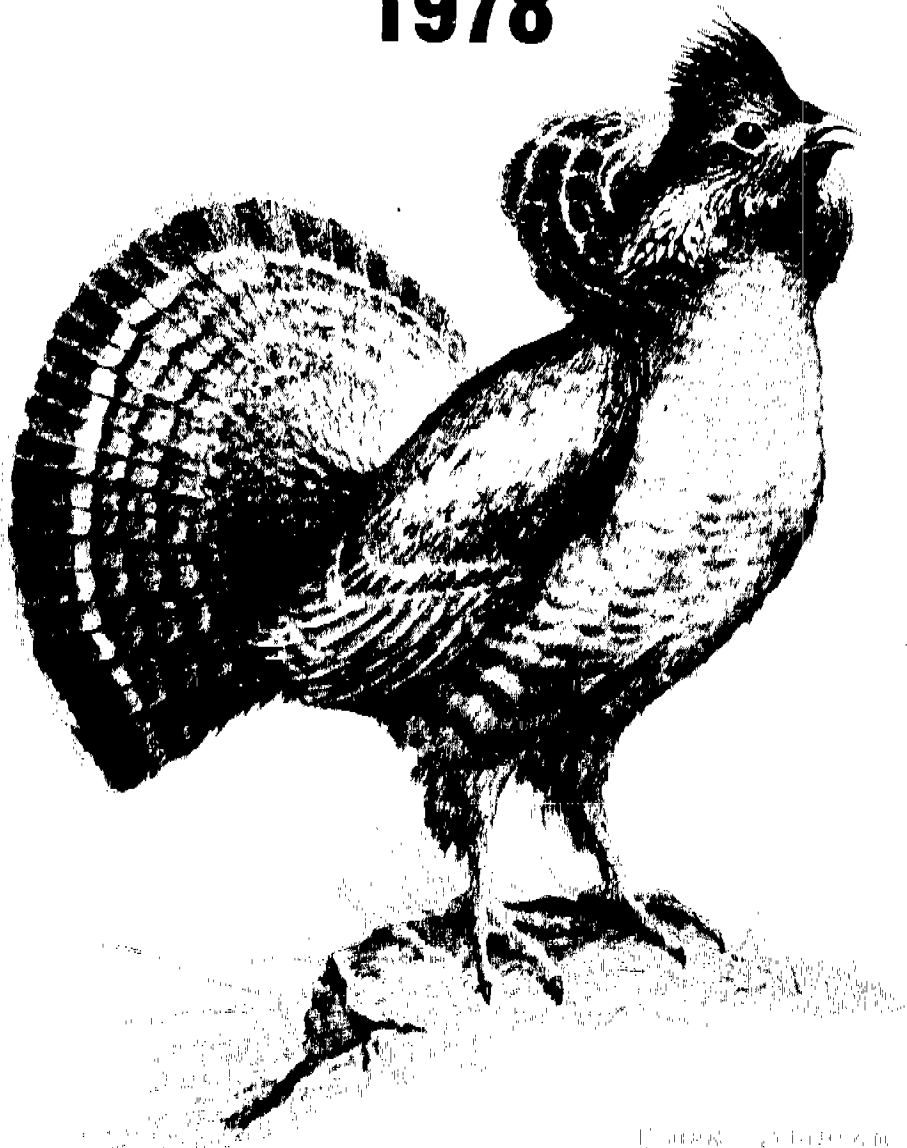


**UTAH
UPLAND GAME
Annual Report
1978**



PUBLICATION NUMBER 79-12

Utah Division of Wildlife Resources
Douglas F. Day, Director

UTAH
UPLAND GAME
Annual Report
1978

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PUBLICATION NO. 79-12

Annual Performance Report for Federal Aid Project W-65-R-D-27 Job A-4

Utah State Department of Natural Resources

DIVISION OF WILDLIFE RESOURCES

An Equal Opportunity Employer

Douglas F. Day
Director

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TABLE OF CONTENTS

	<u>Page</u>
Abstract	1
Objectives	1
Procedures	1
Recommendations	2
Introduction	3
Pheasants	7
Migratory Upland Game Birds	26
Mourning Dove	27
Band-tailed Pigeons	46
Chukar Partridge	50
Sage Grouse	66
Forest Grouse	91
Quail	111
Hungarian Partridge	125
Wild Turkey	140
Rabbits and Hares	156
Cottontail Rabbit	157
Snowshoe Hare	171
Appendix	177

JOB PERFORMANCE REPORT
RESEARCH PROJECT SEGMENT
(Inventory)

State of U T A H

Project Title: Statewide Wildlife
Management Inventory

Project No. W-65-R-D-27

Job Title: Statewide Upland Game
Inventory and Management

Job No. A-4

Period Covered: January 1, 1978 to June 30, 1979

Abstract: This report includes upland game inventory and harvest data relating to the 1978-79 hunting seasons. Results of annual inventory and harvest surveys and long-term trends of indexes derived by each method are included. Data obtained in 1978 are compared to 1977 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, 1977, through February 10, 1978, 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 dove call-count survey. This survey is part of a nation-wide survey administered by the U. S. Fish and Wildlife Service. Call-counts are conducted over 15 permanent, 20-mile routes. One count was made on each route between May 20-30.

Random brood counts were conducted on chukar and Hungarian partridge, forest grouse (ruffed and blue), sage grouse, wild turkey and quail from June 15 - 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 1977 for comparable grounds were determined on a county basis.

One Gambel 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 preestablished routes between July 15 and August 5. Indexes derived include rabbits per mile and young per 100 adults.

Separate harvest questionnaires were used to determine the harvest of upland game birds, cottontail rabbit and snowshoe hare, band-tailed pigeon and wild turkey. An approximate 20 percent sample of eligible licenses from the previous year (1977) license file was selected for the game bird questionnaire and an 11 percent sample for the rabbit and hare questionnaire. Questionnaires were mailed to all band-tailed pigeon and wild turkey permittees. Indexes derived include total hunters, hunter-days and harvest plus hunter success per day and for each season.

