0.17	--	--	0	0	--	--
REGIONAL TOTALS	17	0.90	18	0.91	21	0.83	18	0.90	23	1.21	20	0.96
Central												
Juab	76	3.18	48	3.72	20	1.08	24	1.72	11	0.78	8	0.50
Salt Lake	0	0.00	--	--	63	2.00	30	1.00	17	--	11	0.33
Sanpete	44	1.17	--	--	5	0.25	10	0.33	--	--	--	--
Tooele	65	2.73	69	1.45	38	2.35	14	1.18	6	0.60	12	0.79
Utah	10	0.30	28	0.81	10	0.31	--	--	19	0.43	0	0.00
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	55	1.98	41	1.49	21	0.96	16	1.28	8	0.69	9	0.62
Southern												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	27	0.75	--	--	--	--	--	--
Millard	72	6.23	--	--	54	3.24	33	2.93	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	25	1.00	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	72	6.35	--	--	44	1.78	33	2.93	--	--	--	--
Northeastern												
Daggett	116	2.40	--	--	39	1.00	49	0.41	--	--	--	--
Duchesne	47	2.38	4	0.19	7	0.50	29	0.83	--	--	--	--
Uintah	21	1.53	9	0.55	15	0.55	60	0.55	17	0.50	--	--
REGIONAL TOTALS	47	2.12	8	0.40	15	0.67	52	0.45	17	0.50	--	--
Southeastern												
Carbon	216	2.38	--	--	--	--	11	0.25	18	0.55	--	--
Emery	--	--	--	--	--	--	0	0.00	41	1.50	18	0.67
Grand	200	2.00	--	--	73	2.20	16	0.60	--	--	67	1.71
San Juan	47	1.46	49	2.23	--	--	--	--	--	--	--	--
REGIONAL TOTALS	93	1.97	49	2.23	73	2.20	11	0.40	31	1.04	48	1.40
STATE TOTALS	26	1.20	20	0.98	23	0.94	19	1.05	15	0.97	17	0.91

SAGE GROUSE

SUMMARY

Harvest data for 1972 and strutting ground counts indicated a decreased breeding population level for 1973. Production indexes increased over 1972 with the highest young-adult ratio recorded since 1965. The fall population was estimated to be equal to or slightly higher than 1972.

During the 1973 hunting season fewer hunters went afield than in 1972 and harvested less sage grouse. The decreased harvest was solely a result of less hunting pressure as hunter success, as indicated by both the questionnaire and field bag checks, increased slightly over 1972.

It appears that the downward trend since 1969 was stabilized in 1973 or possibly even somewhat reversed.



Strutting Ground Counts

The status of the sage grouse breeding population for 1973 as indicated by strutting ground counts is shown in Table 1 of this section. Results of this survey for 1973 compared to 1972 and the 1967-72 average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Number of grounds counted	108	-4	+156
Total grouse counted	1,809	-27	+74
Average male grouse per ground	16.8	-23	-27
Percent change from previous year (comparable grounds)	-26	--	--

Reduced hunter success and harvest in the fall of 1972 indicated a reduced breeding population level for 1973. Strutting ground counts reflected such a reduction. Poor counting conditions resulting from the late spring and inaccessibility of some strutting grounds probably biased counts downward, possibly exaggerating the degree of decline.

Brood Counts

Results of this survey for 1973 are found in Table 2. Long-term trends of young-adult ratios, mean brood size and sage grouse observed per 100 hours are shown in Tables 3-5. Indexes for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total sage grouse counted	2,120	-38	-30
Young per 100 adults	195	+95	+34
Mean brood size	4.58	+10	+1
Sage grouse observed per 100 hours	237	-36	-36
Total hours effort	895	-3	+10

Conservation officers spent slightly less time than in 1972. Considerably fewer grouse were counted. The density index (grouse per 100 hours) was probably biased downward due to good moisture and vegetative conditions and resulting less concentration of birds. Production increased substantially over both 1972 and the average. The 195 young per 100 adults ratio indicated the best production since 1965 and suggests a stabilization of the current downward trend and possibly even a slight increase.

Harvest

Hunter Questionnaire

Results of the 1973 hunter questionnaire are shown in Table 6. Long-term trends of sage grouse bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 7-9 and total statewide harvest statistics in Table 10. The 1973 hunting season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Sage grouse hunters	10,017	-23	+14
Sage grouse harvested	13,926	-13	+17
Hunter-days afield	19,049	-14	+42
Sage grouse per hunter	1.39	+13	+4
Sage grouse per hunter-day	0.73	+1	-19

Harvest information indicated a population level comparable to or possibly slightly higher than in 1972. Total hunters declined 23 percent while total harvest only dropped 13 percent. Hunter success per day was similar to 1972, with less liberal bag limits in some areas, while success for the season increased.

Long-term sage grouse harvest trends are shown in Figure 1.

Field Bag Checks

A summary of field-bag-check data for 1973 is shown in Table 11. Hunter success trends determined via this method since 1966 are shown in Table 12. Results of the 1973 survey compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	1,910	-23	-5
Total hours hunted	7,287	-31	-12
Sage grouse per hunter (complete hunts)	0.73	+3	-13
Sage grouse bagged per 100 hours	17	+13	-15
Average hours per hunter-day (complete hunts)	4.0	-13	+3
Hours hunted per grouse bagged	5.6	-19	+8

Hunter success (per day) shown by this survey was identical to that shown by questionnaire and slightly higher than 1972 but below average. The average hours per hunter-day index was lower than 1972, but slightly higher than average. Less time was required for each grouse bagged in comparison to both 1972, but slightly more than average.

Sage grouse bagged per hunter and per hunter-day.

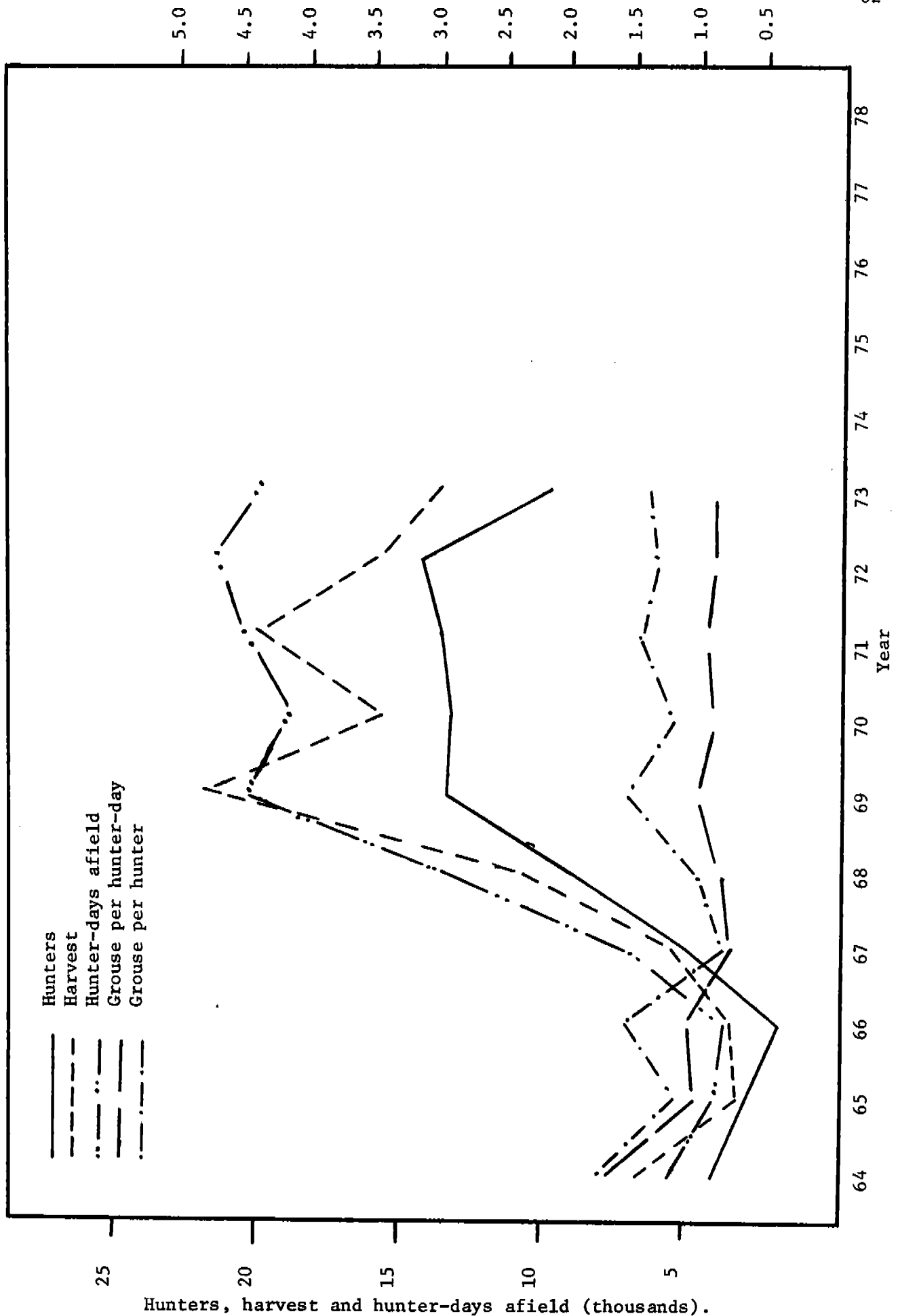


Figure 1. Statewide trend of sage grouse harvest statistics.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1962-73.

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Northern Region												
BOX ELDER												
No. strutting grounds counted	3	9	6	6	8	12	15	22	21	21	20	21
Total grouse counted	106	155	73	96	118	152	253	667	556	479	422	325
County average	35.3	17.2	12.2	16.0	14.8	12.7	16.9	30.3	26.5	22.8	21.1	15.5
(All strutting grounds)												
% Change from previous year - comparable grounds	-31.4	-37.1	-33.3	+35.7	-11.1	-33.3	+23.1	+94.1	-8.4	-14.0	-10.4	-30.0
CACHE												
No. strutting grounds counted	1	1	3	2	2	2	3	2	2	3	3	2
Total grouse counted	24	45	30	45	59	68	57	50	57	68	57	50
County average	24.0	45.0	10.0	22.5	29.5	22.7	19.0	25.0	22.7	19.0	25.0	25.0
(All strutting grounds)												
% Change from previous year - comparable grounds	+87.5	-77.8	+57.0	+31.1	+6.8	-16.3	+6.0					
MORGAN												
No. strutting grounds counted	2	2	2	2	2	2	3	3	2	3	3	3
Total grouse counted	85	45	35	53	61	61	61	61	61	61	61	61
County average	42.5	22.5	17.5	17.7	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
(All strutting grounds)												
% Change from previous year - comparable grounds	--	-47.0	-22.2	+29.0	+15.0							
RICH												
No. strutting ground counted	6	6	5	6	5	5	10	6	8	7	9	12
Total grouse counted	231	339	172	98	111	134	280	298	324	240	254	299
County average	38.5	56.5	34.4	16.3	22.2	26.8	28.0	49.7	40.5	34.3	28.2	24.9
(All strutting grounds)												
% Change from previous year - comparable grounds	-43.0	+46.7	-38.9	-48.2	+24.7	+7.2	-1.5	+84.1	-20.0	-12.0	-18.1	-13.0
SUMMIT												
No. strutting grounds counted	4	3	4	4	4	4	4	5	5	5	5	5
Total grouse counted	129	21	51	33	33	58	71	168	185	223	152	138
County average	32.2	7.0	12.8	8.2	8.2	14.5	17.8	33.6	37.0	44.6	30.4	27.6
(All strutting grounds)												
% Change from previous year - comparable grounds	--	-81.9	+75.7	-35.9	0.0	+24.5	+22.8	+60.1	+10.1	+20.5	-31.8	-18.0

Table 1. Continued

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
REGIONAL TOTALS												
No. strutting grounds counted	13	18	15	16	18	22	32	37	37	38	40	43
Total grouse counted	466	515	296	227	286	389	634	1263	1147	1045	938	873
Regional average (all strutting grounds)	35.8	28.6	19.7	14.2	15.9	17.7	19.8	34.1	31.0	27.5	23.4	20.3
% Change from previous year - comparable grounds	-39.6	-5.8	-31.2	-29.3	+6.7	+1.1	+7.9	+84.7	-9.0	-15.9	-15.8	-20.0
Southern Region												
GARFIELD												
No. strutting grounds counted	--	--	--	--	--	6	6	10	13	14	14	14
Total grouse counted						117	96	213	322	351	330	166
County average (all strutting grounds)						19.5	16.0	21.3	24.8	25.1	23.5	11.9
% Change from previous year - comparable grounds						--	-17.9	+59.4	+31.0	-0.3	-6.8	-50.0
WAYNE												
No. strutting grounds counted						9	7	8	11	11	12	10
Total grouse counted						302	331	497	458	248	311	231
County average (All strutting grounds)						33.6	47.3	62.1	41.6	22.5	26.0	23.1
% Change from previous year - comparable grounds						--	+3.0	+46.6	-14.6	-45.9	+18.2	-20.6
BEAVER												
No. strutting grounds counted							2	2	2	5	5	5
Total grouse counted							0	79	47	141	153	82
County average (All strutting grounds)							0.0	39.5	23.5	28.2	30.6	16.4
% Change from previous year - comparable grounds							--	--	-40.5	-49.4	+8.5	-46.6
PIUTE												
No. strutting grounds counted	1	0				1	1	1	1	1	1	1
Total grouse counted	2	--				6	7	7	7	7	5	0
County average (All strutting grounds)	2.0	--				6.0	7.0	7.0	7.0	7.0	5.0	--
% Change from previous year - comparable grounds	--	--				--	+16.7	0	-28.5	--	--	--

Table 1. Continued

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
IRON												
No. strutting grounds counted				5	3	4	6	7	0			
Total grouse counted				3	23	64	47	66	0			
County average (All strutting grounds)				0.6	7.7	16.0	7.8	9.3	--			
% Change from previous year - comparable grounds				--	--	-8.7	-50.0	+42.3	--			
SEVIER												
No. strutting grounds counted	1	1	0	1	1	1	1	1	1			
Total grouse counted	11	0	--	0	0	0	0	0	0			
County average (All strutting grounds)	11.0	0.0	--	0.0	0.0	0.0	0.0	0.0	0.0			
% Change from previous year - comparable grounds	--	100	--	--	--	--	--	--	--			
REGIONAL TOTALS												
No. strutting grounds counted	17	21	24	33	38	40	31					
Total grouse counted	432	430	818	928	794	865	479					
Regional average (All strutting grounds)	25.4	20.5	34.1	28.1	20.9	21.6	15.4					
% Change from previous year - comparable grounds	--	-3.5	+75.4	-4.8	-30.3	+6.7	-40.0					
Central Region												
SANPETE												
No. strutting grounds counted							2	1	2			
Total grouse counted							13	2	0			
County average (All strutting grounds)							6.5	2.0	--			
% Change from previous year - comparable grounds							--	-75.0	--			
TOOELE												
No. strutting grounds counted	2	3	3	4	5	5						
Total grouse counted	44	96	74	92	128	60						
County average (All strutting grounds)	22.0	32.0	24.7	23.0	25.6	12.0						
% Change from previous year - comparable grounds	--	+59.1	-22.9	-16.2	0.0	-34.8						
WASATCH												
No. strutting grounds counted				2	2	2	2					
Total grouse counted				100	70	102	52					
County average (All strutting grounds)				50.0	35.0	51.0	26.0					
% Change from previous year - comparable grounds				--	-30.0	+45.7	-49.0					

Table 1. Continued

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973		
REGIONAL TOTALS														
No. strutting grounds counted								5	8	8	9			
Total grouse counted					174	175	232	112						
Regional average (All strutting grounds)					34.8	21.9	29.0	12.4						
% Change from previous year - comparable grounds					-22.9	-24.1	+15.2	-42.1						
Northeastern Region														
DAGGETT														
No. strutting grounds counted								1	4	4	5			
Total grouse counted					26	37	26	41						
County average (All strutting grounds)					26.0	9.2	6.5	8.2						
% Change from previous year - comparable grounds					--	-38.5	-28.0	+31.0						
DUCHESNE														
No. Strutting grounds counted								2	3	5	5			
Total grouse counted					27	27	74	43						
County average (All strutting grounds)					13.5	9.0	14.8	8.6						
% Change from previous year - comparable grounds					--	-25.9	0.0	-40.5						
UINTAH														
No. strutting grounds counted								2	0	2	4	5	6	11
Total grouse counted					134	--	98	105	63	118	156			
County average (All strutting grounds)					67.0	--	49.0	26.2	12.6	19.7	14.2			
% Change from previous year - comparable grounds					--	--	--	-31.6	-42.0	+77.0	-25.0			
REGIONAL TOTALS														
No. strutting grounds counted								2	0	2	7	12	15	21
Total grouse counted					134	--	98	158	127	218	240			
Regional averages (All strutting grounds)					67.0	--	49.0	22.6	10.6	14.5	11.4			
% Change from previous year - comparable grounds					--	--	--	-31.6	-38.6	+32.2	-24.5			

Table 1. Continued

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Southeastern Region</u>												
CARBON												
No. strutting grounds counted	1	7	1	3	1	3	1	0				
Total grouse counted	1	45	39	58	40	0	0					
County average (All strutting grounds)	1.0	6.4	39.0	19.3	40.0	--	--					
% Change from previous year - comparable grounds	--	+100	--	0	+2.0	--	--					
EMERY												
No. strutting grounds counted	1	2	3	3	3	3	0					
Total grouse counted	5	17	8	3	11	0	0					
County average (All strutting grounds)	5.0	8.5	2.7	1.0	3.7	--	--					
% Change from previous year - comparable grounds	--	+60	-82	-62.5	+270.0	--	--					
SAN JUAN												
No. strutting grounds counted	2	3	6	6	6	4						
Total grouse counted	8	42	115	152	168	105						
County average (All strutting grounds)	4.0	14.0	19.2	25.3	28.0	26.2						
% Change from previous year - comparable grounds	--	+312	+38.1	+31.8	+10.7	+41.6						
REGIONAL TOTALS												
No. strutting grounds counted	4	12	10	12	10	10	4					
Total grouse counted	14	104	121	213	219	105						
Regional average (All strutting grounds)	3.5	8.7	12.1	17.8	21.9	26.2						
% Change from previous year - comparable grounds	--	+193.8	+3.4	+19.8	+12.9	+41.6						
STATE TOTALS												
No. strutting grounds counted	13	18	15	16	18	22	59	78	92	108	113	108
Total grouse counted	466	515	296	227	286	389	1112	2379	2528	2354	2472	1809
State average grouse per strutting grounds	35.8	28.6	19.7	14.2	15.9	17.7	19.0	30.5	27.5	21.8	21.9	16.8
% Change from previous year - comparable grounds	-39.6	-5.8	-31.2	-29.3	+6.7	+1.1	+0.9	+81.3	-8.4	-17.0	-0.7	-26.4

Table 3. Trend of sage grouse young per 100 adults, 1963-1973.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	143	104	200	93	176	162	153	62	75	83	225	
Cache	233	400	320	300	680	600	71	10	168	171	80	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	71	0	100	50	160	--	533	400	58	600	245	
Rich	71	144	54	100	85	92	98	133	137	55	132	
Summit	156	267	243	140	89	133	121	211	158	173	146	
Weber	--	550	411	--	650	--	208	--	325	144	500	
Regional Totals	113	120	171	129	159	132	128	94	135	99	167	128
Central Region												
Juab	200	--	--	400	125	600	300	117	--	1800	500	
Salt Lake	118	--	--	--	--	--	--	--	--	--	--	
Sanpete	200	159	207	427	119	0	191	84	288	177	138	
Tooele	--	250	286	617	200	416	395	215	188	322	318	
Utah	400	--	--	--	--	--	--	--	--	--	--	
Wasatch	50	179	450	200	101	90	89	205	212	145	68	
Regional Totals	78	171	233	313	104	103	137	170	208	216	106	173
Southern Region												
Beaver	100	121	46	--	173	--	169	--	250	467	329	
Garfield	--	112	168	141	132	263	238	107	93	93	121	
Iron	--	100	200	--	400	--	550	214	183	37	350	
Kane	--	--	--	--	--	--	470	300	--	336	450	
Millard	--	900	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	357	350	322	98	82	107	--	--	--	500	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	188	270	124	140	371	178	347	63	62	394	
Regional Totals	100	138	169	161	135	257	201	186	85	76	311	151
Northeastern Region												
Daggett	400	343	242	216	145	560	493	344	168	273	150	
Duchesne	111	224	273	700	140	209	156	77	230	219	--	
Uintah	287	420	304	612	237	596	450	419	339	105	312	
Regional Totals	252	286	268	304	176	446	383	305	278	134	234	283
Southeastern Region												
Carbon	350	0	500	533	433	512	250	167	145	125	328	
Emery	--	--	0	800	--	300	164	100	--	--	--	
Grand	--	400	800	--	--	--	--	--	275	--	0	69
San Juan	158	38	--	--	61	214	37	28	70	26	375	
Regional Totals	186	50	350	600	94	369	64	30	81	56	340	188
STATE TOTALS	123	130	196	179	141	178	160	117	138	100	195	146

Table 4. Trend of sage grouse mean brood size, 1963-1973.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	4.48	3.97	4.00	3.82	4.04	3.80	5.16	4.13	4.25	3.93	4.69	
Cache	5.00	4.00	4.00	6.50	6.80	6.00	4.60	5.00	4.50	4.88	4.00	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	2.86	--	4.00	5.00	4.00	--	5.33	4.00	5.50	6.00	4.40	
Rich	3.60	3.25	5.00	4.37	5.00	4.07	5.42	4.68	4.44	4.69	4.48	
Summit	4.67	5.33	5.66	5.25	4.47	3.94	5.91	5.00	5.58	4.73	4.56	
Weber	--	5.50	4.11	--	6.50	--	3.38	--	4.33	6.50	5.00	
Regional Totals	4.12	4.07	4.54	4.90	4.43	3.94	5.18	4.55	4.98	4.58	4.55	4.53
Central Region												
Juab	4.00	--	--	4.00	--	6.00	2.00	3.50	--	7.50	5.00	
Salt Lake	2.00	--	--	--	--	--	--	--	--	--	--	
Sanpete	5.00	3.58	6.88	5.88	5.67	--	5.40	4.50	6.00	5.33	4.75	
Tooele	--	2.50	5.00	6.17	2.00	5.75	5.62	4.44	4.19	4.81	4.90	
Utah	4.00	--	--	--	--	--	--	--	--	--	--	
Wasatch	4.36	5.66	4.50	5.60	5.15	4.29	4.64	4.52	2.94	3.06	4.00	
Regional Totals	4.25	4.10	6.07	5.76	5.13	4.46	5.03	4.45	3.94	3.90	4.38	4.71
Southern Region												
Beaver	4.93	3.83	3.83	--	4.60	--	5.44	--	5.00	3.83	4.31	
Garfield	3.82	5.52	4.44	5.10	3.50	4.10	3.86	3.67	3.73	3.25	3.50	
Iron	--	3.00	--	--	4.00	--	--	3.67	4.33	3.71	5.33	
Kane	--	--	--	--	--	--	5.00	3.00	--	4.00	4.50	
Millard	--	9.00	--	--	--	--	--	--	--	--	--	
Piute	2.31	--	--	--	--	--	--	--	--	--	--	
Sevier	4.25	4.17	4.67	4.58	5.20	4.62	4.14	--	--	--	5.00	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	4.72	4.00	4.47	5.11	3.68	4.91	3.89	3.55	4.02	3.36	5.17	
Regional Totals	4.24	4.76	4.49	4.96	3.89	4.42	4.07	3.60	4.10	3.53	4.72	4.21
Northeastern Region												
Daggett	7.25	3.43	3.83	5.33	3.00	6.00	4.93	4.37	4.00	3.80	4.65	
Duchesne	4.44	4.75	3.75	7.00	5.20	4.09	5.00	5.00	5.17	5.40	--	
Uintah	5.50	4.20	6.58	6.12	5.70	6.13	4.91	4.44	5.19	4.60	4.60	
Regional Totals	5.40	4.15	4.57	5.72	4.90	5.54	4.92	4.46	5.04	4.60	4.61	4.93
Southeastern Region												
Carbon	--	--	5.00	5.33	4.00	5.86	2.50	5.00	4.67	4.14	3.50	
Emery	3.50	--	--	8.00	--	3.00	9.33	1.00	--	--	--	
Grand	--	4.00	8.00	--	--	--	--	--	--	--	--	
San Juan	4.75	1.25	--	--	4.00	5.00	4.20	4.29	5.10	3.93	5.67	70
Regional Totals	4.33	1.80	7.00	6.00	4.00	5.36	4.92	4.00	5.00	4.05	4.43	4.65
STATE TOTALS	4.30	4.28	4.70	5.19	4.48	4.50	4.82	4.28	4.62	4.16	4.58	4.53

Table 5. Trend of sage grouse observed per 100 hours, 1967-1973.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
Northern Region								
Box Elder	471	273	563	365	253	467	166	
Cache	390	100	90	431	229	183	150	
Davis	--	--	--	--	--	--	--	
Morgan	34	--	59	333	176	111	345	
Rich	27	436	678	987	228	348	298	
Summit	131	522	236	161	420	349	119	
Weber	375	--	800	--	155	92	40	
Regional Totals	283	358	468	387	288	319	188	350
Central Region								
Juab	180	467	200	217	0	181	30	
Salt Lake	--	--	--	--	--	--	--	
Sanpete	128	80	135	123	107	106	135	
Tooele	25	426	407	194	342	786	161	
Utah	--	--	--	0	--	--	--	
Wasatch	571	735	690	321	377	364	666	
Regional Totals	318	475	427	208	230	341	244	333
Southern Region								
Beaver	--	--	1186	--	420	486	277	
Garfield	--	941	646	409	604	358	258	
Iron	--	--	118	346	426	1133	200	
Kane	--	--	924	80	--	253	550	
Millard	--	--	--	--	--	--	--	
Piute	--	0	--	--	--	--	--	
Sevier	--	283	581	--	--	--	--	
Washington	--	--	--	--	--	--	--	
Wayne	--	691	1363	447	2061	555	742	
Regional Totals	244	601	714	388	911	494	393	559
Northeastern Region								
Daggett	715	388	626	414	835	346	308	
Duchesne	400	117	122	100	159	118	0	
Uintah	385	671	487	474	735	594	310	
Regional Totals	444	313	361	319	523	349	233	385
Southeastern Region								
Carbon	--	63	26	59	45	309	500	
Emery	--	22	152	33	0	--	0	
Grand	--	--	--	0	133	25	25	71
San Juan	--	157	2875	653	560	775	300	
Regional Totals	159	68	179	451	218	432	215	251
STATE TOTALS	296	374	443	346	383	373	237	369