The game bird and rabbit and hare questionnaires were analyzed by the University of Utah Computer Center. Due to accumulated rounding errors associated with transferring data from the printout, some totals (columns and percentages) may not total exactly.

This year, the program was expanded to report total estimated hunter-days and harvest by species and county rather than just the percent of pressure and harvest. Wild turkey and band-tailed pigeon questionnaires were analyzed by the Game Management Section personnel.

Field bag checks of upland game hunters were made primarily at checking stations, with additional random field checks made 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. Additional sex and age composition data were compiled for some species using wing samples collected at checking stations.

Recommendations:

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

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 eighth edition of this annual Upland Game Report. It is a consolidation of, and annual performance report for, information compiled during inventory and harvest surveys conducted under Federal Aid Project, W-65-R, Job A-4. Information contained herein was compiled by conservation officers, biologists, game managers and the upland game management staff of the Division of Wildlife Resources.

This report serves as a handbook of inventory and harvest 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 1978, a total of 105,288 Utah sportsmen spent 764,168 days afield in pursuit of various upland game species. The harvest of upland game totaled 1,241,683. The proportion of the total upland game hunters which pursued each species is shown in Appendix Table 3 and the percentage failing to bag at least one bird of each species in Appendix Table 4. The framework for 1978 upland game hunting seasons is shown in Appendix Table 6. Harvest statistics by species were as follows:



Species	Hunters Afield	Total Harvest	Hunter Days	Bag per Hunter-day	Bag/Hunter For Season
Pheasant	83,800	220,398	257,305	0.86	2.63
Mourning dove	35,985	383,696	130,173	2.95	10.66
Chukar partridge	16,291	65,747	54,239	1.21	4.04
Sage grouse	16,231	25,938	29,861	0.87	1.60
Forest grouse	25,318	81,558	72,732	1.12	3.22
Quail	5,924	15,491	13,649	1.13	2.61
Hungarian partridge	4,743	12,969	12,328	1.05	2.73
Wild turkey					
spring	101	9	246	0.04	0.09
fall	88	7	223	0.03	0.08
Band-tailed pigeon	78	264	238	1.11	3.38
Cottontail	35,590	401,071	163,019	2.46	11.27
Snowshoe hare	8,205	34,535	30,155	1.15	4.21
		1,241,683	764,168		

Total hunters afield for all species of upland game = 105,288

A total of 27,528 upland game bird questionnaires were mailed. Of this number 2,795 (10.2 percent) were nondeliverable due to address deficiencies. Of the 24,733 delivered questionnaires, 7,575 (30.6 percent) were returned. Of those returned, 1,046 (13.8 percent) did not purchase a license during 1978. Usable returns, hunts plus no hunts, totaled 6,529. When combined with a total 130,674 eligible licensees a projection factor of 20.014397 resulted.

Rabbit and hare questionnaires were mailed to 14,786 sportsmen. Of these, 1,906 (12.9 percent) were nondeliverable, resulting in 12,880 delivered questionnaires. A return of 5,518 (42.8 percent) questionnaires was achieved. Of this number, 565 (10.2 percent) did not purchase a 1978 hunting license. Useable returns, hunts plus no hunts, totaled 4,953. When combined with a total 130,674 eligible licensees, a projection factor of 26.382798 resulted.

The calendar year 1978 was a continuation of the variable weather conditions that have existed during recent years.

Precipitation was much above normal during the first four months of the year. May precipitation was also above normal but not as far above average as the January thru April precipitation. Summer precipitation markedly decreased and averaged much below normal over most of the state. Fall moisture patterns were erratic with above normal precipitation in September and November and below average moisture in October. Precipitation increased markedly during the last half of December, particularly in southern Utah.

Temperatures were generally above average through April but cooled to below normal during May. The cool May temperatures combined with much above average spring moisture provided ideal growing conditions for range forbs and grasses. Temperatures were generally much below normal from late summer through fall. Late December temperatures were much below normal particularly in the Uinta Basin area.

Above average spring moisture followed by cool dry weather in May and June provided very good nesting and early summer forage condition for hens, in general, conditions were highly favorable for upland game production.

(Weather summary based on information prepared by E. Arlo Richardson and Kenneth G. Hubbard, state Climatologists)