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-day	Birds per Hunter**	% of Pressure	% of Harvest
<u>Northern</u>							
Box Elder	57	111	66	0.59	0.75	11.06	8.99
Cache	61	107	69	0.64	1.21	10.66	9.40
Davis	0	0	0	0.00	1.21	0.00	0.00
Morgan	15	43	29	0.67	2.17	4.28	3.95
Rich	53	91	67	0.74	2.12	9.06	9.13
Summit	41	67	33	0.49	1.73	6.67	4.50
Weber	18	26	11	0.42	1.23	2.59	1.50
REGIONAL TOTALS	245	445	275	0.62	1.28	44.32	37.47
<u>Central</u>							
Juab	6	8	5	0.63	0.00	0.80	0.68
*Salt Lake	5	9	7	0.78	1.50	0.90	0.95
Sanpete	14	27	32	0.85	1.00	2.69	3.13
Tooele	28	53	29	0.55	0.73	5.28	3.95
Utah	23	72	53	0.74	1.45	7.17	7.22
Wasatch	10	16	16	1.00	3.50	1.59	2.18
REGIONAL TOTALS	86	185	133	0.72	1.44	18.43	18.12
<u>Southern</u>							
Beaver	14	19	13	0.68	1.00	1.89	1.77
Garfield	31	51	57	1.12	2.27	5.08	7.77
Iron	8	14	7	0.50	1.21	1.39	0.95
Kane	2	3	3	1.00	3.00	0.30	0.41
Millard	0	0	0	0.00	0.00	0.00	0.00
Piute	7	11	9	0.82	1.25	1.10	1.23
Sevier	12	24	16	0.67	0.78	2.39	2.18
*Washington	1	2	0	0.00	1.00	0.20	0.00
Wayne	28	56	38	0.68	2.00	5.58	5.18
REGIONAL TOTALS	103	180	143	0.79	1.29	17.93	19.48
<u>Northeastern</u>							
Daggett	7	11	14	1.27	4.33	1.10	1.91
Duchesne	29	49	58	1.18	2.14	4.88	7.90
Uintah	32	53	68	1.28	1.88	5.28	9.26
REGIONAL TOTALS	68	113	140	1.24	2.14	11.25	19.07
<u>Southeastern</u>							
Carbon	15	26	12	0.46	0.50	2.59	1.63
Emery	6	10	5	0.50	1.00	1.00	0.68
Grand	2	3	2	0.67	0.50	0.30	0.27
San Juan	7	14	9	0.64	1.60	1.39	1.23
REGIONAL TOTALS	30	53	28	0.53	0.82	5.28	3.81
Unknown counties	20	27	15	0.56	1.67	2.69	2.04
Mixed counties	1	1	0	0.00	0.00	0.10	0.00
STATE TOTALS	553	1,004	734	0.73	1.39	100	100

*Illegal areas

**Based on county of residence

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970*	1971	1972	1973
<u>Northern</u>									
Box Elder	**	**	0.76	0.42	1.44	1.21	1.12	0.73	0.59
Cache	**	**	0.36	0.51	0.65	0.30	0.65	0.44	0.64
Davis	**	**	0.00	0.25	0.92	0.00	0.41	0.67	--
Morgan	**	**	1.20	0.50	0.57	0.55	0.48	0.86	0.67
Rich	**	**	0.76	0.79	0.68	0.55	0.84	0.64	0.74
Summit	**	**	0.68	0.51	0.62	0.68	0.68	0.65	0.49
Weber	**	**	0.36	0.96	1.63	0.38	0.49	0.55	0.42
<u>Regional Totals</u>	**	**	0.64	0.59	1.03	0.81	0.83	0.64	0.62
<u>Central</u>									
Juab	**	**	**	**	**	**	**	0.50	0.63
Salt Lake	**	**	**	**	**	**	**	0.25	0.78
Sanpete	**	**	**	0.86	0.81	0.40	0.82	0.67	0.85
Tooele	**	**	**	**	**	0.32	0.83	0.35	0.55
Utah	0.43	1.00	0.18	0.35	0.83	0.44	0.88	0.91	0.74
Wasatch	**	**	**	0.91	0.72	0.68	0.40	0.35	1.00
<u>Regional Totals</u>	0.43	1.00	0.18	0.77	0.79	0.56	0.79	0.58	0.72
<u>Southern</u>									
Beaver	1.11	1.13	**	1.43	1.59	0.83	0.95	0.94	0.68
Garfield	1.63	0.67	**	1.23	1.76	1.11	1.42	1.09	1.12
Iron	0.00	0.20	**	0.77	1.08	1.45	0.53	0.67	0.50
Kane	1.00	2.00	**	0.75	1.00	1.00	0.50	1.00	1.00
Millard	1.00	--	**	0.00	--	0.57	--	0.00	--
Piute	1.00	0.89	0.67	0.92	1.24	0.75	1.38	0.41	0.82
Sevier	0.65	0.39	0.17	0.95	0.93	1.04	0.77	0.50	0.67
Washington	--	4.00	**	0.00	1.00	0.00	**	**	0.00
Wayne	0.83	1.18	0.80	1.52	1.28	1.44	1.15	0.86	0.68
<u>Regional Totals</u>	1.12	1.31	0.48	1.18	1.39	1.19	1.11	0.78	0.79
<u>Northeastern</u>									
Daggett	0.67	0.50	0.40	1.00	1.57	0.20	1.55	1.12	1.27
Duchesne	1.15	1.20	0.60	1.11	1.05	1.30	1.39	1.23	1.18
Uintah	0.87	1.05	1.25	1.48	1.25	0.97	0.99	0.90	1.28
<u>Regional Totals</u>	0.95	0.80	0.95	1.29	1.24	1.02	1.19	1.03	1.24
<u>Southeastern</u>									
Carbon	0.48	1.50	0.55	0.75	0.36	0.52	0.77	1.10	0.46
Emery	0.00	--	2.00	0.70	0.71	1.50	0.00	1.00	0.50
Grand	--	--	--	--	2.00	0.00	1.33	1.00	0.67
San Juan	0.00	--	2.00	0.00	1.33	1.08	1.25	2.00	0.64
<u>Regional Totals</u>	0.35	1.50	0.74	0.70	0.52	0.73	0.75	1.25	0.53
Unknown counties	0.03	2.00	0.94	0.43	--	0.76	1.06	0.28	0.56
Mixed counties	--	--	0.00	--	--	0.00	--	--	--
Illegal areas	1.00	1.27	0.34	0.46	2.16	0.71	1.00	0.25	0.00
<u>STATE TOTALS</u>	0.83	0.99	0.65	0.82	1.09	0.86	0.93	0.72	0.73

*Northern Region counties (except part of Box Elder) and Tooele and Wasatch counties were limited to a one bird per day bag limit. Southern Region counties had a three bird daily bag limit in 1970. Season length was seven days in all but Wasatch and Tooele counties where it was two days.

**Closed Season.

Table 8. Distribution of sage grouse harvest by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	*	*	11.29	4.11	13.24	24.19	20.30	17.00	8.99
Cache	*	*	4.03	3.36	3.15	1.68	4.17	5.38	9.40
Davis	*	*	0.00	0.56	1.02	0.00	0.75	0.85	--
Morgan	*	*	2.42	0.75	0.74	1.55	1.18	3.54	3.95
Rich	*	*	12.90	7.10	4.35	4.01	6.20	8.92	9.13
Summit	*	*	7.66	3.55	3.06	5.43	4.49	6.66	4.50
Weber	*	*	2.02	4.67	7.87	1.29	2.46	3.26	1.50
<u>Regional Totals</u>	0.00	0.00	40.32	24.11	33.43	38.16	39.53	45.61	37.47
<u>Central</u>									
Juab	*	*	*	*	*	*	*	0.14	0.68
Salt Lake	*	*	*	*	*	*	*	*	0.95
Sanpete	*	*	*	2.24	1.20	1.03	0.96	1.42	3.13
Tooele	*	*	*	*	*	1.03	3.74	1.70	3.95
Utah	1.50	12.09	0.81	1.68	7.22	1.55	2.99	4.39	7.22
Wasatch	*	*	*	11.59	7.04	8.67	1.07	0.85	2.18
<u>Regional Totals</u>	1.50	12.09	4.04	15.51	15.46	12.94	10.58	8.64	18.12
<u>Southern</u>									
Beaver	5.00	2.20	*	3.74	2.50	2.46	1.92	2.12	1.77
Garfield	32.30	8.79	*	5.05	11.11	5.05	7.59	6.80	7.77
Iron	0.00	0.55	*	1.87	1.20	2.07	0.85	1.70	0.95
Kane	0.50	1.10	*	0.56	0.37	0.26	0.21	0.28	0.41
Millard	0.50	--	*	0.00	--	0.52	--	0.00	--
Piute	9.00	8.79	3.23	2.06	2.41	0.39	1.92	0.99	1.23
Sevier	5.50	3.85	2.02	3.55	2.31	3.23	1.82	1.98	2.18
Washington	--	2.20	*	0.00	0.19	0.00	0.21	*	0.00
Wayne	12.40	10.99	6.45	12.52	8.15	13.97	11.22	4.39	5.18
<u>Regional Totals</u>	65.20	38.47	12.50	29.35	28.24	27.94	25.75	18.27	19.48
<u>Northeastern</u>									
Daggett	1.00	1.10	0.81	1.31	3.06	0.26	1.82	2.69	1.91
Duchesne	7.40	9.89	7.26	7.29	3.80	6.73	6.84	8.36	7.90
Uintah	9.90	10.99	22.18	12.15	8.89	7.76	7.05	9.92	9.26
<u>Regional Totals</u>	18.30	21.98	30.24	20.75	15.74	14.75	15.71	20.96	19.07
<u>Southeastern</u>									
Carbon	5.50	4.95	4.44	2.24	1.11	2.07	2.88	3.12	1.63
Emery	0.00	--	0.81	1.31	0.46	0.78	0.00	0.28	0.68
Grand	--	--	--	--	0.19	0.00	0.43	0.14	0.27
San Juan	0.00	--	1.61	0.00	0.37	1.68	1.07	1.42	1.23
<u>Regional Totals</u>	5.50	4.95	6.85	3.55	2.13	4.53	4.38	4.96	3.81
Unknown counties	0.50	1.10	6.05	4.30	--	1.68	4.06	1.56	2.04
Mixed counties	--	--	0.00	--	--	0.00	--	--	--
Illegal areas	9.00	20.87	4.04	2.42	5.00	0.65	2.03	0.14	0.00
<u>STATE TOTALS</u>	100	100	100	100	100	100	100	100	100

*Closed Season

Table 9. Distribution of sage grouse hunting pressure by region and county, 1965-73.

Region and County	1965	1966	1967*	1968	1969	1970	1971	1972	1973
Northern									
Box elder	**	**	9.66	8.09	9.98	17.20	16.90	16.70	11.06
Cache	**	**	7.31	5.34	5.24	4.77	5.96	8.76	10.66
Davis	**	**	0.52	1.83	1.21	0.11	1.69	0.92	--
Morgan	**	**	1.31	1.22	1.41	2.44	2.29	2.95	4.28
Rich	**	**	10.97	7.33	6.96	6.22	6.86	10.08	9.06
Summit	**	**	7.31	5.65	5.34	6.88	6.16	7.33	6.67
Weber	**	**	3.66	3.97	5.24	2.89	4.67	4.28	2.59
Regional Totals	0.00	0.00	40.73	33.44	35.38	40.51	44.53	51.02	44.32
Central									
Juab	**	**	**	**	**	**	**	0.20	0.80
Salt Lake	**	**	**	**	**	**	**	**	0.90
Sanpete	**	**	**	2.14	1.61	2.22	1.09	1.53	2.69
Tooele	**	**	**	**	**	2.77	4.17	3.46	5.28
Utah	2.98	9.92	2.87	3.97	9.48	3.00	3.18	3.46	7.17
Wasatch	**	**	**	10.38	10.58	10.88	2.49	1.73	1.59
Regional Totals	2.98	9.92	2.87	16.49	21.67	19.64	12.52	10.79	18.43
Southern									
Beaver	4.76	1.53	**	2.14	1.71	2.55	1.89	1.63	1.89
Garfield	16.07	12.21	**	3.36	6.85	3.88	4.97	4.48	5.08
Iron	0.60	3.05	**	1.98	1.21	1.22	1.49	1.83	1.39
Kane	0.60	0.76	**	0.61	0.40	0.22	0.40	0.20	0.30
Millard	0.60	--	**	0.31	--	0.78	--	0.41	--
Piute	7.74	9.16	3.13	1.83	2.12	0.44	1.29	1.73	1.10
Sevier	7.14	9.16	7.83	3.05	2.72	2.66	2.19	2.85	2.39
Washington	--	0.76	--	0.31	0.20	0.00	0.30	**	0.20
Wayne	10.71	9.16	5.22	6.72	6.96	8.32	9.05	3.67	5.58
Regional Totals	48.22	45.79	16.18	20.31	22.18	20.09	21.57	16.80	17.93
Northeastern									
Daggett	1.19	2.29	1.31	1.07	2.12	1.11	1.09	1.73	1.10
Duchesne	4.76	10.69	7.83	5.34	3.93	4.44	4.57	4.89	4.88
Uintah	9.52	11.45	11.49	6.72	7.76	6.88	6.66	7.94	5.28
Regional Totals	15.47	24.43	20.63	13.13	13.81	12.43	12.33	14.56	11.25
Southeastern									
Carbon	10.71	3.82	5.22	2.44	3.33	3.44	3.48	2.04	2.59
Emery	2.98	--	0.26	1.53	0.71	0.44	0.89	0.20	1.00
Grand	--	--	--	--	0.10	0.11	0.30	0.10	0.30
San Juan	0.60	--	0.52	0.15	0.30	1.33	0.80	0.51	1.39
Regional Totals	14.29	3.82	6.01	4.12	4.44	5.33	5.47	2.85	5.28
Unknown counties	10.71	0.76	4.18	8.24	--	1.89	3.58	3.97	2.69
Mixed counties	--	--	1.83	--	--	0.11	--	--	--
Illegal areas	8.35	15.26	7.57	4.27	2.52	0.77	1.89	0.41	0.10
STATE TOTALS	100	100	100	100	100	100	100	100	100

*Distribution of hunting pressure for 1967 and later based on hunter-days rather than number of hunters reporting.

**Closed Season

Table 10. Statewide summary of sage grouse harvest statistics, 1951-73.

Year	Total* Hunters	Total* Harvest	Hunter Days Afield	Sage grouse per hunter-day	Sage grouse per hunter
1951	840	2,458	--	--	2.93
1952	678	2,230	--	--	3.29
1953	895	2,581	--	--	2.88
1954	802	2,510	--	--	3.13
1955	579	1,742	--	--	3.01
1956	495	1,375	--	--	2.97
1957	470	1,303	--	--	2.77
1958	567	1,797	--	--	3.17
1959	699	1,875	--	--	2.68
1960	861	2,246	--	--	2.61
1961	1,078**	1,918**	--	--	1.78**
1962***	2,382	5,352	5,097	1.05	1.89
1963	12,366	13,793	15,564	0.89	1.12
1964	4,362	6,827	5,807	1.18	1.56
1965	3,243	3,881	4,673	0.83	1.20
1966	2,612	3,962	4,006	0.99	1.52
1967	5,336	5,089	7,860	0.65	0.95
1968	9,115	11,109	13,601	0.82	1.22
1969	12,894	22,282	20,466	1.09	1.73
1970	12,036	15,877	18,506	0.86	1.32
1971	12,893	20,013	21,509	0.93	1.55
1972	13,040	15,983	22,232	0.72	1.23
1973	10,017	13,926	19,049	0.73	1.39
<hr/>					
TOTALS					
(1963-73)	97,914	132,792	153,273	0.87	1.36
<hr/>					
AVERAGES					
(1963-72)	8,790	11,882	13,422	0.90	1.34

*The number of sage grouse hunters and consequently harvest was limited by permits available from 1951 through 1962.

**Estimated

***Totals and indexes based on indiscreet data.

Table 11. Sage grouse field bag check summary, 1973.

Region and County	ALL HUNTS				COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds/100 hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds/100 hrs.	Birds/Hunter	
Northern										
Box Elder	121	323	1,300	241	19	241	1,297	241	19	0.75
Cache	81	197	784	105	13	101	776	101	13	0.52
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	5	16	34	14	41	11	28	11	39	0.92
Rich	133	376	1,396	119	9	108	1,224	108	9	0.36
Summit	6	12	26	2	8	0	0	0	--	--
Weber	12	27	118	3	3	3	89	3	3	0.15
REGIONAL TOTALS	358	951	3,658	484	13	328	3,414	464	14	0.55
Central										
Juab	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--
Tooele	29	57	212	42	20	33	103	33	32	1.27
Utah	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	29	57	212	42	20	33	103	33	32	1.27
Southern										
Beaver	6	15	24	0	0	0	12	0	0	0.00
Garfield	108	273	853	196	23	165	740	165	22	0.74
Iron	2	6	6	8	133	8	6	8	133	1.33
Kane	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--
Piute	11	22	88	16	18	12	66	12	18	0.75
Sevier	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	137	354	1,690	323	19	300	1,359	300	22	1.09
REGIONAL TOTALS	264	670	2,661	543	20	485	2,183	485	22	0.92
Northeastern										
Daggett	4	8	10	2	20	2	10	2	20	0.25
Duchesne	14	35	114	35	31	18	35	18	51	1.29
Uintah	53	155	567	112	20	76	261	76	29	1.27
REGIONAL TOTALS	71	198	691	149	22	96	306	96	31	1.17
Southeastern										
Carbon	6	10	14	2	14	1	1	1	100	1.00
Emery	1	3	24	0	0	0	24	0	0	0.00
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	10	21	27	16	59	10	21	10	48	0.71
REGIONAL TOTALS	17	34	65	18	28	11	46	11	24	0.61
STATE TOTALS	739	1,910	7,287	1,236	17	1,089	6,052	1,089	18	0.73

Table 12. Sage grouse hunter success trend determined by field bag checks, 1968-73.

Region and County	1968		1969		1970		1971		1972		1973	
	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter
Northern												
Box Elder	16	0.86	23	1.24	24	1.00	19	0.99	15	0.88	19	0.75
Cache	18	0.52	11	0.63	35	1.10	7	0.29	7	0.31	13	0.52
Davis	--	--	--	--	27	0.98	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	10	0.21	6	0.29	41	0.92
Rich	12	0.46	9	0.62	--	--	14	0.55	11	0.50	9	0.36
Summit	36	0.91	28	0.75	--	--	26	1.00	6	0.29	8	--
Weber	10	0.42	15	0.63	10	0.52	9	0.38	7	0.32	3	0.15
REGIONAL TOTALS	14	0.52	15	0.90	24	0.99	16	0.73	13	0.68	13	0.55
Central												
Juab	--	--	--	--	50	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	16	0.28	--	--	--	--	--	--
Sanpete	65	1.17	3	0.12	21	0.61	6	0.37	--	--	--	--
Tooele	--	--	--	--	20	2.18	16	0.68	22	0.46	20	1.27
Utah	--	--	--	--	26	0.77	--	--	--	--	--	--
Wasatch	41	0.98	28	0.84	--	--	--	--	--	--	--	--
REGIONAL TOTALS	42	0.98	26	0.79	21	0.61	13	0.61	22	0.46	20	1.27
Southern												
Beaver	44	2.30	34	1.36	19	0.67	--	--	--	--	0	0.00
Garfield	--	--	39	1.51	20	0.50	21	0.72	20	1.22	23	0.74
Iron	37	1.62	27	0.71	19	0.77	34	1.02	10	0.07	133	1.33
Kane	--	--	36	1.05	--	--	--	--	--	--	--	--
Millard	--	--	--	--	12	0.98	--	--	--	--	--	--
Plute	--	--	--	--	32	1.32	23	1.00	12	1.20	18	0.75
Sevier	--	--	--	--	25	1.36	--	--	--	--	--	--
Washington	--	--	--	--	7	0.43	--	--	--	--	--	--
Wayne	35	1.31	27	2.02	--	--	13	0.65	13	0.73	19	1.09
REGIONAL TOTALS	37	1.35	34	1.49	18	1.07	15	0.67	14	0.75	20	0.92
Northeastern												
Daggett	46	1.41	23	1.68	--	--	38	1.14	15	1.00	20	0.25
Duchesne	37	1.36	38	1.39	15	0.99	29	0.86	28	2.00	31	1.29
Uintah	39	1.42	33	1.10	19	1.16	40	1.48	56	1.46	20	1.27
REGIONAL TOTALS	40	1.41	32	1.24	17	1.06	36	1.24	37	1.40	22	1.17
Southeastern												
Carbon	62	1.57	5	0.30	5	0.10	7	1.00	33	1.00	14	1.00
Emery	30	1.22	38	1.10	24	0.96	--	--	--	--	0	0.00
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	18	0.80	--	--	29	1.55	--	--	--	--
REGIONAL TOTALS	52	1.49	17	0.72	23	0.90	22	1.46	33	1.00	28	0.61
STATE TOTALS	30	0.98	22	1.02	20	0.97	17	0.74	15	0.71	17	0.73

FOREST GROUSE

SUMMARY

The breeding population level in 1973 for both ruffed and blue grouse was probably similar to 1972. Production of ruffed grouse was lower than both 1972 and the average while blue grouse showed improved production. Sample sizes of brood data were low, especially for ruffed grouse. Fall populations were considered to be down for ruffed grouse and no better than comparable to 1972 for blue grouse.

Harvest data showed a 65 percent decline in ruffed grouse harvested, while blue grouse harvested almost double. The net result was a record harvest of 45,232 forest grouse. The increased harvest was a direct result of increased hunters and hunter-days afield. Hunter success declined slightly indicating a lower fall population level than in 1972. Hunters spent less time hunting per day and more time for each grouse bagged.



Ruffed Grouse

Results of the annual random brood survey for 1973 are shown in Table 1 of this section. Long-term trends of young-adult ratios, mean brood size and ruffed grouse observed per 100 hours are found in Tables 2-4. A summary of effort expended on ruffed and blue grouse brood counts combined is shown in Table 9. Survey results for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total ruffed grouse observed	155	-30	-53
Young per 100 adults	297	-23	-6
Mean brood size	4.58	-1	-3
Ruffed grouse observed per 100 hours	18	-36	-65
Total hours effort (Forest grouse)	880	+10	+35

Harvest statistics for 1972 indicate an above average breeding population of ruffed grouse for 1973.

Hours effort on forest grouse brood counts increased over 1972 but the number of ruffed grouse observed decreased. The number observed per 100 hours effort decreased substantially from both 1972 and the average. Indicated production was considerably lower than 1972 and slightly below average, however, sample sizes were not sufficient to be accurate. It was assumed, based on the limited data available that ruffed grouse numbers were down.

Blue Grouse

Results of the annual random brood survey for 1973 are shown in Table 5 of this section. Long-term trends of young-adult ratios, mean brood size and blue grouse observed per 100 hours are found in Tables 6-8. Survey results for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total blue grouse observed	580	-23	+10
Young per 100 adults	237	+6	-16
Mean brood size	4.81	+4	+3
Blue grouse observed per 100 hours	66	-30	-20
Total hours effort (Forest grouse)	880	+10	+35

Harvest statistics for 1972 indicated that the breeding population was at an average level in 1973.

Total blue grouse observed during brood counts was less than 1972 but above average while the number observed per 100 hours was less than both 1972 and the average. Indicated production was better than in 1972 and similar to or slightly below average. The fall population was probably similar to or lower than 1972.

HarvestHunter Questionnaire

Results of the 1973 forest grouse (ruffed and blue grouse combined) hunter questionnaire are shown in Table 10. Long-term trends of forest grouse bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 11-13 and total statewide harvest statistics in Table 14. Harvest statistics for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Forest grouse hunters	17,588	+6	+50
Forest grouse harvested	45,232	+6	+101
Hunter-days afield	44,738	+15	+114
Forest grouse per hunter	2.57	+0.4	+25
Forest grouse per hunter-day	1.01	-7	-5
Percent ruffed grouse	15.8	-67	-67
Percent blue grouse	81.4	+80	+83
Percent unidentified species	2.7	-56	-64

The decline in the ruffed grouse population suggested by the summer inventory was very prominent in harvest statistics. In fact it appears that a substantial "crash" in the ruffed grouse population occurred between 1972 and 1973. The reason is not clearly evident. Blue grouse numbers evidently increased substantially.

Total forest grouse hunters and hunter-days increased but the total ruffed grouse harvest declined by 65 percent. Hunter success dropped about 70 percent. The blue grouse harvest almost doubled while blue grouse hunter success increased by about two-thirds over 1972. The total result was an increase in total grouse harvested to a record level; due to increased hunting pressure, and slight decrease in hunter success per day. Success for the season was similar to 1972. Blue grouse comprised over 80 percent of the total harvest compared to an average of 44 percent.

The long-term trend of forest grouse harvest statistics is shown in Figure 1.

Field Bag Checks

A summary of field bag check data for 1973 is found in Table 15. Hunter success trends determined via this method since 1966 are shown in Table 16. Results of the 1973 survey compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	1,408	-6	+58
Total hours hunted	5,801	-12	+70
Forest grouse per hunter (complete hunts)	0.80	-16	+4
Forest grouse bagged per 100 hours	19	-5	-10
Average hours per hunter-day (complete hunts)	4.3	-9	+10
Hours hunted per grouse bagged	5.4	+8	+6

Field bag checks reflected the decreased hunter success shown by questionnaire data. The average forest grouse hunter spent slightly less time afield each day and more time was required to bag one grouse.

Forest grouse bagged per hunter and per hunter-day.

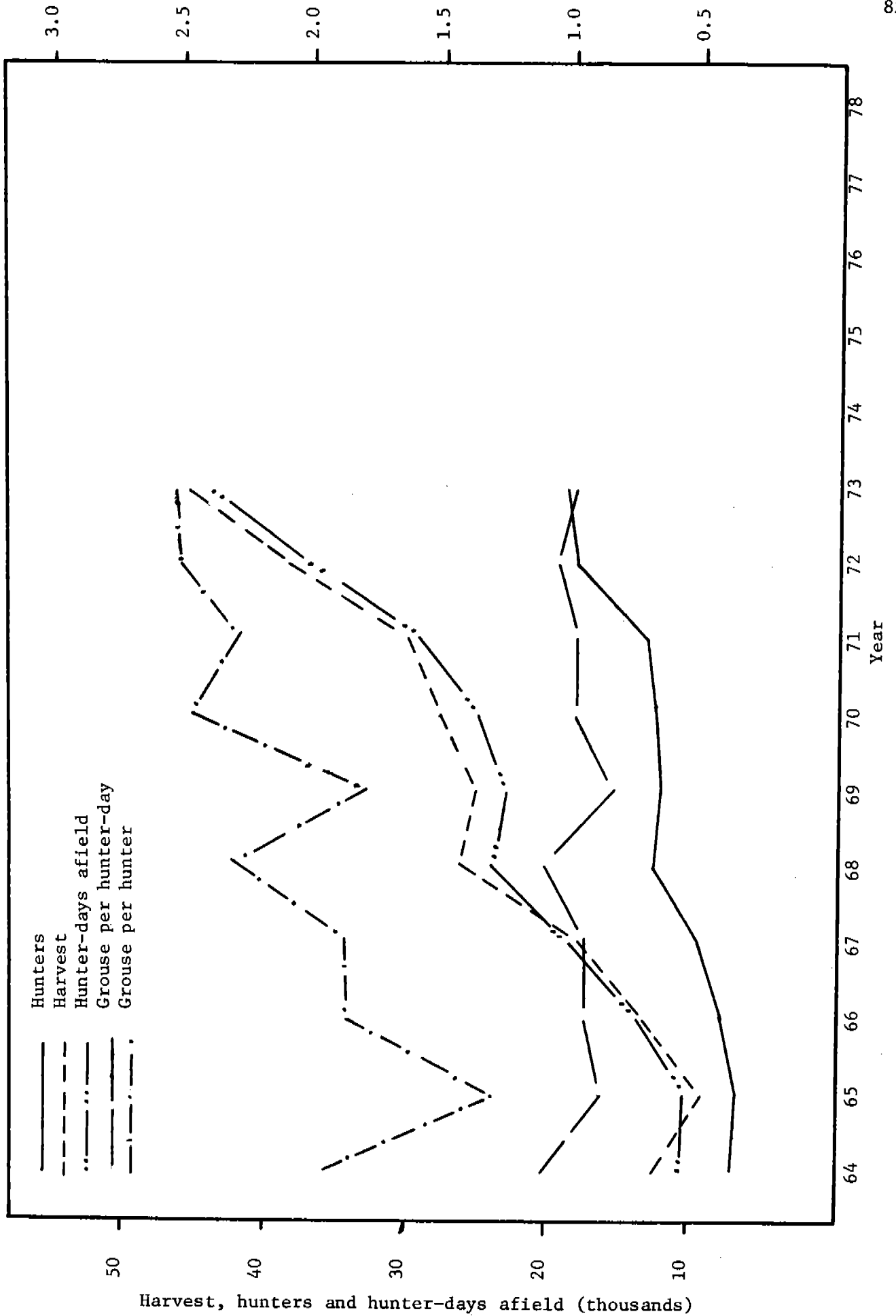


Figure 1. Statewide trends of forest grouse harvest statistics.

Table 1. Ruffed grouse summer inventory summary, 1973.

Region and County	Distinct Broods		Mean Brood	Mixed Yng. & Ad.		Adults w/o Yng.	Total Adults	Total Young	Young/100 Ad.	Grouse/100 hrs.
	No. Adult	Yng.		Adults	Young					
Northern										
Box Elder	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	1	6	6.00	0	0	0	1	6	600	140
Summit	2	10	5.00	0	0	1	3	10	333	62
Weber	2	9	4.50	0	0	0	2	9	450	--
REGIONAL TOTALS	5	25	5.00	0	0	1	6	25	417	24
Central										
Juab	1	3	3.00	0	0	0	1	3	300	33
Salt Lake	0	0	--	0	0	0	0	0	--	0
Sanpete	5	23	4.60	2	6	4	11	29	264	129
Tooele	0	0	--	0	0	0	0	0	--	0
Utah	1	5	5.00	0	0	3	4	5	125	23
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	7	31	4.43	2	6	7	16	37	231	50
Southern										
Beaver	--	--	--	--	--	--	--	--	--	--
Garfield	0	0	--	0	0	0	0	0	--	0
Iron	--	--	--	--	--	--	--	--	--	--
Kane	0	0	--	0	0	0	0	0	--	0
Millard	0	0	--	0	0	0	0	0	--	0
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	7	28	4.00	0	0	2	9	28	311	10
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	2	11	5.50	0	0	1	3	11	367	117
REGIONAL TOTALS	9	39	4.33	0	0	3	12	39	325	12
Northeastern										
Daggett	0	0	--	0	0	0	0	0	--	0
Duchesne	0	0	--	0	0	0	0	0	--	0
Uintah	0	0	--	0	0	0	0	0	--	0
REGIONAL TOTALS	0	0	--	0	0	0	0	0	--	0
Southeastern										
Carbon	0	0	--	0	0	0	0	0	--	0
Emery	3	15	5.00	0	0	2	5	15	300	67
Grand	0	0	--	0	0	0	0	0	--	0
San Juan	0	0	--	0	0	0	0	0	--	0
REGIONAL TOTALS	3	15	5.00	0	0	2	5	15	300	28
STATE TOTALS	24	110	4.58	2	6	13	39	116	297	18

Table 2. Trend of ruffed grouse young per 100 adults ratios, 1963-73.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	--	--	--	--	400	0	--	--	--	--	--	--
Cache	362	--	314	630	425	225	321	468	383	900	--	--
Davis	300	--	--	525	600	400	0	--	--	388	--	--
Morgan	--	240	--	200	--	--	200	400	540	--	--	--
Rich	300	--	--	--	300	150	--	--	--	375	600	--
Summit	--	--	0	--	--	500	333	500	514	650	333	--
Weber	--	--	600	257	--	450	143	--	340	--	450	--
Regional Totals	331	240	280	522	427	292	260	471	426	453	417	370
Central Region												
Juab	--	--	--	--	550	275	333	470	325	--	300	--
Salt Lake	--	--	--	--	0	150	133	470	100	--	--	--
Sanpete	--	--	--	--	228	259	171	300	240	329	264	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	450	433	267	256	300	475	125	--
Wasatch	--	--	--	--	450	--	--	--	--	300	--	--
Regional Totals	226	171	311	375	333	236	214	331	242	358	231	280
Southern Region												
Beaver	--	--	--	--	--	--	97	--	200	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	0	--	--	--	--	--	--	--
Millard	--	--	--	500	--	--	225	183	280	--	--	--
Piute	--	--	--	--	--	--	--	--	300	--	--	--
Sevier	560	200	225	362	243	425	400	533	221	333	311	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	200	--	--	--	367	--
Regional Totals	560	200	225	378	189	425	139	300	235	333	325	298
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	457	--	--	--	--	450	800	225	--	367	--	--
Uintah	--	--	--	--	--	0	700	250	375	--	--	--
Regional Totals	457	--	--	--	--	386	766	233	375	367	--	431
Southeastern Region												
Carbon	--	--	--	--	--	40	--	0	--	--	--	--
Emery	300	500	300	--	--	350	400	700	500	--	300	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	257	--	--	--	--	--	--	--	--	84
Regional Totals	300	500	267	--	--	128	400	489	500	--	300	369
STATE TOTALS	306	212	285	468	335	268	219	372	308	385	297	316

Table 3. Trend of ruffed grouse mean brood size, 1962-73.

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1962-72
Northern Region													
Box Elder	--	--	--	--	--	4.00	--	--	--	--	--	--	--
Cache	7.33	3.62	--	4.40	6.59	6.38	2.00	4.09	4.78	5.55	9.00	--	--
Davis	--	3.00	--	--	5.25	6.00	4.00	--	--	--	4.80	--	--
Morgan	--	--	4.00	--	4.00	--	--	4.67	4.00	6.75	--	--	--
Rich	5.00	3.00	--	--	3.00	3.00	3.00	--	--	--	3.75	6.00	--
Summit	--	--	--	--	--	--	5.00	6.00	5.00	6.00	6.50	5.00	--
Weber	5.33	--	--	6.00	4.50	--	4.50	2.50	--	8.00	--	4.50	--
Regional Totals	6.00	3.31	4.00	4.66	6.01	5.82	4.00	4.30	4.79	6.09	5.08	5.00	4.91
Central Region													
Juab	--	--	--	--	--	6.60	5.33	4.00	4.67	4.33	--	3.00	--
Salt Lake	--	--	--	--	--	--	--	4.00	4.67	4.00	--	--	--
Sanpete	--	--	--	--	--	3.89	3.54	4.67	4.64	5.50	4.67	4.60	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	4.60	4.33	3.80	7.00	3.75	4.75	5.00	--
Wasatch	--	--	--	--	--	4.50	--	--	--	--	3.00	--	--
Regional Totals	--	4.00	4.08	5.09	5.00	4.76	4.00	4.17	4.78	4.75	4.55	4.43	4.52
Southern Region													
Beaver	--	--	--	--	--	--	--	6.00	--	5.00	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	5.00	--	--	2.25	--	4.67	--	--	--
Piute	--	--	--	--	--	--	--	--	--	3.00	--	--	--
Sevier	--	5.60	2.00	3.00	4.14	4.25	4.25	4.00	--	3.83	4.29	4.00	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	2.00	--	--	--	5.50	--
Regional Totals	--	5.60	2.00	3.00	4.25	4.25	4.25	3.30	--	4.08	4.29	4.33	3.89
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	4.00	5.33	--	--	--	--	4.50	8.00	3.00	--	3.67	--	--
Uintah	--	--	--	--	--	--	--	7.00	2.50	5.00	--	--	--
Regional Totals	4.00	5.33	--	--	--	--	4.50	7.67	2.80	5.00	3.67	--	4.71
Southeastern Region													
Carbon	--	--	--	--	--	--	2.00	--	--	--	--	--	--
Emery	5.50	3.00	6.67	6.00	--	--	3.50	3.00	7.00	5.00	--	5.00	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	4.50	--	--	--	--	--	--	--	--	--
Regional Totals	5.50	3.00	6.67	4.80	--	--	3.00	3.00	7.00	5.00	--	5.00	4.75
STATE TOTALS	5.58	4.10	4.24	4.32	5.56	5.33	4.05	4.24	4.66	5.16	4.61	4.58	4.71

Table 4. Trend of paired grouse observed per 100 hours, 1967-73.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
<u>Northern</u>								
Box Elder	--	2	--	--	--	--	--	--
Cache	--	54	83	270	67	14	--	--
Davis	--	31	3	--	--	244	--	--
Morgan	--	--	58	62	128	--	--	--
Rich	--	62	--	--	--	61	140	--
Summit	--	40	63	42	108	100	62	--
Weber	--	92	44	--	73	--	--	--
REGIONAL TOTALS	37	33	50	80	77	39	24	53
<u>Central</u>								
Juab	206	500	158	179	142	--	33	--
Salt Lake	--	111	20	47	16	--	0	--
Sanpete	87	316	158	143	167	240	129	--
Tooele	--	--	--	--	--	--	0	--
Utah	21	61	63	32	40	37	23	--
Wasatch	100	--	--	--	0	50	--	--
REGIONAL TOTALS	58	395	78	81	85	84	50	130
<u>Southern</u>								
Beaver	--	--	314	--	250	--	--	--
Garfield	--	--	--	--	--	--	0	--
Iron	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	0	--
Millard	--	--	--	213	317	--	0	--
Piute	--	--	--	--	267	--	--	--
Sevier	--	--	--	--	28	22	10	--
Washington	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	117	--
REGIONAL TOTALS	78	--	314	62	35	15	12	101
<u>Northeastern</u>								
Daggett	--	--	--	--	0	--	0	--
Duchesne	--	157	58	29	0	28	0	--
Uintah	--	20	88	18	83	--	0	--
REGIONAL TOTALS	--	119	65	23	83	10	0	60
<u>Southeastern</u>								
Carbon	--	61	--	5	0	--	0	86
Emery	--	16	30	16	46	--	67	--
Grand	--	--	--	--	--	--	0	--
San Juan	--	--	--	--	--	--	0	--
REGIONAL TOTALS	--	17	30	12	46	--	28	26
STATE TOTALS	48	70	59	55	54	28	18	52

Table 6. Trend of blue grouse young per 100 adults ratios, 1963-73.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	254	700	200	--	133	382	222	389	--	500	--	--
Cache	333	--	200	487	350	318	154	316	245	288	192	--
Davis	250	--	--	442	400	138	250	--	520	82	--	--
Morgan	--	425	--	400	--	--	500	600	533	250	375	--
Rich	--	--	500	--	333	--	--	300	--	300	--	--
Summit	--	--	200	--	450	--	400	433	600	533	314	--
Weber	528	--	600	567	500	500	325	--	557	68	700	--
Regional Totals	317	517	265	478	193	289	248	361	305	191	222	316
Central Region												
Juab	--	--	--	--	300	--	383	--	--	--	50	--
Salt Lake	--	--	--	--	0	--	175	900	67	--	0	--
Sanpete	--	--	--	--	267	467	--	283	425	156	300	--
Tooele	--	--	--	--	800	400	--	--	--	--	143	--
Utah	--	--	--	--	275	267	230	314	422	375	415	--
Wasatch	--	--	--	--	333	360	--	550	450	600	--	--
Regional Totals	347	344	567	612	326	337	231	389	324	321	285	380
Southern Region												
Beaver	--	--	--	--	--	238	--	--	--	--	--	--
Garfield	--	--	--	--	--	140	--	100	600	133	--	--
Iron	--	--	--	700	--	400	8	--	267	--	--	--
Kane	--	--	--	--	233	--	--	150	200	240	211	--
Millard	--	--	--	--	--	--	--	--	280	67	--	--
Piute	--	--	--	--	--	200	--	--	--	--	--	--
Sevier	76	200	40	69	67	--	--	140	136	100	100	--
Washington	--	--	--	0	366	--	38	170	--	271	533	--
Wayne	--	300	--	900	--	--	182	--	--	--	--	--
Regional Totals	76	240	40	150	160	224	75	135	213	149	192	146
Northeastern Region												
Daggett	--	--	--	--	--	150	350	--	--	286	286	--
Duchesne	--	600	317	--	200	257	433	--	400	275	600	--
Uintah	--	--	500	--	666	--	480	400	167	557	500	--
Regional Totals	--	600	343	--	555	186	414	400	225	339	344	383
Southeastern Region												
Carbon	--	--	--	--	--	138	--	0	167	92	--	--
Emery	300	--	575	--	300	250	--	450	300	--	667	--
Grand	--	--	--	--	--	--	--	--	--	114	0	--
San Juan	--	--	0	--	200	400	456	153	386	375	--	--
Regional Totals	300	--	383	--	250	288	456	139	310	216	333	293
STATE TOTALS	258	381	312	354	246	268	235	253	292	224	237	282

Table 7. Trend of blue grouse mean brood size, 1962-73.

Region and County	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1962-72
Northern Region													
Box Elder	6.06	5.09	7.00	6.00	--	3.67	4.43	5.54	3.83	--	5.00	--	5.00
Cache	--	4.28	--	2.50	6.22	4.67	4.38	3.35	4.28	5.18	5.50	4.66	4.66
Davis	--	3.33	--	--	4.42	4.00	4.50	7.00	--	6.25	2.67	--	2.67
Morgan	--	--	4.25	--	6.00	--	--	5.00	6.00	5.33	5.33	5.50	5.50
Rich	--	--	--	5.00	--	3.33	--	--	3.00	--	4.50	--	4.50
Summit	5.00	--	--	4.00	--	4.50	--	8.00	4.33	6.00	5.33	4.40	4.40
Weber	3.00	5.28	--	6.00	5.67	4.00	5.00	4.75	--	6.50	4.75	7.00	7.00
Regional Totals	5.64	4.75	5.17	4.09	5.73	4.10	4.50	4.51	4.21	5.54	4.96	4.79	4.84
Central Region													
Juab	--	--	--	--	--	3.00	--	4.60	--	--	--	1.00	1.00
Salt Lake	--	--	--	--	--	--	--	4.40	9.00	2.00	--	--	--
Sanpete	--	--	--	--	--	4.00	4.67	--	2.83	4.25	2.80	3.00	3.00
Tooele	--	--	--	--	--	8.00	4.00	--	--	--	--	6.00	6.00
Utah	--	--	--	--	--	5.00	3.40	4.67	5.50	4.22	4.22	5.38	5.38
Wasatch	--	--	--	--	--	10.00	3.60	--	5.50	4.50	6.00	--	--
Regional Totals	--	3.88	4.43	5.67	6.13	4.78	3.80	4.54	4.67	4.00	4.12	4.54	4.60
Southern Region													
Beaver	--	--	--	--	--	--	3.75	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	2.00	--	3.00	6.00	4.00	--	--
Iron	--	--	--	7.00	--	--	4.00	--	--	8.00	--	--	--
Kane	--	--	--	--	--	--	--	--	3.00	6.00	3.33	6.33	6.33
Millard	--	--	--	--	--	--	--	--	--	4.67	2.00	--	--
Piute	--	--	--	--	--	--	2.00	--	--	--	--	--	--
Sevier	--	3.20	3.00	2.00	2.57	2.00	--	1.50	--	3.00	2.62	3.00	3.00
Washington	--	--	--	--	--	6.00	--	4.00	3.40	--	4.00	5.33	5.33
Wayne	7.00	--	3.00	--	9.00	--	--	--	--	--	--	--	--
Regional Totals	--	3.20	3.00	2.00	4.36	3.00	3.22	5.50	3.25	4.45	3.06	4.55	3.50
Northeastern Region													
Daggett	--	--	--	--	--	--	--	3.50	--	--	5.00	5.00	5.00
Duchesne	5.00	--	6.00	4.75	--	2.00	9.00	4.33	--	4.00	4.71	6.00	6.00
Uintah	--	--	--	5.00	--	6.67	--	6.00	5.50	2.50	6.50	5.00	5.00
Regional Totals	5.00	--	6.00	4.80	--	5.50	9.00	4.46	5.50	3.00	5.21	5.20	5.39
Southeastern Region													
Carbon	--	--	--	--	--	--	4.00	--	--	5.00	6.00	--	--
Emery	7.00	3.00	--	5.75	--	6.00	5.00	--	4.50	3.00	--	6.67	6.67
Grand	--	--	--	--	--	--	--	--	--	--	2.67	--	--
San Juan	--	--	--	--	--	4.00	4.33	5.20	4.00	5.25	6.17	--	--
Regional Totals	7.00	3.00	--	5.75	--	5.00	4.33	5.20	4.20	4.82	5.50	6.67	4.98
STATE TOTALS	5.64	4.36	4.44	4.74	5.49	4.42	4.24	4.46	4.28	4.86	4.64	4.81	4.69

Table 8. Trend of blue grouse observed per 100 hours, 1967-1973.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
<u>Northern</u>								
Box Elder	--	129	412	99	--	35	0	
Cache	--	192	146	198	171	133	409	
Davis	--	194	170	--	194	125	--	
Morgan	--	--	50	88	76	125	173	
Rich	--	--	--	33	--	39	0	
Summit	--	--	32	56	18	127	138	
Weber	--	150	364	--	153	147	--	
REGIONAL TOTALS	63	103	127	97	135	111	266	106
<u>Central</u>								
Juab	138	--	175	--	0	--	25	
Salt Lake	2	--	64	28	20	--	20	
Sanpete	68	68	--	43	34	92	39	
Tooele	675	500	--	--	--	--	94	
Utah	32	106	38	63	94	92	172	
Wasatch	100	87	--	260	1,100	262	--	
REGIONAL TOTALS	64	97	52	57	51	98	95	70
<u>Southern</u>								
Beaver	--	88	--	--	--	--	--	
Garfield	--	240	--	86	45	10	0	
Iron	--	143	140	15	42	--	--	
Kane	--	--	--	111	51	--	76	
Millard	--	--	--	--	317	83	0	
Piute	--	54	--	--	--	--	--	
Sevier	--	--	38	--	16	23	7	
Washington	--	--	86	174	--	260	--	
Wayne	--	--	--	--	--	--	8	
REGIONAL TOTALS	116	102	56	162	29	37	18	84
<u>Northeastern</u>								
Daggett	--	1,400	193	--	0	146	45	
Duchesne	10	119	33	--	13	90	13	
Uintah	255	--	156	41	35	87	19	
REGIONAL TOTALS	51	210	150	41	18	104	27	96
<u>Southeastern</u>								
Carbon	--	543	9	32	80	258	0	
Emery	29	12	--	12	31	--	77	
Grand	--	--	--	--	13	103	19	90
San Juan	75	158	196	211	178	238	0	
REGIONAL TOTALS	33	67	98	40	97	216	36	92
STATE TOTALS	67	101	84	71	71	95	66	82

Table 9. Summary of effort expended on forest grouse brood counts, 1973.

Region and County	Vehicle Miles Traveled	Hours Effort Expended			Total
		Vehicle	Horseback	Walking	
<u>Northern</u>					
Box Elder	62	14	0	0	14
Cache	320	24	39	2	65
Davis	0	0	0	0	0
Morgan	115	8	8	6	22
Rich	40	2	0	3	5
Summit	90	8	4	9	21
Weber	0	0	0	0	0
REGIONAL TOTALS	627	56	51	20	127
<u>Central</u>					
Juab	84	7	0	5	12
Salt Lake	45	3	0	2	5
Sanpete	223	15	4	12	31
Tooele	130	4	0	14	18
Utah	435	34	0	5	39
Wasatch	0	0	0	0	0
REGIONAL TOTALS	917	63	4	38	105
<u>Southern</u>					
Beaver	0	0	0	0	0
Garfield	119	3	0	12	15
Iron	0	0	0	0	0
Kane	0	0	27	10	37
Millard	65	3	0	1	4
Piute	0	0	0	0	0
Sevier	0	0	361	0	361
Washington	0	0	0	0	0
Wayne	112	2	0	10	12
REGIONAL TOTALS	296	8	388	33	429
<u>Northeastern</u>					
Daggett	424	28	24	8	60
Duchesne	525	37	10	8	55
Uintah	0	0	32	0	32
REGIONAL TOTALS	949	65	66	16	147
<u>Southeastern</u>					
Carbon	265	15	0	7	22
Emery	339	24	0	6	30
Grand	123	13	0	3	16
San Juan	34	3	0	1	4
REGIONAL TOTALS	761	55	0	17	72
STATE TOTALS	3,550	247	509	124	880

Table 10. Summary of forest grouse hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged			Birds/ Total	Birds/ Day	Birds/ Hunter*	% of Pressure	% of Harvest
			Ruffed	Blue	Uniden.					
Northern										
Box Elder	39	95	6	69	0	75	0.79	2.59	4.03	3.15
Cache	228	629	101	549	3	653	1.04	3.31	26.68	27.39
Davis	21	45	8	51	0	59	1.31	2.26	1.91	2.47
Morgan	30	69	15	66	5	86	1.25	2.43	2.93	3.61
Rich	34	66	6	70	2	78	1.18	3.40	2.80	3.27
Summit	64	135	27	110	4	141	1.04	3.28	5.73	5.91
Weber	80	157	30	123	3	156	0.99	2.48	6.66	6.54
REGIONAL TOTALS	496	1,196	193	1,038	17	1,248	1.04	2.74	50.72	52.35
Central										
Juab	16	35	4	20	0	24	0.69	10.33	1.48	1.01
Salt Lake	28	51	13	43	13	69	1.35	2.26	2.16	2.89
Sanpete	55	115	23	77	1	101	0.88	2.43	4.88	4.24
Tooele	14	27	1	17	1	19	0.70	1.27	1.15	0.80
Utah	124	333	54	281	7	342	1.03	2.72	14.12	14.35
Wasatch	52	106	18	77	6	101	0.95	2.92	4.50	4.24
REGIONAL TOTALS	289	667	113	515	28	656	0.98	2.52	28.29	27.52
Southern										
Beaver	5	14	0	13	0	13	0.93	2.60	0.59	0.55
Garfield	7	11	0	3	0	3	0.27	1.00	0.47	0.13
Iron	24	49	8	39	0	47	0.96	2.21	2.08	1.97
Kane	8	14	1	8	0	9	0.64	1.60	0.59	0.38
Millard	14	26	11	26	0	37	1.42	3.22	1.10	1.55
Piute	12	20	2	20	0	22	1.10	2.60	0.85	0.92
Sevier	33	73	15	65	6	86	1.18	1.88	3.10	3.61
Washington	1	1	0	2	0	2	2.00	2.00	0.04	0.08
Wayne	0	0	0	0	0	0	0.00	0.00	0.00	0.00
REGIONAL TOTALS	104	208	37	176	6	219	1.05	2.18	8.82	9.19
Northeastern										
Daggett	10	23	0	7	0	7	0.30	0.00	0.98	0.29
Duchesne	20	47	11	37	2	50	1.06	2.75	1.99	2.10
Uintah	21	33	2	26	0	28	0.85	1.80	1.40	1.17
REGIONAL TOTALS	51	103	13	70	2	85	0.83	2.07	4.37	3.57
Southeastern										
Carbon	28	76	9	72	3	84	1.11	3.33	3.22	3.52
Emery	11	28	0	9	5	14	0.50	0.75	1.19	0.59
Grand	4	8	0	1	0	1	0.13	0.00	0.34	0.04
San Juan	3	5	0	6	0	6	1.20	2.00	0.21	0.25
REGIONAL TOTALS	46	117	9	88	8	105	0.90	2.50	4.96	4.40
Unknown counties	33	67	12	55	4	71	1.06	0.71	2.84	2.98
Mixed counties	0	0	0	0	0	0	0.00	0.00	0.00	0.00
STATE TOTALS	1,019	2,358	377	1,942	65	2,384	1.01	2.57	100	100

*Based on county of residence.