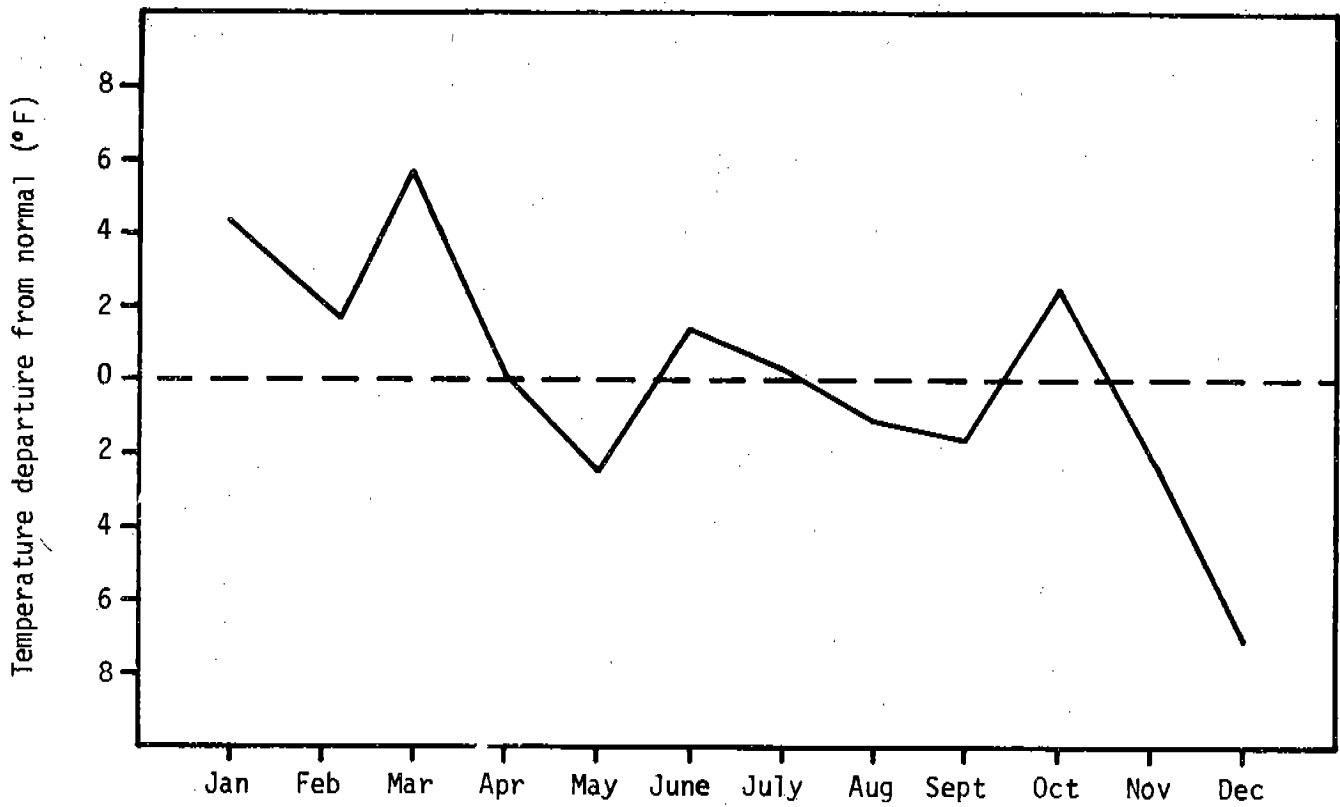


Figure 1. Monthly average temperature departure from normal, 1978.

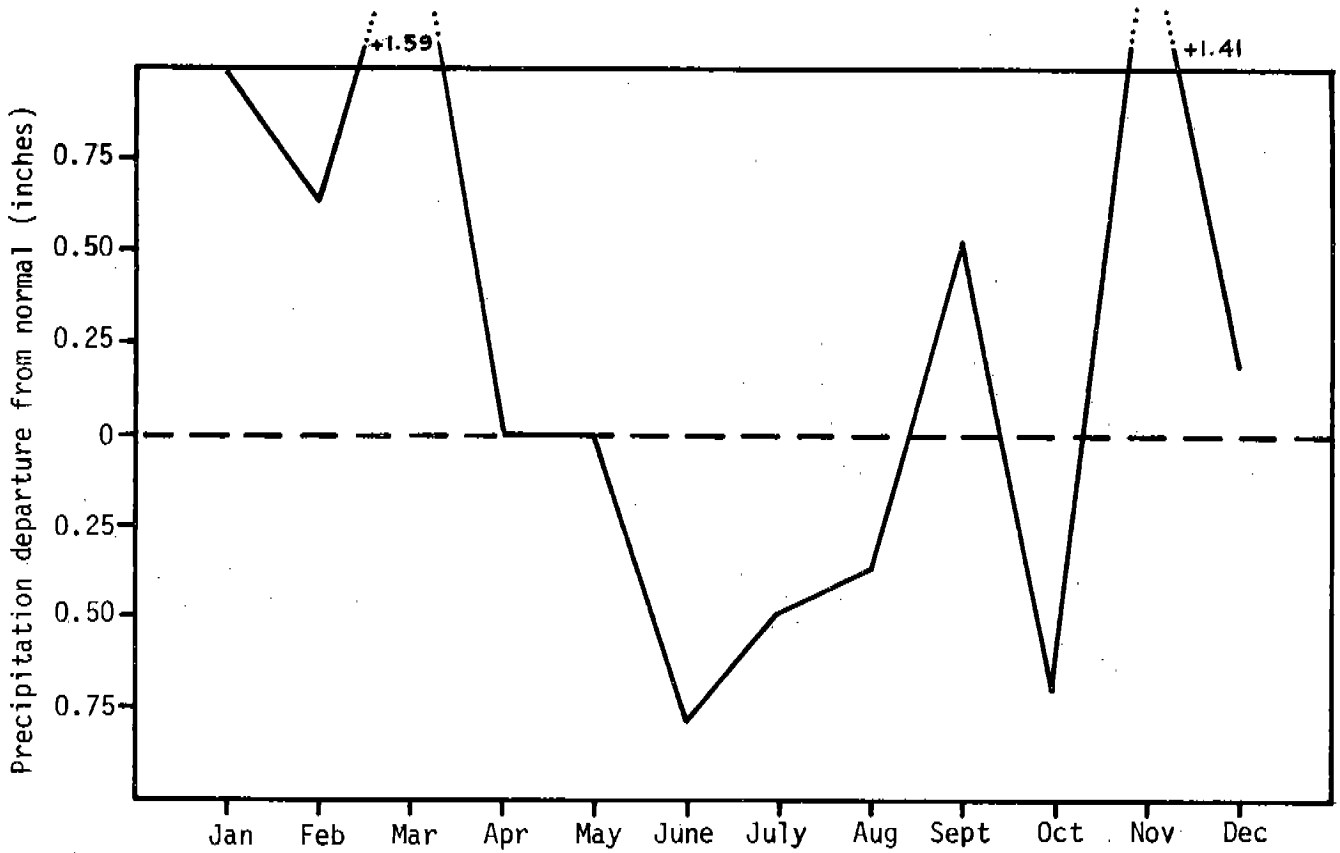


Figure 2. Monthly average precipitation departure from normal, 1978.

RING-NECKED PHEASANT

SUMMARY

The statewide breeding population indexes, based on 1977 harvest data, were above the 1977 level and below average except in the Northeastern Region. However, winter sex ratio indexes indicating reduced breeding populations probably represent poor counting conditions with little snow cover rather than reduced populations. Winter carry-over from 1977 appeared good due to the generally warm, open winter.

Weather conditions during the nesting season were variable but generally good. Production was well above 1977 and slightly below average statewide except in the Northeastern Region where production was above average. The combination of higher carry-over and higher production than 1977 resulted in excellent fall populations.