Table 11. Summary of forest grouse bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	0.67	1.08	0.83	0.72	0.88	1.17	1.07	1.32	0.79
Cache	0.98	1.12	1.24	1.17	1.11	1.33	1.36	1.14	1.04
Davis	0.71	0.38	0.57	0.40	0.52	0.82	0.47	0.85	1.31
Morgan	1.33	1.77	0.57	1.59	0.50	1.55	1.40	1.73	1.25
Rich	0.93	--	1.09	0.92	0.97	1.42	1.35	1.15	1.18
Summit	0.87	1.04	0.58	1.32	0.60	1.10	0.89	0.77	1.04
Weber	0.32	1.04	0.62	1.52	0.75	1.22	1.11	1.42	0.99
REGIONAL TOTALS	0.80	1.08	0.94	1.19	0.87	1.28	1.17	1.20	1.04
Central									
Juab	1.14	1.67	0.73	1.36	1.00	1.38	1.21	0.50	0.69
Salt Lake	0.55	0.69	0.74	1.21	0.96	0.80	1.26	1.26	1.35
Sanpete	1.06	0.87	1.15	1.53	0.77	1.56	0.92	1.40	0.88
Tooele	0.95	0.25	0.15	1.00	0.68	0.55	0.57	0.70	0.70
Utah	1.00	1.03	0.87	1.21	0.76	1.13	1.02	1.13	1.03
Wasatch	1.09	1.07	1.21	1.37	0.68	1.29	1.36	1.00	0.95
REGIONAL TOTALS	0.88	0.93	0.87	1.31	0.77	1.24	1.08	1.10	0.98
Southern									
Beaver	0.00	0.00	2.00	0.67	0.50	1.00	0.80	1.00	0.93
Garfield	1.00	1.00	0.33	2.00	0.25	0.00	0.00	0.60	0.27
Iron	0.00	0.33	0.60	1.03	1.15	1.19	1.00	0.71	0.96
Kane	--	--	--	0.25	0.80	0.00	0.63	0.69	0.64
Millard	0.00	0.00	1.60	0.00	4.00	1.83	1.50	0.68	1.42
Piute	3.00	1.00	--	1.00	1.00	0.43	1.33	0.20	1.10
Sevier	0.25	1.63	1.06	1.21	1.00	1.11	0.95	0.87	1.18
Washington	--	--	1.00	1.10	0.00	0.00	1.00	--	2.00
Wayne	0.00	--	4.00	0.33	2.00	0.00	0.00	1.50	0.00
REGIONAL TOTALS	0.35	1.00	1.09	1.06	0.99	1.07	0.92	0.75	1.05
Northeastern									
Daggett	--	0.00	1.69	1.20	2.22	0.14	0.50	1.37	0.30
Duchesne	1.60	1.36	0.78	1.33	1.08	0.84	1.64	1.23	1.06
Uintah	1.00	1.00	0.56	1.04	1.26	0.88	0.52	0.40	0.85
REGIONAL TOTALS	1.27	1.14	0.98	1.19	1.37	0.73	0.96	0.93	0.83
Southeastern									
Carbon	0.50	1.00	1.00	0.88	1.04	1.18	0.65	1.03	1.11
Emery	0.00	0.33	2.43	2.00	0.89	1.12	0.45	1.00	0.50
Grand	3.00	--	--	1.17	0.00	0.50	1.00	0.67	0.13
San Juan	0.00	--	1.00	--	0.43	0.00	--	2.00	1.20
REGIONAL TOTALS	0.60	0.87	1.43	1.12	0.85	1.12	0.61	1.06	0.90
Unknown counties	0.83	0.35	0.82	1.30	--	0.68	1.11	0.57	1.06
Mixed counties	1.00	--	1.51	--	--	0.00	2.00	--	0.00
STATE TOTALS	0.83	0.99	0.99	1.22	0.87	1.20	1.10	1.09	1.01

Table 13. Distribution of forest grouse hunting pressure by region and county, 1965-73.

Region and County	1965	1966	1967*	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	3.86	4.53	3.35	2.82	3.44	3.09	2.94	4.13	4.03
Cache	18.33	21.15	20.09	21.28	22.33	25.39	22.04	23.20	26.68
Davis	5.14	3.02	2.42	2.35	2.43	2.16	4.56	2.67	1.91
Morgan	0.61	1.51	0.81	3.21	3.02	2.24	2.57	2.97	2.93
Rich	3.22	--	2.66	2.90	3.27	2.55	3.75	3.02	2.80
Summit	2.89	6.95	8.43	7.59	6.72	3.24	4.48	6.10	5.73
Weber	10.29	9.37	5.43	6.57	13.85	10.03	10.36	13.14	6.66
REGIONAL TOTALS	44.34	46.53	43.19	46.71	55.08	48.69	50.70	55.23	50.72
Central									
Juab	1.29	0.91	1.27	1.72	1.26	3.01	2.06	1.98	1.48
Salt Lake	12.22	8.46	4.04	4.07	2.27	1.93	3.38	2.91	2.16
Sanpete	3.54	8.16	6.00	6.81	3.61	6.79	4.41	3.20	4.88
Tooele	3.22	1.81	3.81	0.78	1.60	0.85	1.54	0.58	1.15
Utah	13.18	17.82	10.51	13.38	14.60	12.81	13.74	11.69	14.12
Wasatch	4.50	2.11	4.97	5.63	5.04	4.55	4.85	3.84	4.50
REGIONAL TOTALS	37.95	39.27	30.60	32.39	28.38	29.94	29.98	24.19	28.29
Southern									
Beaver	0.64	0.30	0.23	0.47	0.17	0.31	0.73	0.52	0.59
Garfield	0.32	0.30	0.35	0.39	0.34	0.23	0.44	0.58	0.47
Iron	0.32	1.21	1.73	2.32	2.18	1.23	0.66	1.98	2.08
Kane	--	--	--	0.31	0.84	0.15	0.59	0.93	0.59
Millard	0.64	0.30	0.58	0.08	0.08	0.93	0.59	1.28	1.10
Piute	0.32	0.30	--	0.23	0.92	0.54	0.88	0.58	0.85
Sevier	0.96	2.42	1.85	2.66	1.68	4.09	4.04	3.20	3.10
Washington	--	--	0.12	0.78	0.42	0.00	0.07	--	0.04
Wayne	0.32	--	0.23	0.23	0.25	0.23	0.22	0.12	0.00
REGIONAL TOTALS	3.52	4.83	50.8	7.51	6.88	7.72	8.23	9.19	8.82
Northeastern									
Daggett	--	0.30	1.85	0.78	0.76	1.08	0.88	0.93	0.98
Duchesne	1.61	2.72	2.08	2.11	1.09	2.47	1.62	1.74	1.99
Uintah	0.96	0.91	2.08	2.03	3.19	2.47	1.54	1.74	1.40
REGIONAL TOTALS	2.57	3.93	6.00	4.93	5.04	6.02	4.04	4.42	4.37
Southeastern									
Carbon	1.61	2.42	1.73	3.21	2.27	5.25	2.50	1.98	3.22
Emery	0.32	0.60	0.81	0.86	1.51	0.62	0.81	0.58	1.19
Grand	0.32	--	--	0.47	0.25	0.15	0.07	0.17	0.34
San Juan	0.32	--	0.12	--	0.59	0.15	--	0.17	0.21
REGIONAL TOTALS	2.57	3.02	2.66	4.54	4.62	6.17	3.38	2.91	4.96
Unknown counties	7.07	2.42	3.93	3.91	--	1.47	3.38	4.07	2.84
Mixed counties	0.96	--	8.55	--	--	0.00	0.29	--	0.00
STATE TOTALS	100	100	100	100	100	100	100	100	100

*Distribution of hunting pressure for 1967 and later based on hunter-days rather than number of hunters reporting.

Table 15. Forest grouse field bag check summary, 1973.

Region and County	ALL HUNTS									
	Total Parties	Total Hunters	Total Hours	Total Firds	Total Birds/ 100 hrs.	Total Hunts	Total Complete Hunters	Total Hours	Total Birds 100 hrs.	Birds/ Hunter
<u>Northern</u>										
Box Elder	2	6	18	6	33	2	6	18	6	33
Cache	371	853	3,808	684	18	371	853	3,808	684	18
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	1	2	2	1	50	1	2	2	1	50
Rich	48	104	512	54	11	48	104	512	54	11
Summit	--	--	--	--	--	--	--	--	--	--
Weber	87	217	825	125	15	76	186	719	112	16
<u>REGIONAL TOTALS</u>	509	1,182	5,165	870	17	498	1,151	5,059	857	17
<u>Central</u>										
Juab	8	17	43	11	26	3	7	21	9	43
Salt Lake	3	8	12	9	75	3	8	12	9	75
Sanpete	6	17	47	11	23	1	2	6	1	17
Tooele	2	5	23	2	9	2	5	23	2	9
Utah	44	100	292	75	26	28	60	217	65	30
Wasatch	3	3	9	8	89	3	3	9	8	89
<u>REGIONAL TOTALS</u>	66	150	426	116	27	40	85	288	94	33
<u>Southern</u>										
Beaver	1	2	8	0	0	1	2	8	0	0.00
Garfield	4	6	13	5	38	3	4	11	4	36
Iron	--	--	--	--	--	--	--	--	--	--
Kane	5	11	33	24	73	3	6	23	17	74
Millard	--	--	--	--	--	--	--	--	--	--
Piute	5	15	32	15	47	2	6	14	9	64
Sevier	3	4	3	12	400	3	4	3	12	400
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	18	38	89	56	63	12	22	59	42	71
<u>Northeastern</u>										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	15	32	110	31	28	9	16	65	23	35
Uintah	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	15	32	110	31	28	9	16	65	23	35
<u>Southeastern</u>										
Carbon	1	1	1	1	100	0	0	0	0	--
Emery	2	4	6	2	33	1	2	4	2	50
Grand	1	1	4	3	75	1	1	4	3	75
San Juan	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	4	6	11	6	55	2	3	8	5	62
<u>STATE TOTALS</u>	612	1,408	5,801	1,079	19	561	1,277	5,479	1,021	19

Table 16. Forest grouse hunter success trend determined by field bag checks, 1968-73.

Region and County	1968		1969		1970		1971		1972		1973	
	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter
Northern												
Box Elder	--	--	33	1.00	--	--	--	--	25	0.78	33	1.00
Cache	21	0.60	17	0.70	18	0.86	21	0.80	20	0.97	18	0.80
Davis	--	--	1	0.05	--	--	--	--	--	--	--	--
Morgan	133	2.00	--	--	100	1.50	96	1.60	0	0.00	50	0.50
Rich	26	0.76	23	1.00	32	1.14	24	1.09	16	0.81	11	0.52
Summit	44	1.06	--	--	57	1.33	14	0.45	--	--	--	--
Weber	23	0.66	4	0.19	12	0.58	16	0.65	22	1.00	15	0.60
REGIONAL TOTALS	23	0.66	13	0.55	15	0.75	21	0.81	19	0.94	17	0.74
Central												
Juab	57	1.54	34	0.94	20	0.57	23	1.67	33	1.36	26	1.29
Salt Lake	6	0.22	14	1.50	12	0.88	0	0.00	0	0.00	75	1.12
Sanpete	29	1.11	10	0.10	38	1.29	31	0.88	26	0.88	23	0.50
Tooele	--	--	--	--	17	0.67	--	--	33	1.00	9	0.40
Utah	29	1.00	19	0.44	16	0.33	26	0.38	27	0.69	26	1.08
Wasatch	13	0.78	83	1.75	--	--	50	1.33	--	--	89	2.67
REGIONAL TOTALS	28	1.10	22	0.54	24	1.03	28	0.61	26	0.75	27	1.11
Southern												
Beaver	--	--	--	--	--	--	4	0.33	--	--	0	0.00
Garfield	--	--	--	--	6	0.21	4	0.05	--	--	38	1.00
Iron	--	--	--	--	25	0.43	32	0.70	--	--	--	--
Kane	26	1.17	--	--	5	0.14	--	--	51	2.56	73	2.83
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	12	0.75	47	1.50
Sevier	125	1.25	--	--	--	--	50	1.28	44	1.36	400	3.00
Washington	--	--	--	--	15	0.67	--	--	--	--	--	--
Wayne	--	--	--	--	40	1.33	--	--	--	--	--	--
REGIONAL TOTALS	39	1.25	--	--	12	0.32	17	0.38	42	1.86	63	1.91
Northeastern												
Daggett	--	--	30	2.00	0	0.00	80	1.33	21	0.57	--	--
Duchesne	18	0.56	20	0.33	38	1.17	50	2.00	20	0.50	28	1.44
Uintah	33	1.23	59	0.40	30	2.33	44	2.36	150	1.50	--	--
REGIONAL TOTALS	28	1.23	40	0.55	28	1.87	49	2.12	39	0.85	28	1.44
Southeastern												
Carbon	47	1.00	22	0.83	--	--	35	1.75	--	--	100	-- ⁸
Emery	52	1.50	--	--	--	--	13	0.62	--	--	33	1.00
Grand	--	--	--	--	--	--	41	1.00	--	--	75	3.00
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	49	1.16	22	0.83	--	--	26	1.00	--	--	55	1.67
STATE TOTALS	26	0.78	14	0.55	16	0.76	22	0.80	20	0.95	19	0.80

QUAIL

SUMMARY

Quail inventory data indicated a low population level for 1973; a result of poor production in 1972 plus unusually severe winter weather during the 1972-73 winter.

Production in 1973 improved over 1972 to just below average. No Gambel's quail brood data was obtained from southern counties but considering excellent forage conditions, it should have been good.

The total quail harvest decreased due to decreased hunters and hunter days afield. statewide hunter success indexes increased primarily due to increases in the North-eastern, Southeastern and Southern regions. Success in the Northern and Central regions was lower than 1972. Harvest data showed an increased population of Gambel's quail.

Daily bag and possession limits were reduced from 8 and 16 to 5 and 10 respectively for the 1973 season. This probably accounted for some of the decreased hunting pressure.



Brood Counts

Results of the annual random brood survey for 1973 are shown in Table 1 of this section. Long-term trends of young-adult ratios, mean brood size and quail observed per 100 hours are shown in Tables 2-4. Survey results for 1973 compared to 1972 and the average as follows:

	1973	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total quail observed	363	-62	-73
Young per 100 adults	216	+26	-6
Mean brood size	7.04	-2	-1
Quail observed per 100 hours	336	-49	-58
Total hours effort	108	-28	-38

Harvest data for 1972 indicates a breeding population level for 1973 which was lower than that in 1972. Winter mortality was probably greater than normal.

Total effort on quail brood counts was well below both 1972 and the average as was the number of quail observed. Quail observed per 100 hours was also low.

Young per 100 adults increased over 1972 but was still below average while the mean brood size was about average. The fall population level was probably lower than in 1972, except for the Gambel's quail in southern counties where an increased population was expected.

Harvest

Results of the annual hunter questionnaire for 1973 are shown in Table 5. Long-term trends of quail bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 6-8 and total statewide harvest statistics in Table 9.

The 1973 season compared to 1972 and the average as follows:

	1973	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Quail hunters	5,654	-23	-28
Quail harvested	14,324	-13	-39
Hunter-days afield	17,777	-18	-8
Quail per hunter	2.53	+13	-14
Quail per hunter-day	0.81	+7	-34

Total hunters in 1973 declined from both 1972 and the average as did the number of hunter-days. Total harvest decreased due to reduced pressure while hunter success increased over 1972 but was still well below average.

Hunter success for Gambel's quail in Washington County improved over 1972 but was still lower than in an average year.

Long-term quail harvest statistics are shown in Figure 1.

Gambel's Quail Studies

Annual call-count surveys, long-period waterhole counts and vegetative surveys have been conducted on the west slope of the Beaver Dam Mountains since 1962. Trends of those surveys are shown in Tables 10-12.

Call-counts showed decreased quail abundance compared to 1972, with the population at a low level. No quail were observed during waterhole counts.

Vegetative surveys designed to measure the relative abundance of annual forbs, using filaree (Erodium cicutarium) as the indicator species showed good forb production. Plant density was the highest since 1969 and individual filaree plants attained a size not seen since prior to 1960. Improvement was the result of the relatively severe winter and high moisture level of the winter of 1972-73.

Although no broods were counted markedly improved production was expected. Harvest statistics for Washington County indicated an increased population.

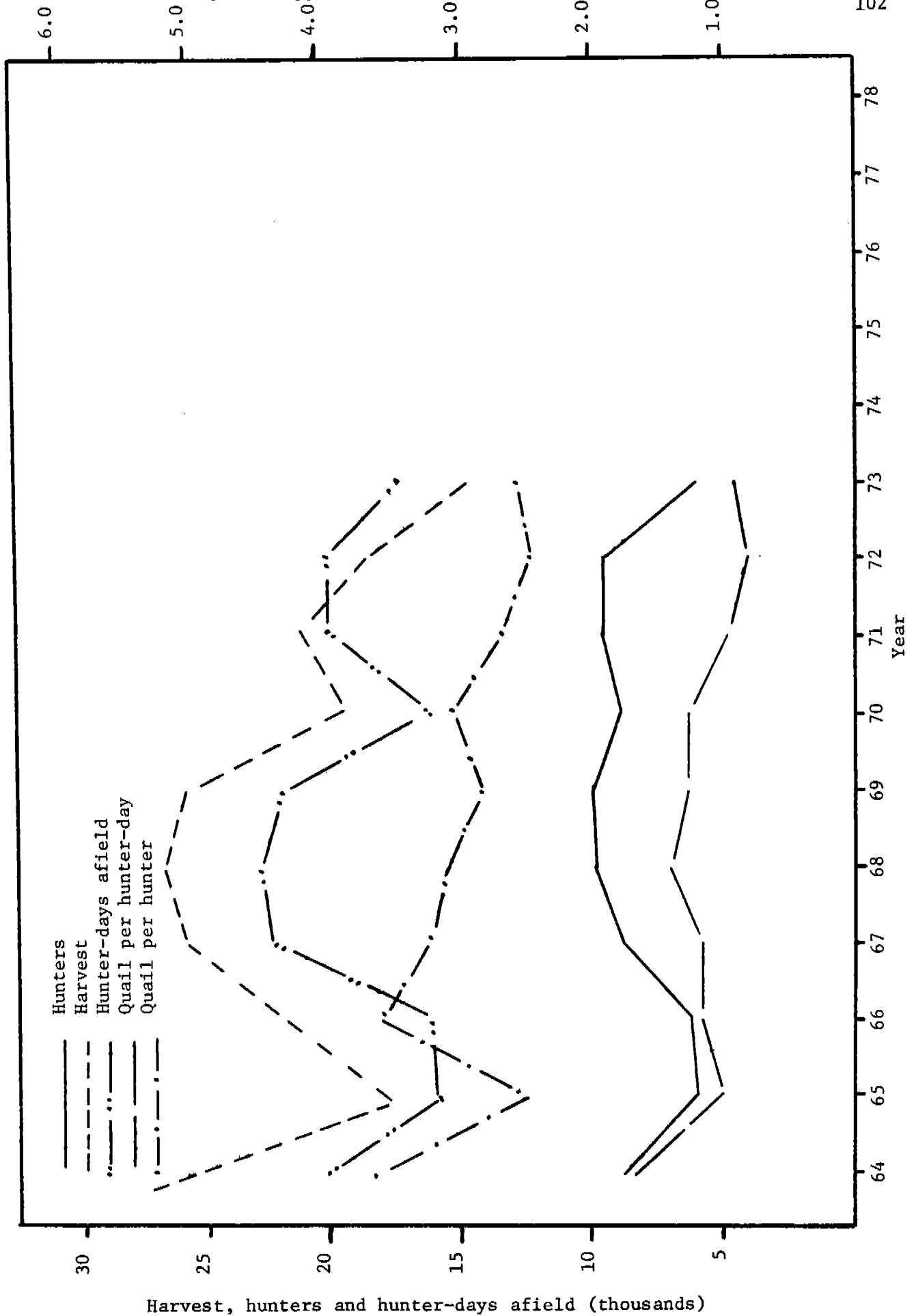


Figure 1. Statewide trend of quail harvest statistics.

Table 1. Quail summer inventory summary, 1973.

Region and County	Distinct Broods		Mixed Yng. & Adults		Adults w/o Yng.	Total Yng.	Total Adults	Total Yng. 100 Ad.	Vehicle Miles		Hours Effort		Birds/100 hrs.			
	No.	Ad.	Yng.	Brood Ad.					Yng.	Ad.	Yng.	Ad.		Horse	Walk	Total
Northern																
Box Elder	1	1	5	5.00	0	0	1	2	5	250	60	2	2	4	175	
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Morgan	2	4	16	8.00	0	0	4	16	400	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	0	0	0	--	2	2	2	4	2	50	20	4	0	2	6	100
REGIONAL TOTALS	3	5	21	7.00	2	2	3	10	23	230	80	6	0	4	10	330
Central																
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	2	4	15	7.50	2	5	3	9	20	222	75	5	0	2	7	414
Sanpete	5	5	28	5.60	8	12	10	23	40	174	89	12	0	0	12	525
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	14	28	103	7.36	15	32	13	56	135	241	100	16	0	0	16	1194
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	21	37	146	6.95	25	49	26	88	195	222	264	33	0	2	35	808
Southern																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	0	0	0	--	0	0	10	10	0	0	32	3	0	5	8	125
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	0	--	0	0	10	10	0	0	32	3	0	5	8	125
Northeastern																
Daggett	0	0	0	--	0	0	2	2	0	0	230	8	0	3	11	18
Duchesne	0	0	0	--	0	0	0	0	0	--	268	24	0	0	24	0
Uintah	2	2	14	7.00	0	0	0	2	14	700	40	3	0	0	3	533
REGIONAL TOTALS	2	2	14	7.00	0	0	2	4	14	350	538	35	0	3	38	47
Southeastern																
Carbon	2	3	16	8.00	0	0	0	3	16	533	0	0	0	0	0	0
Emery	--	--	--	--	--	--	--	--	--	--	25	15	0	2	17	0
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	2	3	16	8.00	0	0	0	3	16	533	25	15	0	2	17	112
STATE TOTALS	28	47	197	7.04	27	51	41	115	248	216	939	92	0	16	108	336

Table 2. Trend of quail young per 100 adults ratios 1964-73*

Region and County	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1964-72
Northern Region											
Box Elder	500	--	500	800	--	--	--	--	--	250	
Cache	0	--	--	--	--	--	--	--	--	--	
Davis	--	0	175	5	1500	400	--	314	--	--	
Morgan	500	50	256	141	153	94	329	300	575	400	
Rich	--	--	--	--	--	--	--	--	--	--	
Summit	--	383	--	267	--	450	--	--	--	--	
Weber	--	--	264	--	600	125	0	255	111	50	
Regional Totals	250	83	275	83	273	183	230	290	254	230	213
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	
Salt Lake	629	150	--	241	230	360	173	240	114	222	
Sanpete	467	350	464	262	625	327	476	440	500	174	
Tooele	--	--	--	--	--	--	--	--	--	--	
Utah	359	143	394	282	319	300	228	220	275	241	
Wasatch	--	--	--	--	--	--	--	--	--	--	
Regional Totals	392	158	414	264	306	337	198	267	143	222	275
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	
Iron	--	0	--	--	--	--	--	--	--	--	
*Kane	--	314	--	625	--	--	1075	160	--	--	
Millard	--	--	150	--	--	122	--	233	117	0	
Piute	--	--	--	333	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	
*Washington	146	114	290	215	323	138	48	320	57	--	
*Wayne	--	0	0	--	400	--	--	0	--	--	
Regional Totals	146	115	270	223	324	260	98	270	75	0	198
Northeastern Region											
Daggett	--	--	--	--	--	--	524	267	--	0	
Duchesne	140	156	100	171	183	54	0	--	--	--	
Uintah	147	153	378	133	200	138	218	217	165	700	
Regional Totals	146	154	288	141	194	123	301	243	165	350	195
Southeastern Region											
Carbon	--	--	233	220	200	114	283	125	--	533	
Emery	--	--	167	--	0	--	--	50	438	--	
Grand	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	1200	--	--	--	--	--	--	
Regional Totals	--	--	211	383	150	114	283	100	438	533	104
STATE TOTALS	261	148	303	202	302	229	200	255	171	216	230

*Washington, Kane and Wayne counties, Gambel's quail. All others California.

Table 3. Trend of quail mean brood size from 1964-73*.