Harvest statistics compiled from the questionnaire indicated an excellent hunt. Harvest exceeded all years since 1972 and was 49 percent greater than 1977. Hunter numbers increased 25 percent over 1977; likewise, birds per hunter-day and hunter-days afield showed increases. Field bag check data showed that hunters spent less time afield per hunter-day. The 0.88 birds per hunter index from field bag checks was comparable to the index from hunter questionnaires.



Winter Sex-ratio Counts

Results of the survey for the winter of 1977-78 and long-term trends are shown in Tables 1 and 2 of this section. Statewide comparisons to the winter of 1976-77 and the average are as follows:

	<u>Winter of</u> <u>1977-78</u>	<u>Percent change from</u>	
		<u>1976-77</u>	<u>Average</u>
Total pheasants counted (roadside)	4,857	-37	-58
Hens per cock	3.7	+12	-27
Pheasants observed per 100 hours	711	-30	-59
Total hours effort (roadside)	683	-10	-16

Winter sex-ratio counts indicated a lower breeding population in 1978 than in 1977 and much below average. Counting conditions were generally poor with limited snow cover. Winter weather was generally warmer than normal and carry-over was good. The hen-cock ratio was little changed from 1977 and remained narrower than average.

Roadside Counts

A summary of summer roadside pheasant counts for 1978 is shown on 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. Summer 1978 survey results compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total pheasants observed	2,931	+43	- 9
Total miles driven	2,875	- 1	- 2
Pheasants per mile	1.02	+44	-18
Average brood size	5.69	+15	+ 5
Young per hen	4.32	+39	+ 8
Percent of hens with young	76	+17	+ 4

April temperatures were normal with normal precipitation. May temperatures were below normal but precipitation was normal. June was warm and dry. Counting conditions were near average over most of the state.

Production increased significantly from 1977 and was above 1977 levels in all regions. The density index (pheasants per mile) increased from .71 in 1977 to 1.02 in 1978 and was slightly below the average of 1.24 pheasants per mile.

An increased carry-over from 1977, coupled with increased production during 1978, resulted in an excellent pheasant population throughout Utah.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1978 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 1978 harvest statistics to 1977 and the average:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Pheasant hunters	83,800	+25	+ 1
Pheasants harvested	220,398	+49	- 7
Hunter-days afield	257,305	+35	+21
Pheasants per hunter-day	0.86	+10	-23
Pheasants per hunter	2.63	- 7	- 7

Total hunters increased from 1977 to the highest level since 1974--one percent more than the long-term average (1948-77). Hunter-days afield also increased resulting in a 49 percent increase in total harvest from 1977. Hunter success (pheasants per hunter-day) increased over 1977 but remained below average. Pheasants per hunter remained below average by seven percent.

Long-term trends (1964-78) of total hunters, hunter-days, harvest and hunter success are shown in Figure 1.

Field Bag Checks

A summary of pheasant field bag check data for 1978 is shown in Table 14. The hunter success trend determined via bag checks since 1973 is found in Table 15. A comparison of 1978 data, on a statewide basis, to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	5,316	-12	+16
Total hours hunted	17,473	-10	+12
Pheasants per hunter (complete hunts)	0.88	+33	0
Pheasants bagged per 100 hours	20	+25	+ 5
Average hours per hunter-day (complete hunts)	4.4	+ 7	- 4
Hours hunted per pheasant bagged	5.1	-18	- 9

The decrease in total hunters checked most likely reflects decreased efforts to collect data rather than decreased hunter pressure. The 0.88 birds per hunter index was comparable to the index derived from the harvest questionnaire (0.86 birds per hunter-day).

Overall, the field bag check showed increased hunter effort per day and increased hunter success compared to 1977. The average hunter spent 4.4 hours afield, compared to 4.1 for 1977.