Region and County	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1959-72
<u>Northern</u>											
Box Elder	5.00	--	10.00	8.00	--	--	--	--	--	5.00	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	15.00	8.20	11.00	--	--	--	--	--
Morgan	5.00	3.50	9.00	6.00	--	4.80	7.67	12.00	11.50	8.00	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	6.67	--	8.00	--	7.00	--	--	--	--	--
Weber	--	--	13.00	--	12.00	4.00	--	9.33	10.00	--	--
REGIONAL TOTALS	5.00	5.40	10.25	6.57	14.25	5.94	7.67	10.50	11.00	7.00	7.84
<u>Central</u>											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	8.80	--	--	9.00	6.67	11.42	8.61	7.00	8.00	7.50	--
Sanpete	7.00	7.00	9.29	6.30	7.50	6.00	5.67	5.70	5.40	5.60	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	8.09	8.24	8.38	6.80	8.24	8.75	7.85	7.43	7.17	7.36	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	8.14	8.00	8.65	6.86	7.91	9.67	7.98	6.50	7.18	6.95	7.65
<u>Southern</u>											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	8.00	--	--	--
Millard	--	--	12.00	--	--	4.00	--	8.00	7.00	--	--
Piute	--	--	--	4.00	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
*Washington	--	8.30	6.92	5.30	7.92	2.90	4.00	6.62	2.67	--	--
*Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	8.30	7.11	5.34	7.92	3.50	4.00	7.21	3.75	--	6.48
<u>Northeastern</u>											
Daggett	--	--	--	--	--	--	5.29	5.45	--	--	--
Duchesne	7.00	6.25	2.00	--	3.67	3.00	--	--	--	--	--
Uintah	7.09	9.67	9.80	6.25	4.80	6.00	5.43	5.33	5.92	7.00	--
REGIONAL TOTALS	7.08	7.71	8.50	6.25	4.38	5.50	5.32	5.41	5.92	7.00	6.30
<u>Southeastern</u>											
Carbon	7.50	--	7.00	3.67	3.00	4.67	--	--	--	8.00	--
Emery	--	--	--	--	--	--	--	2.00	9.86	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	7.50	--	--	--	--	--	--	2.00	9.86	8.00	7.71
STATE TOTALS	7.56	7.61	8.10	5.80	7.76	6.95	6.97	6.58	7.21	7.04	7.11

*Washington, Kane and Wayne counties Gambel's quail. All others California

Table 4. Trend of quail observed per 100 hours ratios, 1967-73*.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
Northern Region								
Box Elder	--	--	--	--	--	--	175	
Cache	0	0	--	--	--	--	--	
Davis	727	1200	1625	0	829	--	--	
Morgan	189	--	631	1200	400	1350	--	
Rich	--	--	--	--	--	--	--	
Summit	23	--	1100	--	--	--	--	
Weber	--	65	100	86	300	271	100	
Regional Totals	141	577	657	550	471	511	330	484
Central Region								
Juab	--	--	--	--	--	--	--	
Salt Lake	1400	248	3684	2637	1133	2706	414	
Sanpete	470	483	427	817	982	771	525	
Tooele	--	--	--	--	--	--	--	
Utah	2625	1351	2086	959	988	1071	1194	
Wasatch	--	--	--	--	--	--	--	
Regional Totals	1418	1330	2083	1704	1030	1873	808	1573
Southern Region								
Beaver	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	
Iron	66	--	--	--	--	--	--	
*Kane	264	--	0	2350	578	--	--	
Millard	--	--	1800	--	3000	118	125	
Piute	400	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	
*Washington	673	1600	322	316	600	122	--	
*Wayne	--	--	--	--	33	--	--	
Regional Totals	866	1600	2122	420	708	90	125	968
Northeastern Region								
Daggett	--	--	--	3017	1900	--	18	
Duchesne	43	45	170	29	0	--	0	
Uintah	525	514	1575	894	1120	1005	533	
Regional Totals	146	118	794	628	769	303	47	460
Southeastern Region								
Carbon	533	300	377	271	300	--	--	
Emery	--	--	--	--	83	1950	0	
Grand	--	--	--	--	--	--	--	
San Juan	1300	--	--	--	--	--	--	
Regional Totals	750	300	377	271	181	1950	112	106
STATE TOTALS	525	887	1049	939	728	664	336	799

*Washington, Kane and Wayne counties Gambel's quail. All others California.

Table 5. Summary of quail hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-day	Birds per Hunter*	% of Pressure	% of Harvest
Northern							
Box Elder	8	17	11	0.65	10.00	1.81	1.46
Cache	3	6	6	1.00	1.75	0.64	0.79
Davis	21	92	57	0.62	2.91	9.82	7.55
Morgan	15	43	29	0.67	4.14	4.59	3.84
Rich	0	0	0	0.00	0.00	0.00	0.00
Summit	8	20	16	0.80	1.50	2.13	2.12
Weber	23	72	23	0.32	0.93	7.68	3.05
REGIONAL TOTALS	78	250	142	0.57	2.22	26.68	18.81
Central							
Juab	2	3	0	0.00	0.00	0.32	0.00
Salt Lake	29	68	48	0.71	1.66	7.26	6.36
Sanpete	3	6	3	0.50	1.00	0.64	0.40
Tooele	6	9	3	0.33	0.00	0.96	0.40
Utah	96	283	219	0.77	2.39	30.20	29.01
Wasatch	3	4	10	2.50	2.67	0.43	1.32
REGIONAL TOTALS	139	373	283	0.76	2.06	39.81	37.48
Southern							
Beaver	0	0	0	0.00	5.00	0.00	0.00
Garfield	0	0	0	0.00	0.00	0.00	0.00
Iron	1	6	12	2.00	7.50	0.64	1.59
Kane	2	13	35	2.69	15.00	1.39	4.64
Millard	2	2	1	0.50	4.00	0.21	0.13
Piute	1	1	2	2.00	0.00	0.11	0.26
Sevier	4	6	3	0.50	1.25	0.64	0.40
Washington	32	99	146	1.47	4.44	10.57	19.34
Wayne	1	1	0	0.00	0.00	0.11	0.00
REGIONAL TOTALS	43	128	199	1.55	4.59	13.66	26.36
Northeastern							
Daggett	1	1	0	0.00	0.00	0.11	0.00
Duchesne	8	18	25	1.39	4.50	1.92	3.31
Uintah	13	51	40	0.78	3.40	5.44	5.30
REGIONAL TOTALS	22	70	65	0.93	3.47	7.47	8.61
Southeastern							
Carbon	16	58	47	0.81	3.07	6.19	6.23
Emery	4	12	7	0.58	5.00	1.28	0.93
Grand	1	1	0	0.00	0.00	0.11	0.00
San Juan	0	0	0	0.00	0.00	0.00	0.00
REGIONAL TOTALS	21	71	54	0.76	2.83	7.58	7.15
Unknown counties	8	45	12	0.27	2.00	4.80	1.59
Mixed counties	0	0	0	0.00	0.00	0.00	0.00
STATE TOTALS	311	937	755	0.81	2.53	100	100

*Based on county of residence.

Table 6. Summary of quail bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	0.67	0.96	0.36	0.89	1.04	0.33	0.45	1.12	0.65
Cache	0.00	0.82	0.53	0.22	0.57	0.20	0.40	0.05	1.00
Davis	0.74	0.62	0.40	0.81	0.60	0.97	0.53	0.98	0.62
Morgan	2.35	2.75	2.10	1.56	2.22	1.68	0.83	0.50	0.67
Rich	--	--	--	--	0.29	0.00	--	1.00	--
Summit	1.71	3.13	0.93	0.65	1.00	1.50	0.58	0.67	0.80
Weber	1.31	0.85	1.33	0.76	0.95	0.66	0.91	0.74	0.32
REGIONAL TOTALS	1.19	0.95	0.96	0.90	1.00	1.00	0.67	0.79	0.57
<u>Central</u>									
Juab	0.67	2.80	0.00	0.50	0.00	0.00	0.00	--	0.00
Salt Lake	1.19	0.71	1.06	1.09	0.77	1.05	0.88	1.14	0.71
Sanpete	--	0.67	0.82	0.22	0.50	2.00	0.38	0.17	0.50
Tooele	0.56	1.00	0.14	0.00	0.33	3.00	0.00	0.00	0.33
Utah	1.04	1.26	1.14	1.09	1.30	1.12	0.83	0.80	0.77
Wasatch	0.00	6.00	2.00	--	0.83	1.00	0.00	0.00	2.50
REGIONAL TOTALS	1.06	1.19	1.06	1.06	1.14	1.12	0.80	0.82	0.76
<u>Southern</u>									
Beaver	--	--	--	3.00	--	1.33	3.00	1.50	--
Garfield	1.00	--	--	4.00	1.50	0.00	--	--	--
Iron	2.00	0.50	1.50	4.00	1.17	0.50	1.20	1.00	2.00
Kane	--	1.00	5.86	3.33	0.75	5.67	2.86	--	2.69
Millard	0.93	0.20	1.14	0.50	0.44	0.45	0.14	0.30	0.50
Piute	0.00	--	2.00	0.67	2.60	0.00	--	--	2.00
Sevier	0.40	2.60	1.23	0.83	1.80	0.00	0.60	0.00	0.50
Washington	2.03	2.82	1.80	2.45	1.86	1.50	1.81	1.07	1.47
Wayne	2.00	3.50	0.00	2.67	0.75	0.00	8.00	2.00	0.00
REGIONAL TOTALS	1.51	2.43	1.86	2.31	1.62	1.33	1.82	1.01	1.55
<u>Northeastern</u>									
Daggett	--	--	--	--	--	0.00	--	0.00	0.00
Duchesne	2.00	0.69	0.50	0.40	1.00	1.00	1.38	2.25	1.39
Uintah	0.76	1.12	0.69	0.71	0.54	1.22	0.53	0.38	0.78
REGIONAL TOTALS	0.95	1.02	0.59	0.67	0.60	1.17	0.83	0.44	0.93
<u>Southeastern</u>									
Carbon	0.60	1.79	1.07	1.00	0.89	1.87	0.95	0.31	0.81
Emery	1.67	3.50	0.50	0.25	0.86	1.50	1.50	0.00	0.58
Grand	0.00	0.00	--	--	3.00	0.00	--	--	0.00
San Juan	--	--	--	--	1.00	0.00	--	--	--
REGIONAL TOTALS	0.65	1.84	1.00	0.86	0.98	1.77	1.00	0.25	0.76
Unknown counties	0.11	--	1.44	0.17	--	0.00	1.12	0.80	0.27
Mixed counties	0.65	--	0.37	3.67	--	0.00	--	--	--
STATE TOTALS	1.06	1.36	1.10	1.23	1.16	1.15	0.98	0.76	0.81

Table 8. Distribution of quail hunting pressure by region and county, 1965-73.

Region and County	1965	1966	1967*	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	3.23	3.81	2.16	2.51	2.20	0.37	1.09	2.49	1.81
Cache	1.35	1.90	1.64	1.62	2.56	0.62	1.49	1.98	0.64
Davis	6.74	7.94	12.24	10.95	12.82	9.61	11.19	8.42	9.82
Morgan	3.77	3.81	2.59	5.12	5.77	5.12	2.87	1.66	4.59
Rich	--	--	--	--	0.64	0.00	--	0.10	--
Summit	2.96	1.90	2.59	1.80	0.46	0.25	1.19	0.31	2.13
Weber	12.94	8.25	16.38	6.01	9.62	7.62	7.72	7.17	7.68
REGIONAL TOTALS	30.99	27.61	37.59	28.01	34.07	23.60	25.54	22.14	26.68
Central									
Juab	0.54	1.27	1.03	0.54	0.37	0.25	0.10	--	0.32
Salt Lake	14.56	12.38	7.07	8.53	8.61	7.99	7.23	9.04	7.26
Sanpete	--	0.95	0.95	0.81	0.37	0.12	1.29	2.49	0.64
Tooele	1.35	0.63	0.60	0.09	0.55	0.50	0.40	0.52	0.96
Utah	26.15	32.38	23.28	31.69	28.11	34.83	30.00	30.15	30.20
Wasatch	0.27	0.32	0.09	--	0.55	0.12	0.50	0.52	0.43
REGIONAL TOTALS	42.87	47.93	33.02	41.65	38.55	43.82	39.50	42.72	39.81
Southern									
Beaver	--	--	--	0.09	--	0.37	0.20	0.21	--
Garfield	0.27	--	--	0.09	0.18	0.00	--	--	--
Iron	0.81	0.63	0.69	0.18	0.55	2.25	0.50	0.21	0.64
Kane	--	0.32	0.60	0.27	0.73	0.37	0.69	--	1.39
Millard	1.35	1.59	0.60	1.08	2.29	1.37	0.69	1.04	0.21
Piute	0.27	--	0.09	0.27	0.46	0.00	--	--	0.11
Sevier	1.35	1.27	1.12	0.54	0.46	0.62	0.99	0.42	0.64
Washington	6.47	8.89	12.41	16.52	14.47	13.36	14.06	12.89	10.57
Wayne	0.27	0.63	0.17	0.27	0.37	0.00	0.30	0.21	0.11
REGIONAL TOTALS	10.79	13.33	15.69	19.30	19.51	18.35	17.43	14.97	13.66
Northeastern									
Daggett	--	--	--	--	--	0.00	--	0.10	0.11
Duchesne	1.08	1.59	2.93	0.45	0.46	2.00	2.08	0.42	1.92
Uintah	3.50	4.44	2.76	3.41	3.21	8.11	3.76	12.27	5.44
REGIONAL TOTALS	4.58	6.03	5.69	3.86	3.66	10.11	5.84	12.79	7.47
Southeastern									
Carbon	4.31	4.44	2.59	3.14	3.30	2.87	6.24	4.68	6.19
Emery	0.81	0.32	0.34	0.72	0.64	0.25	0.59	1.14	1.28
Grand	--	--	--	--	0.18	0.12	--	--	0.11
San Juan	--	--	--	--	0.09	0.00	--	--	--
REGIONAL TOTALS	5.39	5.08	2.93	3.86	4.21	3.25	6.83	5.82	7.58
Unknown counties	4.04	--	1.38	3.05	--	0.87	4.85	1.56	4.80
Mixed counties	1.35	--	3.71	0.27	--	0.00	--	--	--
STATE TOTALS	100	100	100	100	100	100	100	100	100

*Distribution of hunting pressure for 1967 and later based on hunter-days rather than number of hunters reporting.

Table 9. State-wide summary of quail harvest statistics, 1951-73.

Year	Total Hunters	Total harvest	Hunter days afield	Quail per hunter-day	Quail per hunter
1951	3,856	6,362	7,069	0.90	1.65
1952	2,694	6,105	5,500	1.11	2.27
1953	2,676	5,753	4,494	1.28	2.15
1954	3,855	7,479	8,696	0.86	1.94
1955	--	--	--	1.17	2.10
1956	--	--	--	--	2.26
1957	--	--	--	--	1.85
1958	--	--	--	--	3.73
1959	8,554	22,854	18,174	1.26	2.67
1960	7,117	21,272	13,971	1.52	2.99
1961	9,980	27,362	25,746	1.06	2.74
1962	6,462	18,710	14,660	1.27	2.89
1963	8,059	28,088	16,383	1.71	3.49
1964	8,951	31,189	20,510	1.52	3.48
1965	6,163	17,532	16,528	1.06	2.45
1966	6,465	22,771	16,720	1.36	3.52
1967	8,455	26,187	23,806	1.10	3.10
1968	9,302	28,469	23,132	1.23	3.06
1969	9,160	26,119	22,529	1.16	2.85
1970	6,141	18,896	16,452	1.15	3.08
1971	8,039	21,082	21,595	0.98	2.62
1972	7,380	16,504	21,779	0.76	2.24
1973	5,654	14,324	17,777	0.81	2.53
TOTALS (1959-73)	115,882	341,359	289,762	1.18	2.95
AVERAGES (1959-72)	7,873	23,360	19,428	1.22	2.94

Table 10. Gambel's quail call-count trends on the west slope of the Beaver Dam Mountains, Washington County, 1962-73.

Index	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Mean calls per station	2.71	1.67	0.68	--	9.2	1.23	6.08	--	0.08	1.57	0.36	0.06
Mean quail calling per station	0.41	0.22	0.15	--	1.10	0.33	1.16	--	0.08	0.37	0.11	0.03
Mean total calls-route	41.0	25.0	10.1	--	138.5	18.4	91.2	--	1.33	23.5	5.3	5.00
Mean total quail calling-route	7.0	3.3	2.3	--	17.0	5.0	17.4	--	1.33	5.5	1.7	0.40

Table 11. Gambel's quail long-period waterhole count trend on the west slope of the Beaver Dam Mountains, Washington County, 1962-73.

Index	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Total young	66	33	19	--	130	50	98	90	21	33	0	0
Total adults	142	45	13	--	40	30	24	40	45	8	0	0
Total quail	208	78	32	--	170	80	122	130	66	41	--	--
Young per 100 adults	46	73	146	--	325	167	408	225	47	412	--	--

Table 12. Trend of filaree plants per square foot on the west slope of the Beaver Dam Mountains, 1962-73.

Area	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Vern's Wash (B-1)	0.12	0.03	0.19	0.85	--	1.89	0.39	0.10	0.10	0.07	--	0.37
Reber Wash (B-2)	0.92	0.59	0.82	2.23	--	3.35	1.07	0.32	0.17	0.00	0.00	0.43
Brick Wash (A-1)	2.80	0.28	1.02	2.02	--	1.84	0.54	0.14	0.11	0.13	0.04	0.41
Gravel Canyon (A-2)	4.60	0.46	0.46	1.36	--	4.39	0.28	1.28	0.05	0.28	0.04	0.40
AVERAGE	2.11	0.34	0.62	1.62	--	2.87	0.57	0.46	0.11	0.14	0.03	0.40

HUNGARIAN PARTRIDGE

SUMMARY

Harvest statistics for 1972 indicated a decreased breeding population level for 1973. Additionally, some winter loss was reported in Box Elder County due to the relatively severe winter.

Sample sizes of brood data were too low to be very accurate but it seemed evident that production markedly improved. Probably a response to improved forage conditions. It was questionable whether production was sufficient to offset the low breeding population.

Total hunters and harvest decreased to the lowest level since the early 1960's. Hunter success statewide was less than 1972 but in the primary range was comparable to or better than 1972.

Daily bag and possession limits were reduced from 8 and 16 respectively to 5 and 10 for the 1973 season, probably stimulating decreased hunting pressure.



Brood Counts

Results of the annual random brood counts for 1973 are shown in Table 1 of this section. Long-term trends of young-adult ratios, mean brood size and Huns observed per 100 hours are shown in Tables 2-4. Results of this survey for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total Huns observed	176	-9	-55
Young per 100 adults	552	+30	+22
Mean brood size	9.75	-6	+6
Huns observed per 100 hours	100	-21	-64
Total hours effort	160	+14	+23

Harvest data for 1972 indicated a decreased breeding population level. Additionally, considering the relatively severe winter increase in winter mortality was probable.

Although total hours effort on brood counts increased slightly in 1973 the total Huns observed and number observed per 100 hours decreased. Indicated production, based on small sample, was well above both 1972 and the average. Because of the improved production, a fall population comparable to 1972 was expected.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1973 are shown in Table 5. Long-term trends of Huns bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 6-8 and total State-wide harvest statistics in Table 9. The 1973 season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Hungarian partridge hunters	3,566	-25	-19
Hungarian partridge harvest	6,014	-18	-41
Hunter-days afield	11,516	-5	+7
Huns per hunter	1.69	+10	-24
Huns per hunter-day	0.52	-13	-43

Total hunters decreased to the lowest level since 1962; consequently, total harvest was at the lowest level since 1961. Hunter success per day was down slightly from 1972 and well below average but success per hunter for the season increased over 1972 but was below average. It should be noted that hunter success in the primary range of Box Elder, Cache, Morgan and Wasatch counties was generally, except for Morgan, equal to or better than 1972.

Long-term trends of Hungarian partridge harvest statistics are shown in Figure 1 of this section.

Field Bag Checks

Results of this survey for 1973 are shown in Table 10. Hunter success trends determined via this method are shown in Table 11. Indexes obtained for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total hunters checked	101	-26	-54
Total hours hunted	476	-22	-54
Huns per hunter (complete hunts)	0.74	-1	+3
Huns bagged per 100 hours	12	-29	-20
Average hours per hunter-day (complete hunts)	5.4	+26	+10
Hours hunted per Hun bagged	7.4	+23	+9

Field bag check data was compiled primarily in Box Elder County and is indicative of hunter success only in that area. Fewer hunters were checked. Hunter success was similar to 1972. The average hunter spent more hours per day with more hours required to bag one Hun.

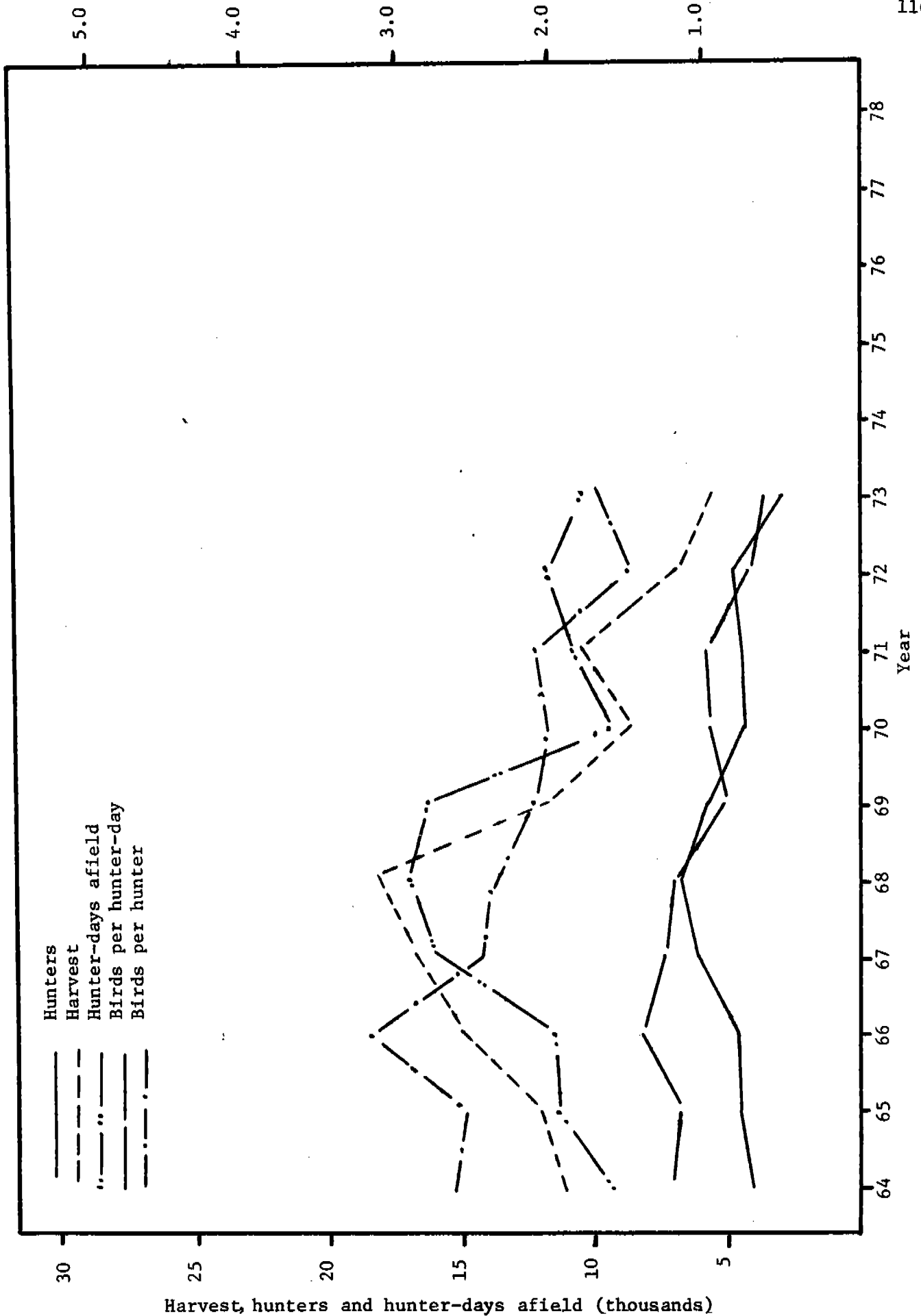


Figure 1. Statewide trend of Hungarian partridge harvest statistics.

Table 1. Hungarian partridge summer inventory summary, 1973.

Region and County	Distinct Broods		Mixed Yng. & Adults		Total Adults	Total Young	Total Young 100 Ad.	Vehicle Miles	Hours Effort		Birds/ 100 hrs.					
	No. Ad.	Yng.	Mean Brood Ad.	Yng. w/o Yng.					Veh.	Horse		Walk	Total			
<u>Northern</u>																
Box Elder	7	10	83	11.86	5	32	5	20	115	575	1,643	92	46	11	149	91
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	3	4	25	8.33	0	0	1	5	25	500	0	0	7	0	7	428
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	10	14	108	10.80	5	32	6	25	140	560	1,643	92	53	11	156	106
<u>Central</u>																
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	2	2	9	4.50	0	0	0	2	9	450	12	4	0	0	4	275
<u>REGIONAL TOTALS</u>	2	2	9	4.50	0	0	0	2	9	450	12	4	0	0	4	275
<u>Southern</u>																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>																
<u>Northeastern</u>																
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>																
<u>Southeastern</u>																
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>																
STATE TOTALS	12	16	117	9.75	5	32	6	27	149	552	1,655	96	53	11	160	110

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 2. Trend of Hungarian partridge young per 100 adults ratios, 1963-73.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	1000	828	326	510	447	400	325	306	524	379	575	
Cache	--	--	--	152	875	450	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	300	--	--	--	1400	--	500	
Rich	690	400	683	675	288	900	0	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	260	--	--	--	--	--	--	--	--	--	--	
Regional Totals	653	776	380	395	449	421	319	306	553	379	560	463
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	550	390	385	270	403	442	497	414	350	800	450	
Regional Totals	550	390	385	270	403	442	497	414	350	800	450	450
Southern Region												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
Regional Totals												
NOT APPLICABLE												
Northeastern Region												
Daggett												
Duchesne												
Uintah												
Regional Totals												
NOT APPLICABLE												
Southeastern Region												
Carbon												
Emery												
Grand												
San Juan												
Regional Totals												
NOT APPLICABLE												
STATE TOTALS	642	710	382	370	435	430	325	319	495	424	552	453

Table 3. Trend of Hungarian partridge mean brood size from 1963-73.

Region and County	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Averages 1963-72
Northern Region												
Box Elder	10.00	13.69	6.53	11.06	8.60	7.00	5.75	11.82	7.82	11.50	11.86	
Cache	--	--	7.00	11.67	9.00	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	14.00	--	--	--	8.33	
Rich	9.60	8.00	13.66	13.50	7.67	9.00	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
Regional Totals	9.25	13.10	7.60	10.44	8.77	7.24	5.75	11.58	8.16	11.50	10.80	9.34
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	7.80	7.70	6.57	10.00	9.00	9.94	7.25	--	8.00	4.50	
Regional Totals	--	7.80	7.70	6.57	10.00	9.00	9.94	7.25	--	8.00	4.50	8.28
Southern Region												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
Regional Totals												
Northeastern Region												
Daggett												
Duchesne												
Uintah												
Regional Totals												
Southeastern Region												
Carbon												
Emery												
Grand												
San Juan												
Regional Totals												
STATE TOTALS	9.25	12.32	7.63	9.59	9.07	7.93	6.87	10.50	8.16	10.33	9.75	9.16

Table 4. Trend of Hungarian partridge observed per 100 hours, 1967-73.

Region and County	1967	1968	1969	1970	1971	1972	1973	Average 1967-72
Northern Region								
Box Elder	256	261	416	210	213	133	91	
Cache	175	209	0	--	--	--	--	
Davis	--	--	--	--	--	--	--	
Morgan	73	--	--	--	--	--	428	
Rich	238	333	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	
Regional Totals	235	261	385	210	213	133	106	240
Central Region								
Juab	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	
Wasatch	777	1193	1415	720	300	450	275	
Regional Totals	777	1193	1415	720	300	171	275	763
Southern Region								
Beaver								
Garfield								
Iron								
Kane								
Millard								
Piute								
Sevier								
Washington								
Wayne								
Regional Totals								
Northeastern Region								
Daggett								
Duchesne								
Uintah								
Regional Totals								
Southeastern Region								
Carbon								
Emery								
Grand								
San Juan								
Regional Totals								
STATE TOTALS	292	383	508	249	243	139	140	302

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Birds Bagged	Birds per Hunter-day	Birds per Hunter*	% of Pressure	% of Harvest
<u>Northern</u>							
Box Elder	82	220	118	0.54	1.74	36.24	37.22
Cache	31	67	61	0.91	2.00	11.04	19.24
Davis	4	17	2	0.12	1.16	2.80	0.63
Morgan	14	65	38	0.58	3.87	10.71	11.99
Rich	3	4	5	1.25	3.00	0.66	1.58
Summit	9	41	14	0.34	1.50	6.75	4.42
Weber	6	9	3	0.33	1.15	1.48	0.95
REGIONAL TOTALS	149	423	241	0.57	1.68	69.69	76.03
<u>Central</u>							
Juab	2	5	7	1.40	0.00	0.82	2.21
Salt Lake	6	43	8	0.19	1.19	7.08	2.52
Sanpete	1	1	2	2.00	0.00	0.16	0.63
Tooele	4	10	6	0.60	2.67	1.65	1.89
Utah	8	13	5	0.38	1.50	2.14	1.58
Wasatch	11	58	46	0.79	5.29	9.56	14.51
REGIONAL TOTALS	32	130	74	0.57	1.92	21.42	23.34
<u>Southern</u>							
Beaver	0	0	0	0.00	0.00	0.00	0.00
Garfield	0	0	0	0.00	0.00	0.00	0.00
Iron	0	0	0	0.00	0.00	0.00	0.00
Kane	0	0	0	0.00	0.00	0.00	0.00
Millard	1	17	0	0.00	0.00	2.80	0.00
Piute	0	0	0	0.00	0.00	0.00	0.00
Sevier	1	1	1	1.00	1.00	0.16	0.32
Washington	0	0	0	0.00	0.00	0.00	0.00
Wayne	0	0	0	0.00	0.00	0.00	0.00
REGIONAL TOTALS	2	18	1	0.06	1.00	2.97	0.32
<u>Northeastern</u>							
Daggett	1	1	0	0.00	0.00	0.16	0.00
Duchesne	1	1	1	1.00	0.00	0.16	0.32
Uintah	1	3	0	0.00	0.00	0.49	0.00
REGIONAL TOTALS	3	5	1	0.20	0.00	0.82	0.32
<u>Southeastern</u>							
Carbon	2	6	0	0.00	0.25	0.99	0.00
Emery	1	1	0	0.00	0.00	0.16	0.00
Grand	1	1	0	0.00	0.00	0.16	0.00
San Juan	1	1	0	0.00	0.00	0.16	0.00
REGIONAL TOTALS	5	9	0	0.00	0.17	1.48	0.00
Unknown counties	4	21	0	0.00	0.00	3.46	0.00
Mixed counties	1	1	0	0.00	0.00	0.16	0.00
STATE TOTALS	196	607	317	0.52	1.69	100	100

*Based on county of residence.

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1965-73.

Region and County	1965	1966	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>									
Box Elder	1.32	1.65	1.45	1.04	0.81	0.87	0.94	0.56	0.54
Cache	0.77	1.14	0.65	1.23	0.71	1.14	0.87	0.70	0.91
Davis	--	0.00	0.50	1.81	0.92	0.09	0.50	1.33	0.12
Morgan	--	1.00	0.00	0.96	0.68	1.00	1.24	1.14	0.58
Rich	3.22	--	1.43	0.40	0.00	0.57	1.33	0.43	1.25
Summit	0.00	0.00	0.16	0.40	2.56	0.00	1.50	0.50	0.34
Weber	0.33	0.46	0.88	1.09	0.58	0.31	0.75	0.78	0.33
REGIONAL TOTALS	1.14	1.42	1.16	1.07	0.78	0.87	0.94	0.65	0.57
<u>Central</u>									
Juab	--	2.00	0.00	3.00	0.00	0.57	0.00	0.00	1.40
Salt Lake	0.25	0.00	0.17	0.23	0.85	0.50	0.50	0.00	0.19
Sanpete	0.00	--	--	--	2.27	0.67	--	1.00	2.00
Tooele	0.00	0.20	0.41	0.00	0.62	0.81	0.20	0.17	0.06
Utah	0.37	0.23	0.25	0.57	0.22	0.56	0.17	0.15	0.38
Wasatch	1.23	0.24	1.74	1.00	0.29	1.03	0.71	0.44	0.79
REGIONAL TOTALS	0.71	0.26	0.76	0.85	0.70	0.77	0.54	0.33	0.57
<u>Southern</u>									
Beaver	--	--	--	--	--	--	--	--	0.00
Garfield	--	--	--	--	--	--	--	--	0.00
Iron	--	--	--	--	--	--	--	--	0.00
Kane	--	0.00	--	--	--	--	--	--	0.00
Millard	--	--	0.00	--	--	--	--	--	0.00
Piute	--	--	--	0.00	--	1.00	--	--	0.00
Sevier	0.00	2.00	0.00	0.00	--	--	0.60	--	1.00
Washington	--	--	0.00	0.00	--	--	1.00	--	0.00
Wayne	--	--	--	--	--	--	--	--	0.00
REGIONAL TOTALS	0.00	0.67	0.00	0.00	--	1.00	0.64	--	0.06
<u>Northeastern</u>									
Daggett	--	--	--	--	0.00	0.00	--	1.00	0.00
Duchesne	0.00	1.67	0.00	1.67	2.00	--	3.00	--	1.00
Uintah	--	--	0.25	0.00	0.00	0.00	--	0.00	0.00
REGIONAL TOTALS	0.00	1.67	0.20	1.25	0.75	0.00	3.00	0.20	0.20
<u>Southeastern</u>									
Carbon	--	--	0.00	--	1.50	1.00	0.00	0.33	0.00
Emery	--	--	--	--	--	0.00	--	--	0.00
Grand	--	--	--	--	--	1.67	--	--	0.00
San Juan	--	--	--	--	2.00	--	--	--	0.00
REGIONAL TOTALS	--	--	0.00	--	1.67	0.86	0.00	0.33	0.00
Unknown counties	0.39	--	1.12	0.82	--	0.00	1.17	1.46	0.00
Mixed counties	1.13	--	0.20	--	--	--	--	0.00	0.00
STATE TOTALS	1.03	1.34	1.06	1.02	0.77	0.84	0.85	0.60	0.52

Table 8. Distribution of Hungarian partridge hunting pressure by region and county, 1965-73.

Region and County	1965	1966	1967*	1968	1969	1970	1971	1972	1973
Northern									
Box Elder	56.65	58.45	53.13	50.93	50.27	39.96	50.49	51.68	36.24
Cache	18.45	24.20	16.30	15.94	8.64	23.85	10.68	11.75	11.04
Davis	--	1.37	1.63	2.62	1.73	2.30	0.39	1.12	2.80
Morgan	--	0.91	1.63	2.86	8.78	1.26	3.30	5.41	10.71
Rich	1.29	--	1.90	1.25	0.27	1.46	1.17	1.31	0.66
Summit	0.43	0.46	3.40	2.49	1.20	1.05	0.78	0.75	6.75
Weber	6.44	3.65	3.26	4.11	10.77	6.69	5.44	6.72	1.48
REGIONAL TOTALS	83.26	89.04	81.25	80.20	81.65	76.57	72.23	78.73	69.69
Central									
Juab	--	0.46	0.27	0.25	0.66	1.46	0.19	0.37	0.82
Salt Lake	0.43	0.91	2.45	1.62	1.73	1.67	1.17	1.12	7.08
Sanpete	0.43	--	--	--	2.93	0.63	--	0.37	0.16
Tooele	2.15	1.83	2.31	0.25	1.73	4.39	1.94	1.12	1.65
Utah	2.58	2.74	2.17	2.62	2.39	5.65	4.66	3.73	2.14
Wasatch	5.58	3.20	3.67	9.09	7.45	7.11	14.17	9.70	9.56
REGIONAL TOTALS	11.17	9.14	10.87	13.82	16.89	20.92	22.14	16.42	21.42
Southern									
Beaver	--	--	--	--	--	--	--	--	0.00
Garfield	--	--	--	--	--	--	--	--	0.00
Iron	--	--	--	--	--	--	--	--	0.00
Kane	--	0.46	--	--	--	--	--	--	0.00
Millard	--	--	0.27	--	--	--	--	--	2.80
Piute	--	--	--	0.12	--	0.21	--	--	0.00
Sevier	0.43	0.46	0.14	0.12	--	--	1.94	0.56	0.16
Washington	--	--	0.95	0.25	--	--	0.19	--	0.00
Wayne	--	--	--	--	--	--	--	0.19	0.00
REGIONAL TOTALS	0.43	0.92	1.36	0.50	0.00	0.21	2.13	0.75	2.97
Northeastern									
Daggett	--	--	--	--	0.40	0.21	--	0.19	0.16
Duchesne	0.86	0.91	0.41	0.37	0.40	--	0.58	--	0.16
Uintah	--	--	1.63	0.12	0.27	0.21	--	0.75	0.49
REGIONAL TOTALS	0.86	0.91	2.04	0.50	1.06	0.42	0.58	0.93	0.82
Southeastern									
Carbon	--	--	0.14	--	0.27	0.21	0.58	0.56	0.99
Emery	--	--	--	--	--	0.63	--	--	0.16
Grand	--	--	--	--	--	0.63	--	--	0.16
San Juan	--	--	--	--	0.13	--	--	--	0.16
REGIONAL TOTALS	0.00	0.00	0.14	0.00	0.40	1.46	0.58	0.56	1.48
Unknown counties	2.58	--	2.31	4.98	--	0.42	2.33	2.43	3.46
Mixed counties	1.72	--	2.04	--	--	0.00	--	0.19	0.16
STATE TOTALS	100	100	100	100	100	100	100	100	100

*Distribution of hunting pressure for 1967 and later based on hunter-days rather than number of hunters reporting.

Table 9. State-wide summary of Hungarian partridge harvest statistics, 1955-73.

Year	Total Hunters	Total Harvest	Hunter Days Afield	Huns Per Hunter-Day	Huns Per Hunter
1955	--	--	--	--	0.39
1956	--	--	--	--	0.89
1957	--	--	--	--	0.45
1958	--	--	--	--	1.34
1959	1,846	1,820	3,354	0.54	0.99
1960	2,847	4,877	4,929	0.99	1.71
1961	3,205	3,648	6,645	0.54	1.13
1962	3,440	8,970	9,153	0.98	2.61
1963	4,676	13,343	13,291	1.00	2.85
1964	4,249	11,812	9,688	1.22	2.78
1965	4,498	12,183	11,798	1.03	2.71
1966	4,549	15,348	11,473	1.34	3.37
1967	6,321	16,049	15,105	1.06	2.54
1968	6,935	17,089	16,674	1.02	2.46
1969	5,591	11,966	15,515	0.77	2.14
1970	4,128	8,236	9,818	0.84	2.00
1971	4,276	9,407	11,011	0.85	2.20
1972	4,754	7,335	12,135	0.60	1.54
1973	3,566	6,014	11,516	0.52	1.69
<hr/>					
TOTALS (1955-73)	64,881	148,097	162,105	0.91	2.28
<hr/>					
AVERAGE (1959-72)	4,380	10,149	10,756	0.91	2.22

Table 10. Hungarian partridge field bag check summary, 1973.

Region and County	ALL HUNTS				COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Birds/100 hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds/100 hrs.	Birds/Hunter
<u>Northern</u>									
Box Elder	34	86	420	52	12	12	49	14	0.78
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	3	13	54	3	6	1	11	11	0.33
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	37	99	474	55	12	28	366	50	0.76
<u>Central</u>									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	1	2	2	0	0	1	2	0	0.00
<u>REGIONAL TOTALS</u>	1	2	2	0	0	1	2	0	0.00
<u>Southern</u>									
Beaver									
Garfield									
Iron									
Kane									
Millard									
Plute									
Sevier									
Washington									
Wayne									
<u>REGIONAL TOTALS</u>									
<u>Northeastern</u>									
Daggett									
Duchesne									
Uintah									
<u>REGIONAL TOTALS</u>									
<u>Southeastern</u>									
Carbon									
Emery									
Grand									
San Juan									
<u>REGIONAL TOTALS</u>									
<u>STATE TOTALS</u>	38	101	476	55	12	29	368	50	0.74

Table 11. Hungarian partridge hunter success trend determined by field bag checks, 1968-73.

Region and County	1968		1969		1970		1971		1972		1973	
	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter	Birds/ 100 hrs. Hunter
<u>Northern</u>												
Box Elder	14	0.59	14	0.69	11	0.69	13	0.80	16	0.78	12	0.78
Cache	33	1.26	21	0.66	--	--	57	1.00	15	0.42	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	50	0.50	--	--	--	--	--	--
Rich	31	0.83	25	0.25	--	--	77	0.91	--	--	6	0.33
Summit	--	--	--	--	--	--	--	--	133	1.33	--	--
Weber	12	0.67	--	--	15	0.80	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	17	0.69	15	0.68	11	0.69	15	0.81	17	0.75	12	0.76
<u>Central</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	100	2.00	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	20	--	--	--	--	--	--	--	--	--
Wasatch	25	0.94	15	0.36	15	0.35	--	--	--	--	0	0.00
<u>REGIONAL TOTALS</u>	25	0.94	15	0.36	15	0.35	100	2.00	--	--	0	0.00
<u>Southern</u>												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
<u>REGIONAL TOTALS</u>												
<u>Northeastern</u>												
Daggett												
Duchesne												
Uintah												
<u>REGIONAL TOTALS</u>												
<u>Southeastern</u>												
Carbon												
Emery												
Grand												
San Juan												
<u>REGIONAL TOTALS</u>												
STATE TOTALS	17	0.71	15	0.66	11	0.68	15	0.82	17	0.75	12	0.74

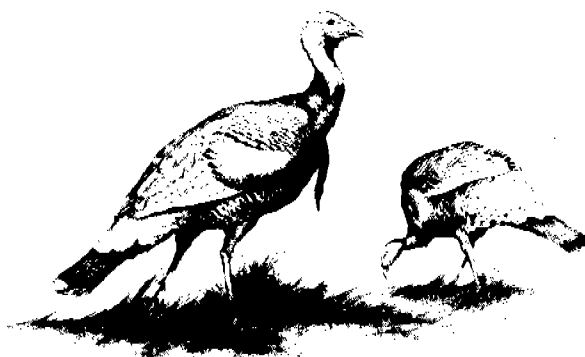
WILD TURKEY

SUMMARY

Harvest data for 1972 indicated poor reproduction in 1972 and a decreased breeding population in 1973. Extremely severe winter weather in the winter of 1972-73 probably further depressed the breeding population level. It is probable the production in 1973 was also low because of the late spring.

Spring turkey hunters were fewer in number than in 1972 because of weather related poor access and low hunter success in the fall of 1972. Hunters generally had difficulty getting to turkey areas and consequently no turkeys were bagged. Turkey observations were well below previous years as well.

No hunting season was held in the fall of 1973.



Brood Counts

Annual random brood counts have been conducted each year since the introduction of turkeys into Utah in the early 1950's; however, success in finding broods has usually been poor. Sample sizes have generally been too low to meaningfully indicate relative density or production from year to year. During 1973 there were no turkey observations reported.

Harvest

Spring Gobbler Seasons

Results of the 1973 spring season are shown in Table 1 of this section. The trend of these data since the first season in 1967 is shown in Table 2. The 1973 spring season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Permits sold	150	-47	-34
Hunters afield	135	-50	-38
Turkeys harvested	0	-100	-100
Hunter-days afield	311	-59	-44
Percent hunter success	0	-100	-100
Turkeys bagged per hunter-day	0.00	-100	-100
Percent of hunters who observed turkeys	10	-74	-75
Total turkeys reported observed	55	-81	-80
Crippling loss (loss:100 bagged)	0	-100	-100

Fall harvest statistics for 1972 reflected apparent poor reproduction in 1972 and indicated a decreased breeding population for 1973. Extremely severe winter weather during the winter of 1972-73 persisted until late spring. During the spring turkey season hunter access to turkey habitat was poor. This, in combination with the poor success of the previous fall, discouraged hunters and resulted in a 50 percent reduction in hunters afield and 59 percent fewer hunter-days. It also resulted in no turkeys harvested. The most common complaint received from hunters on the questionnaire was poor access.

Fall Seasons

No wild turkey hunting season was held in 1973. Harvest trends for prior years are shown in Tables 3-8.

The closed season was based on low population levels in most hunting areas. Low populations were the result of extreme weather conditions and attendant poor reproduction during 1972 and 1973.

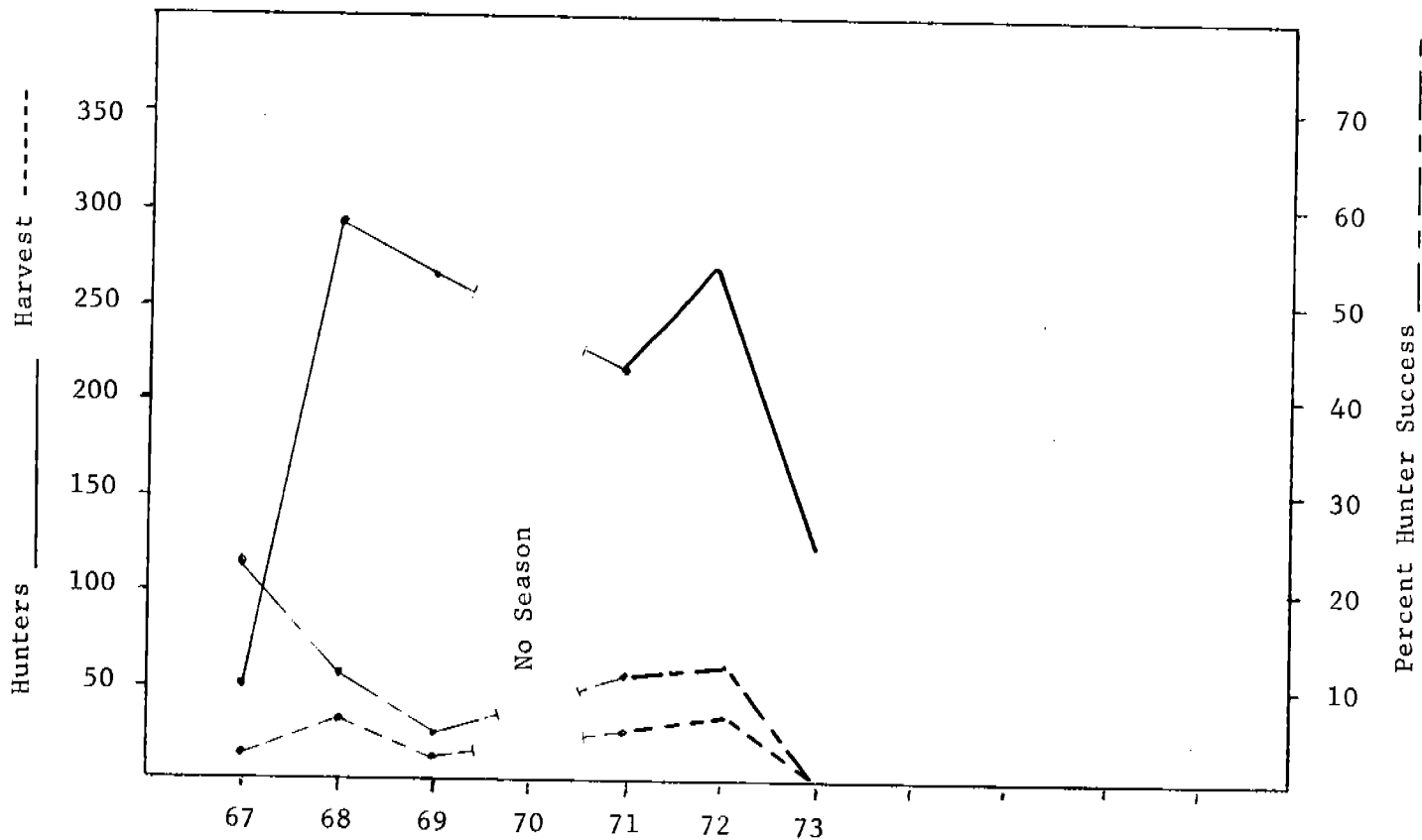


Figure 1. Wild turkey gobbler harvest trends for spring seasons.

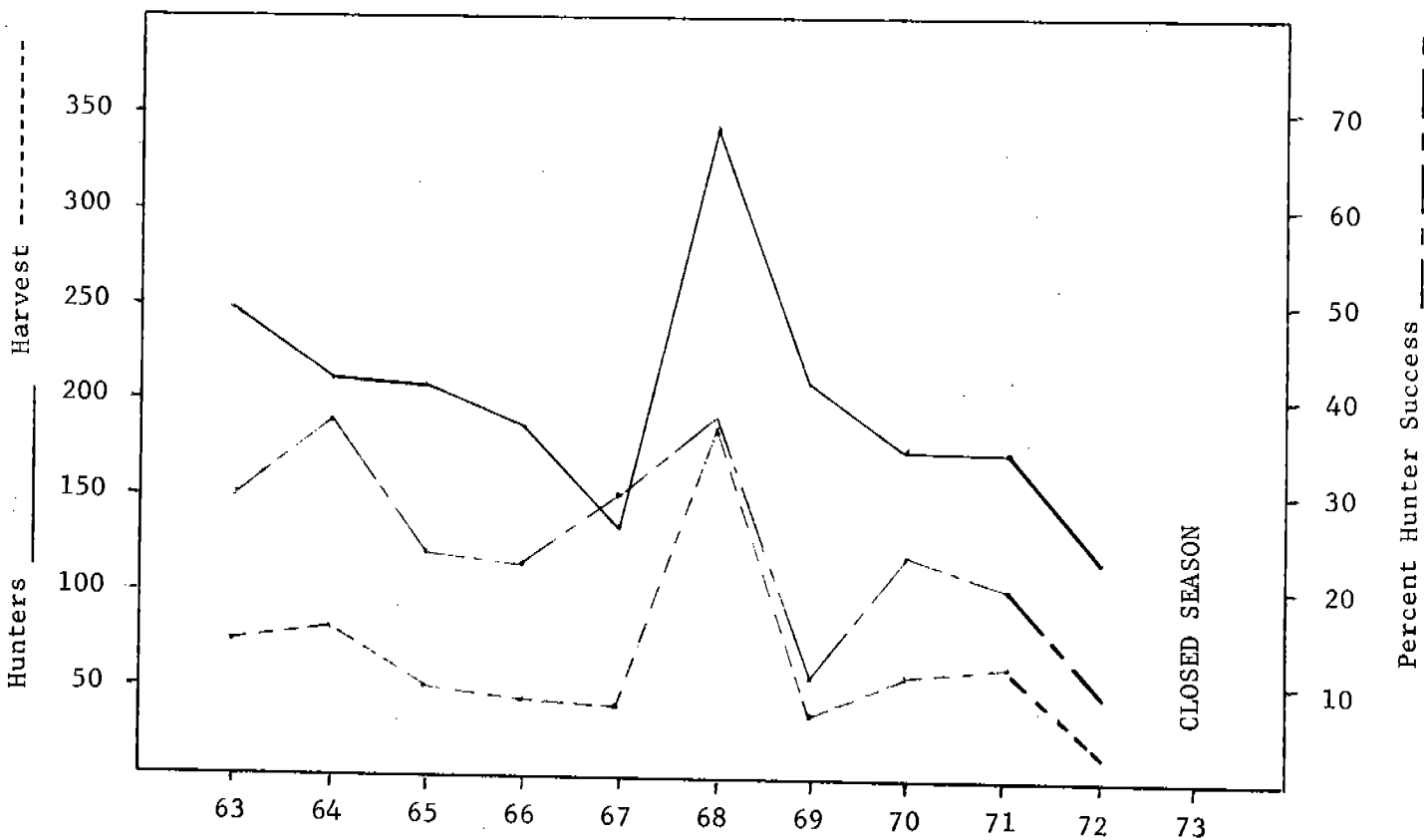


Figure 2. Wild turkey harvest trends for fall seasons.

Table 1. Summary of the 1973 spring turkey season.

DATA	EAST ZION		BOULDER		LA SAL		BEAVER		PINE VALLEY		MIXED UNITS		STATE TOTALS	
	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc
Permits sold	--	--	--	--	--	--	--	--	--	--	--	--	150	--
No hunts	--	--	--	--	--	--	--	--	--	--	--	--	12	--
Hunters afield	35	43	18	22	19	23	14	17	14	17	10	12	110	135
Hunter days	78	96	42	52	43	53	28	34	31	38	31	38	253	311
Turkeys bagged	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Percent success* (1 or more turkeys)	0	--	0	--	0	--	0	--	0	--	0	--	0	--
No. hunters bagging two turkeys	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Percent bagging two turkeys	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Turkeys bagged per hunter day	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Reported crippling loss (loss/100 bagged)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Turkeys observed	28	--	1	--	24	--	1	--	1	--	0	--	55	--
Gobblers	7	--	0	--	1	--	0	--	0	--	0	--	8	--
Hens	6	--	0	--	3	--	0	--	0	--	0	--	9	--
Unidentified	15	--	1	--	20	--	1	--	1	--	0	--	38	--
Number of hunters who saw turkeys	5	--	1	--	3	--	1	--	1	--	0	--	11	--
Percent of hunters who saw turkeys	14	--	6	--	16	--	7	--	7	--	0	--	10	--

Projection factor 1.2295 (150 ÷ 122)

*Based on number of hunters who bagged one or more turkeys, not total turkeys.