Pheasants bagged per hunter and per hunter-day

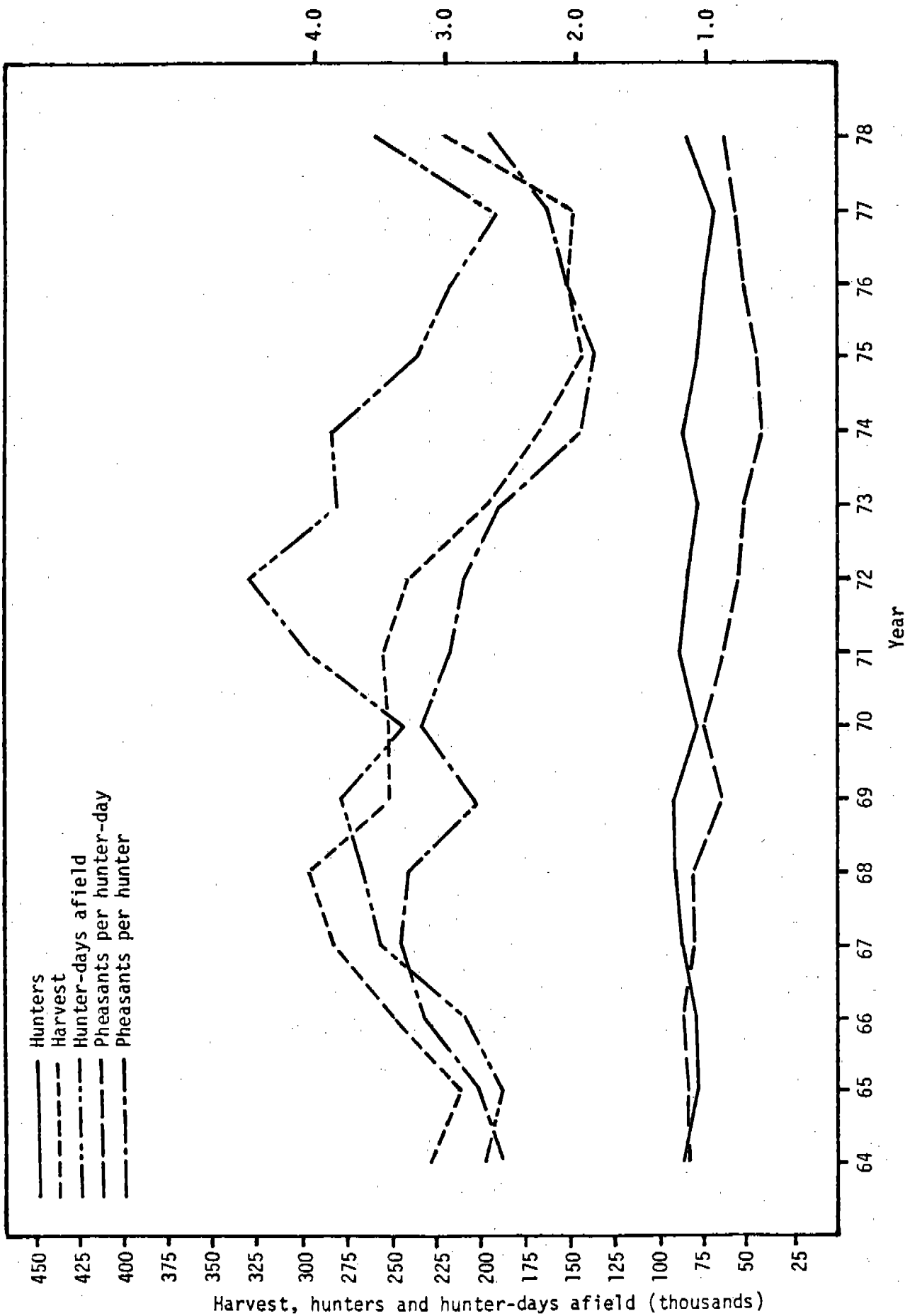


Figure 1. Statewide trend of pheasant harvest statistics

Table 1. Summary of pheasant winter sex-ratio counts, 1977-78.

Region and County	Roadside Observations			Flushing Observations			Effort Expended			Pheas. Obs.		
	Cocks	Hens	Total	Hens/100 Cocks	Cocks	Hens	Total	Hens/100 Cocks	Vehicle Miles	Hours	Walk	100 Hrs. of Road.
Northern Region												
Box Elder	25	52	77	2.1	48	0	7	7	120	11	1	12
Cache	41	157	198	3.8	26	9	31	40	710	46	13	59
Davis	22	161	183	7.3	14	0	0	0	254	29	1	30
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	17	133	150	7.8	13	0	6	6	339	32	2	34
REGIONAL TOTALS	105	503	608	4.8	21	9	44	53	1,423	118	17	135
Central Region												
Juab	2	3	5	1.5	67	1	20	21	90	6	7	13
Salt Lake	52	67	119	1.3	78	--	--	--	652	59	1	60
Sanpete	88	575	663	6.5	15	5	39	44	873	87	3	90
Tooele	41	124	165	3.0	33	4	21	25	261	19	4	23
Utah	156	776	932	4.9	20	--	--	--	1,526	145	4	149
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	339	1,545	1,884	4.6	22	10	80	90	3,402	316	19	335
Southern Region												
Beaver	9	27	36	3.0	33	--	--	--	68	7	--	7
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	9	20	29	2.2	45	--	--	--	314	20	--	20
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	51	132	183	2.6	39	--	--	--	165	16	--	16
Piute	--	--	--	--	--	--	--	--	--	--	--	1,144
Sevier	25	99	124	4.0	25	6	33	39	359	35	1	36
Washington	23	125	148	5.4	18	--	--	--	263	23	--	23
Wayne	4	2	6	0.5	200	4	13	17	132	10	8	18
REGIONAL TOTALS	121	405	526	3.3	30	10	46	56	1,301	111	9	120
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	196	513	709	2.6	38	77	154	231	773	48	1	49
Uintah	189	637	826	3.4	30	22	80	102	493	32	3	35
REGIONAL TOTALS	385	1,150	1,535	3.0	33	99	234	333	1,266	80	4	84
Southeastern Region												
Carbon	41	96	137	2.3	43	--	--	--	551	25	--	25
Emery	53	114	167	2.2	46	11	35	46	270	26	2	28
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	0	0	0	--	--	2	6	8	66	7	11	18
REGIONAL TOTALS	94	210	304	2.2	45	13	41	54	887	58	13	71
STATE TOTALS	1,044	3,813	4,857	3.7	27	141	445	586	8,279	683	62	745

Table 2. Trend of pheasant winter sex-ratio counts, 1973-78.

Region and County	1973-74		1974-75		1975-76		1976-77		1977-78		Averages 1968-77
	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.	
<u>Northern Region</u>											
Box Elder	5.6	1,553	4.4	2,074	4.4	1,954	2.6	738	2.1	700	
Cache	5.9	443	3.4	575	3.4	839	4.2	747	3.8	430	
Davis	6.3	912	3.8	1,200	11.7	3,817	6.5	1,464	7.3	631	
Morgan	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	
Weber	6.1	662	13.5	725	4.5	1,326	6.7	1,283	7.8	469	
REGIONAL TOTALS	5.7	980	4.5	1,202	4.7	1,481	4.7	982	4.8	515	5.1
<u>Central Region</u>											
Juab	6.0	117	19.0	111	2.7	110	7.0	400	1.5	83	
Salt Lake	9.3	768	5.2	899	2.2	1,300	3.1	433	1.3	202	
Sanpete	6.2	2,044	6.0	1,314	5.3	2,018	7.4	891	6.5	762	
Tooele	--	--	6.6	1,281	3.8	569	1.7	616	3.0	868	
Utah	5.2	970	5.3	1,144	2.9	1,790	4.1	1,291	4.9	643	
Wasatch	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6.3	1,167	5.6	1,075	3.1	1,574	4.3	924	4.6	596	5.1
<u>Southern Region</u>											
Beaver	3.7	540	2.7	480	1.4	277	8.0	300	3.0	514	
Garfield	--	--	--	--	--	--	--	--	--	--	
Iron	4.5	546	3.8	614	5.9	1,200	3.8	580	2.2	145	
Kane	--	--	--	--	--	--	--	--	--	--	
Millard	3.8	663	4.1	542	4.0	909	2.5	402	2.6	1,144	
Piute	--	--	--	--	--	--	--	--	--	--	
Sevier	6.4	1,839	5.4	1,316	5.3	1,024	2.5	567	4.0	354	
Washington	1.9	1,232	5.0	360	4.2	595	5.4	1,768	5.4	643	
Wayne	--	--	2.1	450	2.0	447	1.6	388	0.5	60	
REGIONAL TOTALS	4.1	963	4.4	781	3.9	712	3.5	653	3.3	474	4.7
<u>Northeastern Region</u>											
Daggett	--	--	--	--	--	--	--	--	--	--	
Duchesne	3.1	507	2.5	587	2.6	664	1.6	1,830	2.6	1,477	
Uintah	3.0	1,184	3.4	1,316	2.6	1,065	2.5	1,760	3.4	2,581	
REGIONAL TOTALS	3.0	867	2.9	827	2.6	833	2.0	1,797	3.0	1,919	2.6
<u>Southeastern Region</u>											
Carbon	3.5	169	--	--	2.8	870	1.3	800	2.3	548	
Emery	1.9	721	3.1	372	1.6	214	2.0	1,571	2.2	642	
Grand	4.4	270	1.9	289	--	--	--	--	--	--	
San Juan	1.7	2,167	--	600	--	--	--	--	--	--	
REGIONAL TOTALS	2.3	406	3.1	367	1.9	287	1.8	1,240	2.2	524	2.7
STATE TOTALS	4.8	981	4.5	944	3.2	1,156	3.3	1,014	3.7	711	4.4

Table 3. Pheasant summer inventory summary, 1978.

Region and County	No. Routes	Total Miles	Distinct Broods		Mixed Observ.		Adults w/o		Total Yng. Hens	Total Yng. Cocks	Total Yng. Hens	Total Yng. Cocks	Total Pheas. Mile	Yng./ Mile	Mean Brood Ad. Hen. w/Yng.	Yng./ % Hens	
			No. Yng.	Hens	Hens	Yng.	Cocks	Hens									Cocks
Northern Region																	
Box Elder	2	165	14	80	6	11	13	5	25	91	13	13	129	0.78	5.71	3.64	80
Cache	2	120	10	46	2	10	9	8	20	56	9	9	85	0.71	4.60	2.80	60
Davis	1	90	19	91	2	22	6	3	24	113	6	6	143	1.59	4.79	4.71	88
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	1	104	10	48	4	17	4	22	36	65	4	4	105	1.01	4.80	1.81	39
REGIONAL TOTALS	6	479	53	265	14	60	32	38	105	325	32	32	462	0.96	5.00	3.10	64
Central Region																	
Juab	1	37	5	28	0	0	0	0	5	28	0	0	33	0.89	5.60	5.60	100
Salt Lake	1	81	1	6	0	0	0	0	1	6	0	0	7	0.09	6.00	6.00	100
Sanpete	2	170	25	164	2	17	6	3	30	181	6	6	217	1.28	6.56	6.03	90
Tooele	1	60	7	32	4	11	8	5	16	43	8	8	67	1.11	4.57	2.69	69
Utah	4	294	75	368	10	53	34	38	123	421	34	34	578	1.96	4.91	3.42	69
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	9	642	113	598	16	81	48	46	175	679	48	48	902	1.40	5.29	3.88	74
Southern Region																	
Beaver	1	90	2	13	6	39	1	3	11	52	1	1	64	0.71	6.50	4.72	73
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	1	93	6	30	0	5	4	1	7	35	4	4	46	0.49	5.00	5.00	86
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2	210	24	165	9	71	14	6	39	236	14	14	289	1.38	6.88	6.05	85
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	2	165	20	128	15	112	8	1	36	240	8	8	284	1.72	6.40	6.67	97
Washington	2	96	3	19	17	85	7	3	23	104	7	7	134	1.40	6.33	4.52	87
Wayne	1	30	4	41	3	12	3	0	7	53	3	3	63	2.10	10.25	7.57	100
REGIONAL TOTALS	9	684	59	396	50	324	37	14	123	720	37	37	880	1.29	6.71	5.85	89
Northeastern Region																	
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	3	348	24	157	6	27	18	6	36	184	18	18	238	0.68	6.54	5.11	83
Uintah	2	164	28	161	11	70	15	2	41	231	15	15	287	1.75	5.75	5.63	95
REGIONAL TOTALS	5	512	52	318	17	97	33	8	77	415	33	33	525	1.02	6.12	5.39	90
Southeastern Region																	
Carbon	2	180	4	27	0	0	0	5	9	27	3	3	39	0.22	6.75	3.00	44
Emery	3	234	11	58	4	23	16	16	31	81	11	11	123	0.53	5.27	2.61	48
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	1	144	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	--
REGIONAL TOTALS	6	558	15	85	4	23	16	21	40	108	14	14	162	0.35	5.67	2.70	48
STATE TOTALS	35	2,875	292	1662	101	585	166	127	520	2,247	164	164	2,931	1.02	5.69	4.32	76

Table 4. Trend of pheasants observed per mile during summer r' side counts, 1968-78.