Table 2. Summary of turkey harvest statistics for spring gobbler seasons, 1967-73.

Hunting Unit and Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day	Percent of Hunters Observing Turkeys	Total Permits**
	Afield			Afield					
1967	24	9	59	38	0.15	58			
1968	130	16	364	11	0.04	48			
1969	77	4	210	6	0.02	35			
1970		NO SEASON							
1971	106	14	272	12	0.05	38			
1972	113	20	321	14	0.06	47			
1973	43	0	96	0	0.00	14			
<hr/>									
1967	17	2	43	12	0.05	75			
1968	134	15	330	10	0.05	33			
1969	141	6	300	4	0.02	16			
1970		NO SEASON							
1971	27	1	64	4	0.02	13			
1972	42	3	107	8	0.03	28			
1973	22	0	52	0	0.00	6			
<hr/>									
1967	6	0	16	0	0.00	33			
1968	17	0	44	0	0.00	62			
1969	39	3	102	9	0.03	24			
1970		NO SEASON							
1971	17	1	34	6	0.03	20			
1972	50	3	129	7	0.03	29			
1973	23	0	53	0	0.00	16			
<hr/>									
1971	27	2	54	8	0.04	39			
1972	17	2	53	13	0.04	20			
1973	17	0	34	0	0.00	7			
<hr/>									
1971	23	4	92	15	0.04	70			
1972	22	1	52	5	0.02	42			
1973	17	0	38	0	0.00	7			

Table 2. Continued

Hunting Unit and Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing Turkeys	Total Permits**
	Afield			Afield	By Unit		By Unit			
1967	2				0			0		
1968	9				12			12		
1969	10				0			11		
1970		NO SEASON								
1971	15		4		15			61		
1972	25		5	89	18		0.05	50		
1973	12		0	38	0		0.00	0		
1967	49		11	118	22		0.09	59		52
1968	290		31	738	11		0.04	41		310
1969	267		13	612	5		0.02	22		276
1970		NO SEASON								NO SEASON
1971	215		26	576	11		0.04	38		223
1972	269		35	751	12		0.05	39		285
1973	135		0	311	0		0.00	10		150
STATE AVERAGES (1967-72)	218		23	559	12		0.05	40		229

*Based on the number of hunters bagging one or more turkeys.

**Total permits are sold on a state basis and not by unit.

Table 3. Summary of Boulder Mountain wild turkey harvest data for fall hunts from 1966-73*.

Harvest Data	1966	1967	1968	1969	1970	1971	1972	1973	
Hunters afield	50	22	77	45	24	20	7		
Hunter-days	132	71	195	103	77	46	17		
Turkeys bagged	11	4	37	0	2	0	0		
Percent success**	22	20	32	0	8	0	0		
Percent bagging two turkeys	--	--	13	0	0	0	0		
Birds bagged/day	0.08	0.06	0.19	0.00	0.03	0.00	0.00		
Reported crippling loss (loss:100 bagged)	9	25	18	--	0	0	0		
Turkeys observed	260	55	436	0	16	0	0		
No. hunters who observed turkeys	22	8	27	0	2	0	0		
Percent of hunters who observed turkeys	44	40	38	0	10	0	0		

CLOSED SEASON

*Data for 1964 and later years via mailed questionnaires.

**Season bag limits after 1968 were two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 4. Summary of East Zion wild turkey harvest data for fall hunts from 1966-73*.

Harvest Data	1966	1967	1968	1969	1970	1971	1972	1973	
Hunters afield	111	113	218	137	87	90	59		
Hunter-days	266	334	569	374	203	229	154		
Turkeys bagged	31	36	127	35	43	39	10		
Percent success**	28	32	40	16	32	27	12		
Percent bagging two turkeys	--	--	19	10	16	16	4		
Birds bagged/day	0.12	0.11	0.22	0.9	0.21	0.17	0.06		
Reported crippling loss (loss:100 bagged)	6	15	15	19	5	6	12		
Turkeys observed	476	693	1661	426	469	264	96		
No. hunters who observed turkeys	43	51	122	30	30	23	11		
Percent of hunters who observed turkeys	39	50	60	25	40	31	22		

C L O S E D S E A S O N

*Data for 1964 and later via mailed questionnaires.

**Season bag limits after 1968 were two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 5. Summary of LaSal Mountain wild turkey harvest data for fall hunts from 1966-73*.

Harvest Data	1966	1967	1968	1969	1970	1971	1972	1973
Hunters afield			45	17	18	13	31	
Hunter-days			119	51	30	27	70	
Turkeys bagged			19	1	3	5	2	
Percent success**			43	7	11	18	4	
Percent bagging two turkeys			0	0	6	18	4	
Birds bagged/day			0.16	0.02	0.10	0.18	0.02	
Reported crippling loss (loss:100 bagged)			11	0	0	0	0	
Turkeys observed			214	40	15	25	63	
No. hunters who observed turkeys			21	1	3	3	7	
Percent of hunters who observed turkeys			50	7	20	27	27	

*Data for 1964 and later via mailed questionnaires.

**Season bag limits after 1969 were two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 6. Summary of Beaver Mountain wild turkey harvest data for the fall hunt, 1973.

Harvest Data	1970*	1971	1972	1973
Hunters afield	30	13	6	
Hunter-days	87	24	12	
Turkeys bagged	7	5	0	
Percent success	15	18	0	
Percent bagging two turkeys	8	18	0	
Birds bagged/day	0.08	0.20	0	
Reported crippling loss(loss:100 bagged)	0	0	0	
Turkeys observed	48	64	11	
No. hunters who observed turkeys	8	5	2	
Percent of hunters who observed turkeys	31	46	40	

CLOSED SEASON

*Wild turkeys were transplanted onto the Beaver Mountain during the winter of 1967-68. The first hunting season was held in 1970.

Table 7. Summary of Pine Valley Mountain wild turkey harvest data for the fall hunt, 1973.

Harvest Data	1970*	1971	1972	1973
Hunters afield	6	32	11	
Hunter-days	21	87	19	
Turkeys bagged	3	11	0	
Percent success	50	23	0	
Percent bagging two turkeys	0	12	0	
Birds bagged/day	0.14	0.13	0	
Reported crippling loss (loss:100 bagged)	33	22	0	
Turkeys observed	16	98	0	
No. hunters who observed turkeys	4	9	0	
Percent of hunters who observed turkeys	80	35	0	

CLOSED SEASON

*Wild turkeys were transplanted onto the Pine Valley Mountain during the winter of 1967-68. The first hunting season was held in 1970.

Table 9. State-wide summary of wild turkey harvest data for fall hunts from 1963 through 1973*.

Harvest Data	1963	1964	1965	1966**	1967	1968**	1969	1970	1971	1972	1973	Averages (1963-72)
Permits sold	297	229	214	192	146	368	223	197	184	124		217
Hunters afield	248	211	207	187	135	344	210	174	174	118		201
Hunter-days	--	362	406	471	405	883	549	418	444	303		471
Turkeys bagged	75	81	50	43	40	183	36	58	60	12		64
Percent success***	30	38	24	23	30	38	11	24	21	7		25
Percent bagging two turkeys	--	--	--	--	--	15	6	10	13	3		9
Birds bagged/day	--	0.22	0.12	0.09	0.10	0.21	0.06	0.14	0.14	0.04		0.12
Reported crippling loss (loss:100 bagged)	15	15	8	7	16	15	19	6	8	10		12
Turkeys observed	--	1158	730	756	748	2321	466	564	451	173		819
No. hunters who observed turkeys	118	127	61	68	59	171	31	47	40	21		74
Percent of hunters who observed turkeys	48	60	29	36	48	54	17	31	28	21		37

*Data for 1963 collected by hunter checking stations, for 1964 and later via mailed questionnaire.

**During 1966, 1968 and later years some hunters hunted more than one area or failed to designate areas hunted. This accounts for the difference between totals given above and combined tables of separate units in Tables 5, 6, and 7.

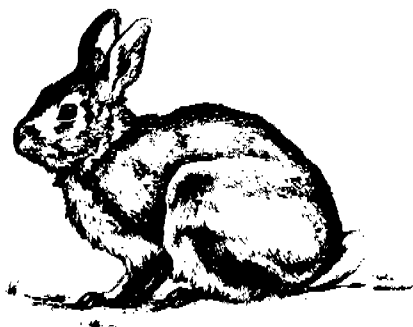
***During 1968 the Boulder Mountain and East Zion units had two-bird season limits and the LaSal Mountain a one-bird limit; in 1969 and later years all areas had a two-bird limit. Hunter success was based on the number of successful hunters rather than total turkeys bagged.

COTTONTAIL RABBIT

SUMMARY

Harvest data for 1972 suggested a breeding population for 1973 which was lower than in 1972. Roadside counts indicated a population in 1973 considerably below 1972. Production was also lower than in 1972.

During the 1973 hunting season a marked reduction in total hunters, hunter-days, harvest and hunter-success was evident. This was the second year in a row showing a decline. This decline was attributed to reduced abundance resulting from two years of below normal reproductive success.



Roadside Counts

Results of the annual roadside counts for 1973 are shown in Table 1 of this section. The trend of cottontails observed per mile and young per 100 adults since 1967 is shown in Tables 2 and 3 respectively. Indexes for 1973 compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Total cottontails counted	361	-68	-66
Total miles driven	1,968	-26	-26
Cottontails observed per mile	0.18	-58	-56
Young observed per 100 adults	86	-13	-19

Harvest statistics for 1972 indicated a decreased breeding population for 1973. Severe winter weather during the 1972-73 winter probably resulted in greater than normal winter mortality. Production was probably adversely affected by the late spring.

Roadside count data shows a substantial decline in population density from both 1972 and the average as well as reduced production. There is little doubt that fall populations were at a low level.

Harvest

Hunter Questionnaire

Results of the 1973 hunter questionnaire are found in Table 4. Trends of cottontails bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county since 1967 are found in Tables 5-7. Monthly distribution of harvest and hunting pressure each year since 1967 is shown in Table 8. Trend of statewide harvest statistics is found in Table 9 and Figure 2. The 1973 season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from</u>	
		<u>1972</u>	<u>Average</u>
Cottontail hunters	20,109	-12	-24
Cottontail harvest	88,603	-43	-55
Hunter-days afield	87,036	-18	-21
Cottontails per hunter	4.41	-30	-44
Cottontails per hunter-day	1.02	-35	-41

Total hunters, hunter-days afield, harvest and hunter success all declined from both 1972 and the average, probably as a result of a low breeding population and below normal production. Fall populations were undoubtedly at a low level.

The monthly distribution of harvest and hunting pressure were generally similar to previous years; however, pressure seemed to tail off the latter part of the season. This was a result of poor success.

Field Bag Checks

Results of this survey for 1973 are shown in Table 10. Trend of hunter success as determined by bag checks are shown in Table 11. The 1973 season compared to 1972 and the average as follows:

	<u>1973</u>	<u>Percent change from 1972</u>	<u>Average</u>
Total hunters checked	196	-26	-60
Total hours hunted	499	-43	-62
Cottontails per hunter (complete hunts)	2.15	-5.3	+26
Cottontails bagged per 100 hours	77	+33	+48
Hours per hunter-day (complete hunts)	2.5	-26	-22
Hours per cottontail bagged	1.2	-29	-45

Results of this survey suggest hunter success at least comparable to 1972; however, most of these data were compiled in the northeastern and southeastern regions, where success is generally higher, and are not comparable on a statewide basis.

The average hunter contacted spent less time afield per day than in 1972 with less time required to bag a cottontail.

Juveniles/100 Adults - - - - -

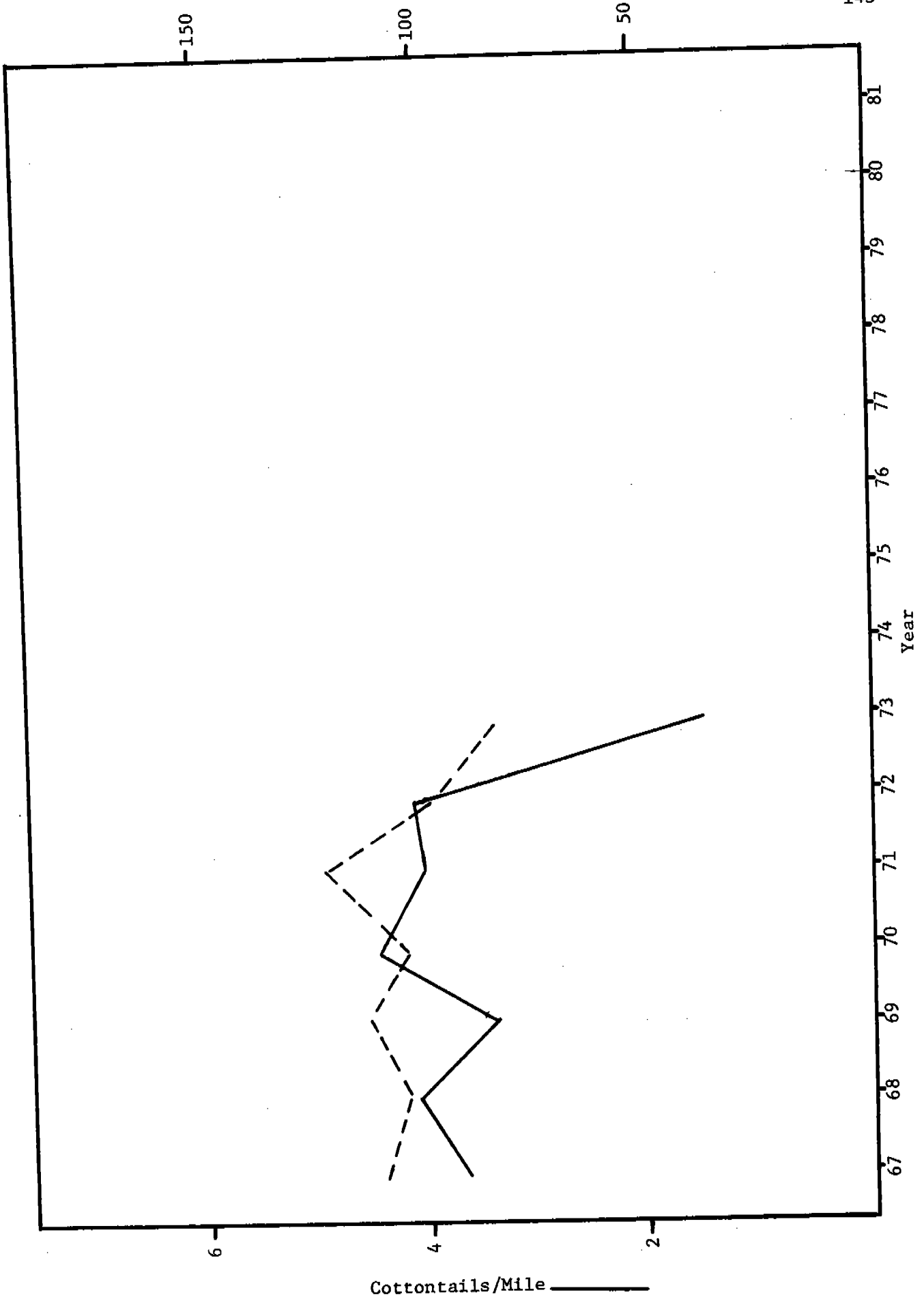


Figure 1. Cottontail Rabbit Population Indexes Trend.

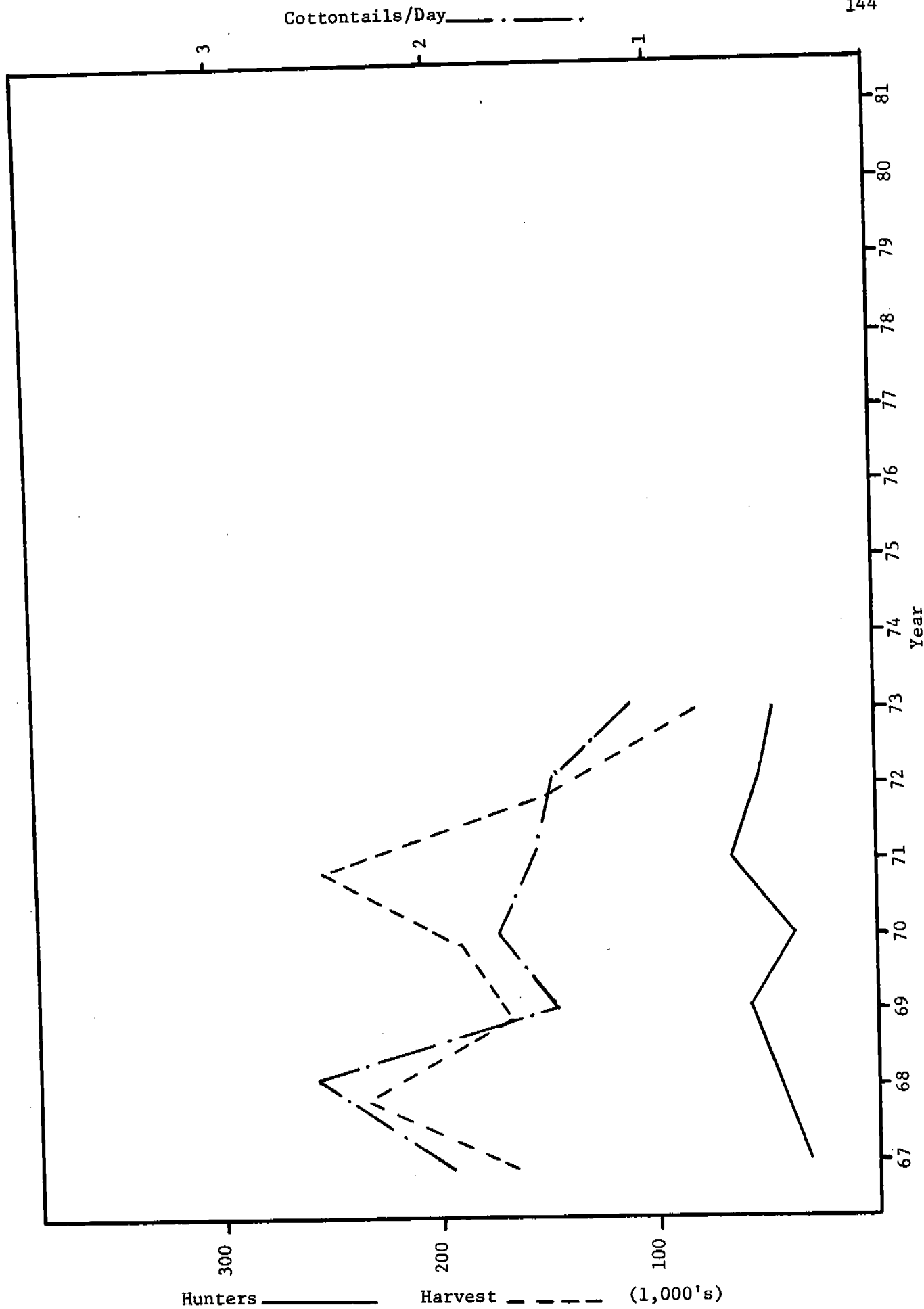


Figure 2. Cottontail Rabbit Harvest Trend

Table 1. Cottontail rabbit summer inventory summary, 1973.

Region and County	Miles Driven	Rabbits Observed		Total	Young per 100 Adults	Rabbits/ Mile
		Adults	Young			
Northern						
Box Elder	211	3	3	13	100	0.06
Cache	--	--	--	--	--	--
Davis	--	--	--	--	--	--
Morgan	36	0	1	5	--	0.14
Rich	90	8	4	13	50	0.14
Summit	--	--	--	--	--	--
Weber	--	--	--	--	--	--
REGIONAL TOTALS	337	11	8	31	73	0.09
Central						
Juab	90	6	6	12	100	0.13
Salt Lake	--	--	--	--	--	--
Sanpete	90	12	17	30	142	0.33
Tooele	62	1	0	1	0	0.02
Utah	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--
REGIONAL TOTALS	242	19	23	43	121	0.18
Southern						
Beaver	96	12	11	28	92	0.29
Garfield	90	7	4	11	57	0.12
Iron	30	0	0	0	0	0.00
Kane	41	9	4	13	44	0.32
Millard	300	25	8	33	32	0.11
Piute	--	--	--	--	--	--
Sevier	93	2	4	9	200	0.10
Washington	118	31	25	67	81	0.57
Wayne	81	1	2	3	200	0.04
REGIONAL TOTALS	849	87	58	164	67	0.19
Northeastern						
Daggett	90	19	12	45	63	0.50
Duchesne	90	5	8	13	160	0.14
Uintah	90	6	6	13	100	0.14
REGIONAL TOTALS	270	30	26	71	87	0.26
Southeastern						
Carbon	90	10	25	41	250	0.46
Emery	120	6	1	7	16	0.06
Grand	60	3	1	4	33	0.07
San Juan	--	--	--	--	--	--
REGIONAL TOTALS	270	19	27	52	142	0.19
STATE TOTALS	1,968	166	142	361	86	0.18

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1967-73.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
Northern Region								
Box Elder	0.36	0.78	0.50	0.76	0.43	0.37	0.06	
Cache	0	0.02	0.01	--	0.06	0.07	--	
Davis	--	--	--	--	--	--	--	
Morgan	0.02	0.17	0.10	--	0.28	--	0.14	
Rich	0.26	0.50	0.52	0.43	0.22	0.11	0.14	
Summit	0.16	0.22	0.08	0.39	--	0.13	--	
Weber	--	--	0.16	--	--	--	--	
Regional Totals	0.19	0.44	0.23	0.59	0.31	0.25	0.09	0.34
Central Region								
Juab	0.26	0.42	0.51	0.72	0.33	0.14	0.13	
Salt Lake	0.01	0	0	--	--	--	--	
Sanpete	0.30	0.36	0.53	0.63	0.77	0.72	0.33	
Tooele	0.07	0.34	0.28	0.28	0.22	0.14	0.02	
Utah	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	
Regional Totals	0.15	0.29	0.32	0.54	0.46	0.33	0.18	0.35
Southern Region								
Beaver	0	0.23	0.36	--	0.18	0.36	0.29	
Garfield	0.15	0.25	0.48	0.48	0.33	0.29	0.12	
Iron	0.09	0.64	0.40	--	0.38	0.58	0.00	
Kane	0.67	--	--	0.71	0.17	0.60	0.32	
Millard	0.22	0.30	0.39	0.28	0.15	0.29	0.11	
Plute	0.01	0.09	0	0	0	0	--	
Sevier	0.18	0.13	0.47	0.58	0.46	0.41	0.10	
Washington	0.80	0.55	0.61	0.17	0.46	1.16	0.57	
Wayne	0.08	0.10	0.12	--	0.08	0.07	0.04	
Regional Totals	0.27	0.32	0.35	0.35	0.25	0.48	0.19	0.34
Northeastern Region								
Daggett	1.93	0.81	0.60	0.77	0.76	0.73	0.50	
Duchesne	1.40	0.77	0.68	0.56	0.58	0.24	0.14	
Uintah	1.00	0.98	0.84	1.56	1.39	0.97	0.14	
Regional Totals	1.30	0.82	0.68	0.93	0.89	0.60	0.26	0.87
Southeastern Region								
Carbon	0.05	0.64	0.13	0.13	0.24	0.20	0.46	
Emery	0.37	0.33	0.17	0.20	0.04	0.30	0.06	
Grand	0.34	0.16	--	0.14	0.53	0.66	0.07	
San Juan	0.58	0.64	0.50	0.30	0.97	0.48	--	146
Regional Totals	0.39	0.42	0.21	0.25	0.53	0.45	0.19	0.38
STATE TOTALS								
	0.35	0.41	0.32	0.50	0.44	0.43	0.18	0.41

Table 3. Summary of cottontail rabbits young per 100 adults ratios, 1967-73.

Region and County	1967	1968	1969	1970	1971	1972	1973	Averages 1967-72
Northern Region								
Box Elder	94	106	94	95	129	62	100	
Cache	--	--	0	--	0	0	--	
Davis	--	--	--	--	--	--	--	
Morgan	--	100	900	--	25	--	--	
Rich	125	86	186	40	80	100	50	
Summit	67	56	33	64	--	14	--	
Weber	--	--	75	--	--	--	--	
Regional Totals	104	97	115	76	100	56	73	91
Central Region								
Juab	175	257	239	246	171	117	100	
Salt Lake	--	--	0	--	--	--	--	
Sanpete	257	133	311	123	144	148	142	
Tooele	200	113	127	100	100	100	0	
Utah	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	
Regional Totals	218	179	224	157	145	135	121	176
Southern Region								
Beaver	--	36	56	--	14	61	92	
Garfield	28	85	138	103	118	86	57	
Iron	200	75	33	--	162	100	0	
Kane	129	--	--	28	50	86	44	
Millard	32	143	22	41	32	271	32	
Piute	--	0	--	--	--	--	--	
Sevier	157	22	360	350	390	450	200	
Washington	271	71	114	22	71	11	81	
Wayne	100	50	300	--	167	50	200	
Regional Totals	115	75	85	68	93	64	67	83
Northeastern Region								
Daggett	56	62	34	57	81	121	63	
Duchesne	142	146	148	131	150	78	160	
Uintah	231	117	154	203	191	141	100	
Regional Totals	118	107	77	126	139	120	87	114
Southeastern Region								
Carbon	150	55	122	100	53	145	250	
Emery	73	238	200	183	100	125	16	
Grand	106	7	--	160	79	297	33	
San Juan	45	--	166	228	215	111	--	147
Regional Totals	62	92	161	115	132	180	142	124
STATE TOTALS	106	96	110	102	123	99	86	106

Table 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1973.