Region and County	Year												Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978		
<u>Northern Region</u>													
Box Elder	0.82	0.68	0.57	1.75	1.10	0.38	0.87	0.21	0.46	0.60	0.78		
Cache	2.20	1.46	1.90	1.98	1.10	0.36	0.48	0.68	0.44	0.22	0.71		
Davis	0.83	4.04	0.70	2.75	1.77	--	0.32	1.55	0.54	1.67	1.59		
Morgan	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--		
Summit	0.32	--	--	--	--	--	--	--	--	--	--		
Weber	2.00	3.18	0.71	1.82	2.44	2.36	1.77	1.23	2.24	1.30	1.01		
REGIONAL TOTALS	1.27	1.89	1.20	2.04	1.45	1.04	0.80	0.71	0.86	0.85	0.96	1.38	
<u>Central Region</u>													
Juab	1.07	0.46	1.20	0.32	0.64	0.23	0.46	0.82	1.20	0.54	0.09		
Salt Lake	3.04	2.60	0.88	1.74	1.29	0.44	0.8	0.54	0.55	0.29	0.09		
Sanpete	2.61	2.33	3.34	2.22	3.27	1.78	1.60	0.80	1.37	1.23	1.28		
Tooele	3.70	2.82	3.18	1.69	2.52	0.07	0.87	0.17	1.02	0.77	1.11		
Utah	2.74	2.49	1.84	2.31	2.02	1.36	1.29	0.64	1.45	0.98	1.96		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	2.74	2.38	1.97	2.00	2.06	0.98	1.11	0.62	1.16	0.93	1.40	1.89	
<u>Southern Region</u>													
Beaver	0.88	0.46	0.96	0.69	0.75	0.60	0.60	0.07	0.69	0.49	0.71		
Garfield	0.79	1.05	0.36	0.03	--	--	--	--	--	--	--		
Iron	--	0.73	0.87	0.77	0.51	0.56	0.53	0.19	0.39	0.30	0.49		
Kane	--	--	--	--	--	--	--	--	--	--	--		
Millard	1.61	1.68	1.01	1.15	1.09	0.57	0.79	0.41	0.47	0.49	1.38		
Piute	--	0.64	0.53	0.35	--	--	--	--	--	--	--		
Sevier	1.71	1.66	1.99	4.13	2.37	1.03	0.89	0.40	0.72	0.88	1.72		
Washington	0.99	0.67	0.29	1.32	0.92	1.12	1.34	0.47	0.47	0.57	1.40		
Wayne	--	--	--	--	--	--	0.48	0.09	1.33	0.03	2.10		
REGIONAL TOTALS	1.37	1.12	0.92	1.48	1.19	0.79	0.78	0.28	0.58	0.57	1.29	1.12	
<u>Northeastern Region</u>													
Daggett	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	0.30	0.36	0.45	0.32	0.27	0.31	0.33	0.33	0.34	0.39	0.68		
Uintah	1.14	1.27	0.66	0.82	0.74	0.61	1.33	0.54	1.45	1.15	1.75		
REGIONAL TOTALS	0.46	0.70	0.51	0.51	0.42	0.39	0.61	0.39	0.67	0.65	1.02	0.62	
<u>Southeastern Region</u>													
Carbon	2.34	0.09	0.20	0.05	0.15	0.01	0	0.02	0.39	0.23	0.22		
Emery	0.32	0.69	0.83	0.55	1.32	0.64	1.06	0.88	0.47	0.61	0.53		
Grand	--	--	--	--	1.03	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	5.00	3.57	0.93	0.93	0.00		
REGIONAL TOTALS	0.93	0.39	0.57	0.31	0.76	0.34	0.64	0.60	0.44	0.44	0.35	0.75	
STATE TOTALS	1.58	1.40	1.18	1.40	1.33	0.74	0.83	0.49	0.78	0.71	1.02	1.24	

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1968-78.

Region and County	Year											Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	0.51	0.40	0.35	1.32	0.76	0.28	0.62	0.13	0.31	0.41	0.55	
Cache	1.84	1.05	1.39	1.62	0.81	0.32	0.35	0.43	0.30	0.17	0.47	
Davis	0.65	3.11	0.54	2.25	1.28	--	0.22	0.84	0.54	1.17	1.26	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	0.19	--	--	--	--	--	--	--	--	--	--	
Weber	1.60	2.35	0.58	1.35	1.74	1.72	1.31	0.77	1.47	0.84	0.62	
REGIONAL TOTALS	0.97	1.37	0.86	1.62	1.04	0.77	0.59	0.43	0.58	0.58	0.68	1.01
Central Region												
Juab	0.90	0.27	0.95	0.18	0.50	0.17	0.38	0.71	1.06	0.46	0.76	
Salt Lake	2.14	1.91	0.61	1.31	1.04	0.32	0.32	0.35	0.37	0.21	0.07	
Sanpete	2.10	1.90	2.54	1.74	2.64	1.43	1.26	0.56	1.12	0.98	1.06	
Tooele	3.15	2.49	2.74	1.41	2.09	0.00	0.62	0.07	0.69	0.45	0.72	
Utah	2.11	1.88	1.30	1.68	1.35	1.02	0.95	0.33	0.99	0.60	1.43	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	2.10	1.84	1.46	1.50	1.53	0.73	0.83	0.38	0.84	0.63	1.06	1.45
Southern Region												
Beaver	0.80	0.26	0.64	0.48	0.57	0.39	0.47	0.03	0.54	0.33	0.58	
Garfield	0.63	0.74	0.19	0.00	--	--	--	--	--	--	--	
Iron	--	0.53	0.55	0.62	0.39	0.51	0.46	0.08	0.31	0.17	0.38	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	1.39	1.32	0.84	0.90	0.87	0.48	0.57	0.27	0.34	0.34	1.12	
Piute	--	0.53	0.31	0.25	--	--	--	--	--	--	--	
Sevier	1.49	1.26	1.58	3.21	1.93	0.85	0.70	0.28	0.56	0.70	1.45	
Washington	0.71	0.46	0.17	0.95	0.65	0.72	1.03	0.26	0.35	0.37	1.08	
Wayne	--	--	--	--	--	--	0.14	0.02	0.87	0.00	1.76	
REGIONAL TOTALS	1.15	0.85	0.69	1.14	0.95	0.61	0.59	0.17	0.44	0.41	1.05	0.86
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.20	0.25	0.27	0.21	0.15	0.18	0.21	0.23	0.21	0.25	0.53	
Uintah	0.86	0.86	0.40	0.55	0.55	0.47	1.08	0.27	1.07	0.79	1.41	
REGIONAL TOTALS	0.32	0.47	0.31	0.34	0.28	0.26	0.45	0.24	0.47	0.44	0.81	0.44
Southeastern Region												
Carbon	1.82	0.03	0.17	0.03	0.10	--	0.00	0.00	0.22	0.03	0.15	
Emery	0.18	0.58	0.56	0.30	0.96	0.47	0.81	0.57	0.20	0.33	0.35	
Grand	--	--	--	--	0.67	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	4.07	2.43	0.47	0.40	--	
REGIONAL TOTALS	0.67	0.31	0.39	0.17	0.54	0.25	0.50	0.39	0.22	0.18	0.24	0.54
STATE TOTALS	1.23	1.06	0.86	1.06	0.99	0.55	0.62	0.30	0.55	0.47	0.78	0.95

Table 6. Trend of young per adult hen ratios found during summer roadsign pheasant counts, 1968-78.