Region and County	Hunters Reporting	Days Hunted	Cottontails Bagged	Cottontails/Hunter-day	Cottontails per Hunter*	% Pressure	% Harvest
<u>Northern</u>							
Box Elder	110	286	258	0.90	3.65	8.44	7.48
Cache	20	58	30	0.52	1.88	1.71	0.87
Davis	8	27	23	0.85	3.70	0.80	0.67
Morgan	19	54	44	0.81	6.50	1.59	1.28
Rich	15	26	24	0.92	5.00	0.77	0.70
Summit	28	112	44	0.39	3.20	3.30	1.28
Weber	22	70	125	1.79	2.97	2.07	3.62
REGIONAL TOTALS	222	633	548	0.87	3.20	18.68	15.88
<u>Central</u>							
Juab	46	153	107	0.70	14.37	4.51	3.10
Salt Lake	24	59	14	0.24	2.86	1.74	0.41
Sanpete	24	76	67	0.88	2.67	2.24	1.94
Tooele	110	342	287	0.84	4.17	10.09	8.32
Utah	126	343	235	0.69	3.45	10.12	6.81
Wasatch	15	74	50	0.68	1.73	2.18	1.45
REGIONAL TOTALS	345	1,047	760	0.73	3.35	30.89	22.03
<u>Southern</u>							
Beaver	8	43	36	0.84	4.33	1.27	1.04
Garfield	7	17	38	2.24	16.07	0.50	1.10
Iron	20	139	76	0.55	5.00	4.10	2.20
Kane	5	11	13	1.18	3.25	0.32	0.38
Millard	41	109	160	1.47	3.80	3.22	4.64
Piute	2	2	5	2.50	2.00	0.06	0.14
Sevier	17	49	71	1.45	2.80	1.45	2.06
Washington	28	150	242	1.61	8.96	4.43	7.01
Wayne	8	50	37	0.74	6.33	1.48	1.07
REGIONAL TOTALS	136	570	678	1.19	7.36	16.82	19.65
<u>Northeastern</u>							
Daggett	17	55	69	1.25	1.00	1.62	2.00
Duchesne	35	206	220	1.07	14.08	6.08	6.38
Uintah	50	210	232	1.10	4.09	6.20	6.72
REGIONAL TOTALS	102	471	521	1.11	6.44	13.90	15.10
<u>Southeastern</u>							
Carbon	52	262	318	1.21	6.00	7.73	9.22
Emery	33	181	264	1.46	0.00	5.34	7.65
Grand	19	99	99	1.00	10.47	2.92	2.87
San Juan	32	112	253	2.26	4.29	3.30	7.33
REGIONAL TOTALS	136	654	934	1.43	7.36	19.30	27.07
Unknown counties	6	14	9	0.64	0.00	0.41	0.26
STATE TOTALS	947	3,389	3,450	1.02	4.41	100	100

*Based on county of residence.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1967-73.

Region and county	1967	1968	1969	1970	1971	1972	1973
<u>Northern</u>							
Box Elder	1.81	3.54	2.29	2.62	2.28	1.48	0.90
Cache	1.35	3.00	1.87	2.00	2.02	1.71	0.52
Davis	0.78	0.27	1.10	0.56	0.60	0.57	0.85
Morgan	1.01	1.02	1.21	1.80	2.06	0.26	0.81
Rich	0.07	3.11	2.65	2.62	1.91	3.97	0.92
Summit	1.70	1.78	1.40	1.93	1.24	1.19	0.39
Weber	1.03	1.16	0.94	1.02	0.36	0.28	1.79
Regional Totals	1.49	2.81	2.02	2.41	1.90	1.28	0.87
<u>Central</u>							
Juab	1.89	2.58	1.74	2.38	1.75	1.14	0.70
Salt Lake	1.33	1.40	0.83	0.94	0.92	1.24	0.24
Sanpete	0.80	1.93	1.86	1.72	1.23	1.34	0.88
Tooele	1.59	1.62	1.27	1.50	1.60	1.25	0.84
Utah	1.19	1.55	1.24	1.11	1.32	1.10	0.69
Wasatch	1.21	1.39	0.59	1.80	0.95	1.26	0.68
Regional Totals	1.34	1.73	1.30	1.47	1.41	1.20	0.73
<u>Southern</u>							
Beaver	2.04	2.06	1.84	1.41	1.15	1.06	0.84
Garfield	2.83	2.26	0.96	0.62	2.40	1.45	2.24
Iron	1.18	2.82	1.57	0.99	1.74	1.31	0.55
Kane	4.04	3.30	0.00	0.75	0.20	1.62	1.18
Millard	2.25	2.69	1.34	2.43	2.26	1.87	1.47
Mute	4.45	1.33	1.43	1.00	0.46	0.75	2.50
Sevier	0.65	2.54	1.09	0.68	0.93	1.87	1.45
Washington	0.83	8.00	1.11	1.54	1.55	2.29	1.61
Wayne	1.50	4.00	0.79	1.39	1.58	2.15	0.74
Regional Totals	1.95	2.59	1.23	1.41	1.45	1.85	1.19
<u>Northeastern</u>							
Daggett	3.87	4.08	2.08	2.67	2.73	2.93	1.25
Duchesne	3.31	2.40	1.47	2.45	3.14	2.91	1.07
Uintah	3.53	3.69	1.95	2.30	1.80	1.47	1.10
Regional Totals	3.49	3.39	1.86	2.38	2.30	2.15	1.11
<u>Southeastern</u>							
Carbon	1.70	1.47	1.62	1.27	0.63	1.15	1.21
Emery	1.98	2.58	1.68	2.22	1.06	1.49	1.46
Grand	0.74	1.28	1.26	2.26	1.71	2.35	1.00
San Juan	3.35	2.20	1.39	2.04	2.73	2.13	2.26
Regional Totals	2.17	1.83	1.52	1.85	1.25	1.61	1.43
Unknown counties	0.38	1.03	0.53	1.79	1.13	0.76	0.64
STATE TOTALS	1.95	2.42	1.54	1.86	1.65	1.46	1.02

Table 8. Summary of the monthly distribution of cottontail harvest and hunting pressure each year from 1968 through 1973.

Month	Percent of Harvest						Percent of Hunting Pressure					
	1968	1969	1970	1971	1972	1973	1968	1969	1970	1971	1972	1973
September	6.3	7.8	7.6	7.1	7.8	10.9	6.5	7.0	8.1	7.0	8.1	9.3
October	12.0	11.5	11.3	12.8	21.3	13.4	14.1	12.2	12.4	14.4	16.7	15.3
November	22.6	24.6	21.2	22.7	22.5	28.8	21.4	23.3	21.8	21.1	23.0	26.8
December	28.6	24.2	25.7	26.2	23.4	21.5	25.0	24.1	22.7	23.4	20.4	24.3
January	20.0	19.9	21.2	19.4	15.9	16.6	20.9	20.0	20.0	19.1	18.4	15.7
February	9.2	9.6	10.4	8.7	7.5	6.9	11.7	10.8	11.5	10.8	10.0	6.7
March	1.2	2.4	2.6	3.1	1.5	1.8	1.2	2.6	3.4	4.2	3.4	1.9

Table 9. State-wide summary of cottontail rabbit harvest statistics, 1967-73.

Year	Total hunters	Total harvest	Hunter days afield	Cottontail per hunter-day	Cottontails* per hunter
1967	23,349	181,812	92,681	1.95	7.79
1968	26,889	225,450	93,126	2.42	8.38
1969	29,760	184,034	119,596	1.54	6.18
1970	24,486	195,248	103,725	1.88	7.97
1971	30,824	239,511	145,287	1.65	7.78
1972	22,835	155,102	105,941	1.46	6.79
1973	20,109	88,603	87,036	1.02	4.41
TOTALS (1967-73)	178,254	1,269,760	747,392	1.70	7.12
AVERAGES (1967-72)	26,357	196,860	110,059	1.82	7.48

*Based on county of residence.

Table 10. Cottontail rabbit field bag check summary, 1973.

Region and County	ALL HUNTS				COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Rabbits/100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Rabbits/100 Hrs.	Rabbits/Hunter
NO DATA COLLECTED									
<u>Northern</u>									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan Rich	1	2	7	14	1	2	7	14	0.50
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>									
Central	1	2	7	14	1	2	7	14	0.50
<u>Southern</u>									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>									
NO DATA COLLECTED									
<u>Northeastern</u>									
Daggett	13	33	108	94	10	23	95	102	107
Duchesne	8	12	78	55	7	10	72	41	57
Uintah	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>									
21	45	186	145	78	17	33	167	143	86
<u>Southeastern</u>									
Carbon	26	76	140	80	26	76	140	112	80
Emery	3	7	6	127	3	7	6	7	127
Grand	--	--	--	--	--	--	--	--	--
San Juan	30	66	160	117	17	44	88	86	97
<u>REGIONAL TOTALS</u>									
59	149	306	236	77	46	127	234	205	88
<u>STATE TOTALS</u>									
81	196	499	382	77	64	162	408	349	86
									2.15

Table 11. Cottontail hunter success trend determined by field bag checks, 1968-73.

Region and County	1968		1969		1970		1971		1972		1973	
	Bag/ 100 hrs. Hunter	Bag/ Hunter	Bag/ 100 hrs. Hunter	Bag/ Hunter	Bag/ 100 hrs. Hunter	Bag/ Hunter	Bag/ 100 hrs. Hunter	Bag/ 100 hrs. Hunter	Bag/ 100 hrs. Hunter	Bag/ 100 hrs. Hunter	Bag/ 100 hrs. Hunter	Bag/ 100 hrs. Hunter
Northern												
Box Elder	40	4.23	31	1.55	85	2.12	--	--	10	0.38	--	--
Cache	--	--	--	--	--	--	--	--	100	0.50	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	33	0.50	34	1.67	--	--	--	--
Rich	53	1.17	--	--	57	2.11	200	3.33	11	0.25	--	--
Summit	72	2.93	--	--	56	1.33	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	48	3.35	31	1.55	56	1.44	57	2.50	10	0.34	--	--
Central												
Juab	--	--	223	4.14	--	--	--	--	100	1.00	--	--
Salt Lake	18	1.00	--	--	--	--	--	--	--	--	--	--
Sanpete	25	0.70	13	0.44	15	0.54	19	0.57	--	--	--	--
Tooele	25	0.79	92	2.40	21	0.88	--	--	38	1.50	14	0.50
Utah	6	0.25	50	0.50	--	--	--	--	--	--	--	--
Wasatch	18	--	--	--	21	0.75	--	--	--	--	--	--
REGIONAL TOTALS	23	0.70	20	0.54	16	0.59	19	0.57	40	1.45	14	0.50
Southern												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	52	1.20	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	25	1.00	--	--	--	--
Millard	--	--	--	--	50	0.30	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	383	3.83	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	38	1.50	--	--	--	--
REGIONAL TOTALS	--	--	--	--	34	1.52	31	1.25	--	--	--	--
Northeastern												
Daggett	72	3.72	66	2.00	58	1.84	119	1.58	109	1.83	--	--
Duchesne	26	0.95	15	0.80	31	0.95	21	0.85	101	4.32	94	4.43
Uintah	64	0.86	27	0.92	112	2.28	55	1.15	101	6.10	55	4.10
REGIONAL TOTALS	51	2.84	32	1.17	57	1.72	57	1.29	103	4.05	78	4.33
Southeastern												
Carbon	97	1.50	--	--	77	4.00	59	1.94	98	2.17	80	1.47
Emery	147	2.66	--	--	--	--	17	0.20	6	0.27	127	1.00
Grand	--	--	--	--	--	--	70	2.13	--	--	--	--
San Juan	--	--	--	--	33	4.00	44	1.25	78	2.32	73	1.95
REGIONAL TOTALS	140	2.44	--	--	43	4.00	56	1.72	58	2.21	77	1.61
STATE TOTALS	54	2.00	29	1.16	42	1.32	43	1.20	58	2.27	77	2.15

APPENDIX

Table 1. State-wide temperature and precipitation departures from normal as determined by averaging similar values for the seven weather divisions in Utah, 1960-72.

Year	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1960	Temp.	-2.8	-3.7	+3.1	+0.7	0	+3.3	+1.6	-0.3	-1.5	+1.4	-0.7
	Precip.	+0.30	+0.47	-0.37	-0.26	-0.40	-0.51	-0.65	+0.24	+0.56	+0.41	-0.81
1961	Temp.	+2.59	+5.37	+1.27	+1.27	+0.47	+5.34	+1.21	+0.97	-2.76	-3.24	-3.37
	Precip.	-0.88	-0.45	+0.48	-0.32	-0.40	-0.60	-0.02	+0.80	+1.29	+0.42	+0.09
1962	Temp.	-3.44	+1.86	-4.51	+3.00	-1.87	-0.77	-2.20	-1.04	+1.53	+4.39	+0.70
	Precip.	-0.05	+1.18	-0.08	-0.30	+0.16	-0.18	-0.36	-0.81	+0.24	-0.33	-0.51
1963	Temp.	-4.71	+8.01	-0.83	-4.14	+2.87	-2.79	+0.21	+0.21	+1.64	+4.26	+2.17
	Precip.	-0.26	-0.22	-0.20	+0.84	-0.73	+0.36	-0.60	+0.89	+0.70	-0.33	+0.25
1964	Temp.	-1.81	-4.37	-6.49	-3.20	-1.80	-2.59	+1.13	-1.54	-2.46	+1.73	-3.61
	Precip.	-0.48	-0.91	+0.02	+0.54	+0.54	+0.68	-0.42	-0.28	-0.35	-0.93	+0.45
1965	Temp.	+4.07	+0.07	-3.59	-1.50	-4.03	-3.70	-2.07	-2.67	-7.20	+1.37	+5.19
	Precip.	-0.16	-0.31	-0.21	+0.89	+0.47	+0.60	+0.53	+0.45	+0.84	-0.61	+1.02
1966	Temp.	-0.21	-3.33	+1.51	-0.54	+2.54	+0.24	+0.71	+0.09	+0.53	-2.20	+3.97
	Precip.	-0.74	-0.13	-0.79	-0.48	-0.15	-0.47	-0.13	-0.26	+0.13	-0.19	-0.12
1967	Temp.	+0.47	+1.84	+3.47	-4.96	-2.34	-3.76	+0.76	+1.54	+0.06	+0.39	+3.80
	Precip.	+0.25	-0.79	-0.30	+0.14	+0.59	+1.15	+0.01	-0.27	+0.74	-0.71	-0.16
1968	Temp.	-3.33	+4.53	+2.90	-4.87	-1.80	+0.64	-0.49	-5.07	-3.10	-0.99	-4.11
	Precip.	-0.62	+0.35	-0.00	+0.59	+0.18	+0.29	+0.02	+1.05	-0.50	-0.32	-0.34
1969	Temp.	+5.36	-1.11	-4.76	+0.21	+4.14	-2.54	+0.04	+3.03	+1.80	-6.59	-0.01
	Precip.	+1.36	+1.22	-0.58	-0.22	-0.59	+1.17	+0.10	-0.21	-0.01	+0.32	-0.29
1970	Temp.	+3.04	+6.93	-1.17	-6.50	+0.09	-0.06	-0.31	+2.09	-4.70	-5.77	+2.06
	Precip.	-0.17	-0.58	+0.06	-0.05	-0.51	+0.66	+0.33	-0.03	+0.34	-0.18	+0.68
1971	Temp.	+2.96	+1.61	-0.57	-1.66	-2.97	+0.39	+0.59	+1.53	-4.61	-4.93	-2.83
	Precip.	-0.49	+0.02	-0.50	+0.28	+0.40	-0.29	-0.49	+0.58	-0.13	+1.23	-0.08
1972	Temp.	+2.71	+4.50	+6.87	-0.66	+0.60	+1.53	+0.19	-0.90	-2.47	-1.63	-2.40
	Precip.	-0.74	-0.92	-0.82	+0.08	-0.78	+0.39	-0.62	-0.11	+0.59	+2.08	+0.57
1973	Temp.	-7.59	-2.56	-2.70	-4.09	+0.54	-0.23	-1.3	-0.06	-3.20	-0.46	+0.23
	Precip.	+0.08	-0.02	+0.86	+0.27	+0.04	+0.17	+0.26	-0.17	+0.24	-0.59	+0.45

Table 2. Number and percent of total upland game hunters afield who reported hunting each game species during 1967-73.

Species	Number of Hunters							Percent of Total						
	1967	1968	1969	1970	1971	1972	1973	1967	1968	1969	1970	1971	1972	1973
Pheasant	85,664	90,453	90,573	78,585	87,878	84,311	75,968	96.6	95.4	94.8	87.6	87.7	87.8	82.5
Chukars	17,485	20,744	22,529	18,013	17,917	16,685	13,888	19.7	21.9	23.6	20.1	17.9	17.4	15.1
Mourning doves	25,161	25,105	29,131	23,908	26,064	29,341	27,435	28.4	26.5	30.5	26.7	26.0	30.5	29.8
Sage grouse	5,336	9,115	12,894	12,036	12,893	13,040	10,017	6.0	9.6	13.5	13.4	12.9	13.6	10.9
Forest grouse	9,420	13,061	12,523	12,775	13,363	16,640	17,588	10.6	13.8	13.1	14.2	13.3	17.3	19.1
Quail	8,455	9,302	9,160	6,141	8,039	7,380	5,654	9.5	9.8	9.6	6.8	8.0	7.7	6.1
Hungarian partridge	6,321	6,935	5,591	4,128	4,276	4,754	3,566	7.1	7.3	5.8	4.6	4.3	4.9	3.9
Wild turkey**	184*	634*	477*	174	389*	351*	135	0.2	0.7	0.5	0.2	0.4	0.4	0.1
Cottontail	23,349	26,889	29,760	24,486	30,824	22,835	20,109	27.2	28.4	31.2	27.3	30.8	23.8	21.8
Total Hunters	88,639	94,814	95,483	89,657	100,183	96,047	92,098							

* Includes both spring and fall hunts.

**Although wild turkey harvest was determined by separate questionnaire, it is assumed that these hunters are derived from the same group of hunters who reported hunting other upland game bird species.

Table 3. Percent of hunters responding to the harvest questionnaire who failed to bag at least one bird, 1973.

Year	Pheasants		Doves		Chukars		Sage Grouse		Forest Grouse		Quail		Huns									
	Bag	Hunt. %	Bag	Hunt. %	Bag	Hunt. %	Bag	Hunt. %	Bag	Hunt. %	Bag	Hunt. %	Bag	Hunt. %								
1961	714	3204	22	51	583	9	318	539	59	--	--	109	383	28	72	123	59					
1962	500	2685	19	39	456	9	147	362	41	--	--	62	201	31	36	108	33					
1963	795	3317	24	53	691	8	248	550	45	220	468	47	188	281	67	71	305	23	59	177	33	
1964	911	3115	29	60	681	9	266	568	47	45	154	29	144	229	63	94	316	30	62	150	41	
1965	1165	4009	29	--	--	--	486	851	57	82	168	49	225	311	72	128	371	34	93	233	40	
1966	1242	4297	29	136	1067	13	423	881	48	54	131	41	133	331	40	106	315	34	63	219	29	
1967	1353	4833	28	153	1319	12	477	915	52	138	266	52	194	475	41	161	424	38	116	315	37	
1968	1422	5223	27	236	1312	18	495	1095	45	185	449	41	177	665	27	171	457	37	132	347	38	
1969	1897	5335	36	214	1568	14	647	1250	52	241	648	37	273	646	42	182	465	39	148	292	51	
1970	1546	4686	33	193	1274	15	466	962	48	257	603	43	209	666	31	126	314	40	101	210	48	
1971	1783	5049	35	210	1333	16	464	934	50	234	625	37	223	673	33	162	385	42	87	210	41	
1972	1743	4617	38	270	1421	19	457	827	55	259	593	44	271	794	34	154	339	45	120	224	54	
1973	1659	4699	35	209	1596	13	414	824	50	226	553	41	329	1019	32	128	311	41	97	196	49	
Average (1961-72)			29			13			50		42			45				35			42	

Table 4. Regional and statewide summary of effort expended on upland game summer inventory, 1967-73.

Species	R E G I O N												STATE TOTALS	
	Northern		Central		Southern		Northeastern		Southeastern		Miles		Hours	
	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours
Pheasant														
1967	515	--	737	--	915	--	472	--	244	--	2,883	--		
1968	646	--	888	--	694	--	446	--	257	--	2,931	--		
1969	478	--	814	--	870	--	516	--	420	--	3,098	--		
1970	451	--	878	--	672	--	526	--	290	--	2,817	--		
1971	507	--	878	--	796	--	588	--	346	--	3,115	--		
1972	469	--	963	--	752	--	535	--	297	--	3,016	--		
1973	322	--	691	--	740	--	488	--	320	--	2,561	--		
Quail														
1967	579	93	310	28	715	88	827	56	54	4	2,485	269		
1968	93	26	343	34	470	41	575	45	24	3	1,505	149		
1969	300	35	474	44	442	45	459	18	130	8	1,805	150		
1970	70	6	480	58	1,185	39	880	53	120	8	2,735	165		
1971	192	24	389	40	344	28	587	49	140	13	1,652	154		
1972	46	9	342	30	575	39	870	63	120	8	1,953	149		
1973	80	10	264	35	32	8	538	38	25	17	939	108		
Chukar														
1967	1,509	220	382	81	213	25	1,121	100	189	56	3,414	482		
1968	1,045	92	390	82	--	--	1,233	102	335	44	3,003	320		
1969	269	50	968	154	921	49	565	75	367	27	3,090	355		
1970	827	109	978	123	548	34	817	64	383	36	3,553	367		
1971	182	82	929	130	1,103	100	636	50	496	105	3,346	468		
1972	712	91	1,423	131	950	37	1,012	69	984	58	5,081	386		
1973	1,063	119	1,494	167	72	10	705	48	702	68	4,036	363		
Forest Grouse														
1967	759	214	967	175	396	34	756	51	319	42	3,197	515		
1968	965	143	508	86	721	54	300	28	1,132	96	3,626	407		
1969	1,659	269	1,200	205	526	100	1,010	121	654	52	5,049	747		
1970	1,189	171	572	154	958	58	1,007	86	777	137	4,503	606		
1971	1,201	240	785	173	796	249	794	77	440	89	4,016	828		
1972	1,370	212	804	103	214	260	1,346	140	351	82	4,085	797		
1973	627	127	917	105	296	429	949	147	761	72	3,550	880		

Table 4. Continued

Species	R E G I O N												STATE TOTALS				
	Northern		Central		Southern		Northeastern		Southeastern		Miles		Hours				
	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours			
Sage Grouse																	
1967	750	296	424	114	1,242	201	1,218	80	560	42	4,194	733					
1968	1,749	186	805	134	1,314	132	1,238	103	360	110	5,466	665					
1969	1,468	386	360	164	2,239	140	1,901	176	1,392	99	7,360	965					
1970	1,931	330	841	154	1,795	115	1,400	122	693	64	6,660	786					
1971	1,743	296	909	145	1,423	98	1,465	144	1,089	128	6,629	812					
1972	1,628	323	1,187	143	751	144	2,125	170	1,280	141	6,971	921					
1973	3,146	353	927	147	1,171	116	1,952	238	496	41	7,692	895					
Hungarian Par.																	
1967	1,411	191	85	22	--	--	--	--	--	--	1,496	213					
1968	1,340	101	100	15	--	--	--	--	--	--	1,440	116					
1969	1,020	99	65	14	--	--	--	--	--	--	1,085	113					
1970	694	91	15	5	--	--	--	--	--	--	709	96					
1971	676	85	104	18	--	--	--	--	--	--	780	103					
1972	1,255	119	126	21	--	--	--	--	--	--	1,381	139					
1973	1,643	156	12	4	--	--	--	--	--	--	1,655	160					
Wild Turkey																	
1967	--	--	--	--	198	28	--	--	--	--	198	28					
1968	--	--	--	--	--	66	--	--	--	--	--	66					
1969	--	--	--	--	1,390	63	--	--	--	--	1,390	63					
1970	--	--	--	--	859	84	--	--	--	--	859	84					
1971	--	--	--	--	726	73	--	--	215	28	941	101					
1972	--	--	--	--	73	62	--	--	290	54	363	116					
1973	--	--	--	--	143	11	--	--	--	--	143	11					
Cottontail																	
1967	586	--	360	--	1,049	--	252	--	450	--	2,697	--					
1968	495	--	390	--	997	--	280	--	443	--	2,605	--					
1969	956	--	420	--	669	--	359	--	560	--	2,964	--					
1970	360	--	270	--	750	--	415	--	480	--	2,275	--					
1971	338	--	330	--	1,054	--	410	--	570	--	2,702	--					
1972	510	--	279	--	939	--	360	--	555	--	2,643	--					
1973	337	--	242	--	849	--	270	--	270	--	1,968	--					

Table 5. Season framework for upland game during 1973.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Pheasant	Nov. 10-Dec. 9	2 cocks	4 cocks	Statewide except Salt Lake, Sevier and Utah counties.
	Nov. 10-25	2 cocks	4 cocks	Beaver, Carbon, Emery, Garfield, Salt Lake, Sevier and Utah counties.
Mourning dove	Sept. 1-30	10	20	Statewide
Chukar	Sept. 22, 1973 to Jan. 15, 1974	5	10	Statewide except Daggett, Duchesne and Uintah counties.
	Sept. 22-Nov. 30	5	10	Daggett, Duchesne and Uintah counties.
Sage grouse	Sept. 22-28	2	4	Beaver, Daggett, Duchesne, Garfield, Iron, Kane, Millard, Piute, Sevier, Uintah and Wayne counties.
	Sept. 22-28	1	2	Box Elder, Cache, Carbon, Davis, Emery, Juab (part), Morgan Rich, San Juan, Sanpete, Summit, Tooele, Utah (part), Wasatch (part) and Weber counties.
The following counties were closed to sage grouse hunting during 1973:				Grand, Salt Lake, Washington, Wasatch and Utah except drainages of the Price River, Juab except the Sheeprock Mountains.
Forest grouse	Sept. 22-Nov. 30	4 aggregate	8 aggregate	Statewide
Quail	Nov. 11-Dec. 10	5	10	Statewide
Hungarian partridge	Sept. 22, 1973 to Jan. 15, 1974	5	10	Statewide except Daggett, Duchesne and Uintah counties.
	Sept. 22-Nov. 30	5	10	Daggett, Duchesne and Uintah counties.
Wild turkeys Spring hunt	May 5-May 20	Season limit 2 gobblers		Beaver, Garfield, Grand, Iron Kane, Piute, Sevier, Washington and Wayne counties. Also San Juan County north and east of U.S. Highway 160, Highway 46 and the Lisbon Valley Road.
	Fall hunt	Closed Season		
Cottontail	Sept. 22, 1973 to March 1, 1974	10	20	Statewide