Region and County	Year											Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	2.07	2.00	2.19	4.02	3.26	3.23	3.19	2.44	4.18	3.68	3.64	
Cache	5.65	3.38	3.65	6.64	3.88	10.00	3.00	2.69	4.50	4.00	2.80	
Davis	4.82	4.00	4.00	5.45	3.42	--	3.00	1.53	3.75	3.18	4.71	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	1.75	--	--	--	--	--	--	--	--	--	--	
Weber	4.74	3.70	4.22	3.40	3.49	3.72	3.66	2.07	2.35	2.12	1.81	
REGIONAL TOTALS	3.89	3.27	3.32	5.02	3.50	3.82	3.35	2.10	2.91	2.88	3.10	3.74
<u>Central Region</u>												
Juab	5.40	3.25	4.22	2.33	4.50	4.00	5.07	6.00	7.40	8.00	5.60	
Salt Lake	3.02	3.63	2.96	4.08	4.74	3.24	2.87	2.39	3.50	5.33	6.00	
Sanpete	4.71	5.48	4.02	4.73	5.52	5.33	4.45	2.67	5.22	5.09	6.03	
Tooele	7.08	7.89	6.78	5.95	5.95	0.00	3.36	1.33	3.06	1.93	2.69	
Utah	3.94	3.85	3.69	3.28	2.71	3.33	3.58	1.62	3.32	2.53	3.42	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.92	4.30	3.94	3.86	3.78	3.46	3.77	2.16	3.85	3.19	3.88	4.02
<u>Southern Region</u>												
Beaver	10.67	1.86	5.33	3.27	5.38	2.78	5.83	0.86	6.14	3.33	4.72	
Garfield	4.00	3.50	2.00	--	--	--	--	--	--	--	--	
Iron	--	3.21	2.53	4.43	4.54	13.67	9.50	0.86	5.50	6.00	5.00	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	6.10	4.58	5.89	4.62	5.65	5.75	2.91	2.52	3.67	3.57	6.05	
Piute	--	5.33	1.75	5.00	--	--	--	--	--	--	--	
Sevier	6.72	3.74	4.30	4.34	4.94	5.18	3.80	3.06	4.79	4.90	6.67	
Washington	3.42	2.88	1.50	3.45	3.50	2.62	3.89	1.94	5.83	2.47	4.52	
Wayne	--	--	--	--	--	--	0.54	0.25	2.60	--	7.57	
REGIONAL TOTALS	5.75	3.84	3.92	4.19	4.98	4.41	3.73	1.93	4.36	3.88	5.85	4.26
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	5.92	5.00	2.51	3.50	3.00	4.06	3.71	3.73	4.06	3.41	5.11	
Uintah	4.24	3.37	2.62	3.08	4.84	5.64	5.43	1.78	4.48	3.06	5.63	
REGIONAL TOTALS	4.93	3.77	2.56	3.23	3.92	4.70	4.69	2.73	4.34	3.18	5.39	4.16
<u>Southeastern Region</u>												
Carbon	4.52	1.40	5.00	5.00	4.33	--	--	0.00	2.05	0.42	3.00	
Emery	2.46	6.78	3.55	2.25	3.34	4.70	7.46	3.96	1.46	2.36	2.61	
Grand	--	--	--	--	2.22	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	7.62	2.55	1.75	1.20	0	
REGIONAL TOTALS	3.91	5.61	3.74	2.36	3.20	4.70	7.52	3.28	1.74	1.62	2.70	4.15
STATE TOTALS	4.25	3.94	3.68	4.09	3.93	3.95	3.95	2.28	3.56	3.11	4.32	3.99

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1968-78.

Region and County	Year											Average 1963-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	57	58	59	75	69	62	78	78	73	79	80	
Cache	65	62	66	86	78	50	68	66	80	100	60	
Davis	91	56	82	87	85	--	100	97	75	58	88	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	38	--	--	--	--	--	--	--	--	--	--	
Weber	87	80	100	77	54	82	69	34	58	44	39	
REGIONAL TOTALS	66	66	68	82	70	77	74	68	64	58	64	73
<u>Central Region</u>												
Juab	100	75	100	67	100	100	100	100	100	100	100	
Salt Lake	69	76	62	66	78	71	52	45	59	100	100	
Sanpete	97	91	78	95	91	93	88	64	90	85	90	
Tooele	88	100	100	84	74	0	64	33	78	57	69	
Utah	72	74	60	69	57	62	58	42	66	61	69	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	76	79	71	74	69	66	68	49	73	67	74	72
<u>Southern Region</u>												
Beaver	100	72	100	82	88	64	83	14	86	56	73	
Garfield	100	83	50	--	--	--	--	--	--	--	--	
Iron	--	75	59	62	54	100	80	14	100	100	86	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	100	77	94	81	88	100	50	48	81	68	85	
Piute	--	100	50	100	--	--	--	--	--	--	--	
Sevier	100	96	88	85	90	85	83	59	92	90	97	
Washington	92	42	67	74	62	66	78	31	50	73	87	
Wayne	--	--	--	--	--	--	8	50	40	--	100	
REGIONAL TOTALS	98	79	77	80	83	79	64	42	78	76	89	76
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	92	81	44	68	68	81	76	59	88	81	83	
Uintah	65	59	42	55	84	91	100	48	94	61	95	
REGIONAL TOTALS	76	65	43	60	76	85	90	53	91	68	90	75
<u>Southeastern Region</u>												
Carbon	74	20	75	100	67	--	--	0	59	17	44	
Emery	77	94	70	42	66	76	77	65	29	55	48	
Grand	--	--	--	--	56	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	100	55	50	60	0	
REGIONAL TOTALS	75	78	71	44	64	76	86	60	44	44	48	68
STATE TOTALS	78	74	69	75	72	74	71	54	71	65	76	73

Table 8. Trend of average brood size for pheasants, 1968-78.

Region and County	Year											Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	3.80	3.53	3.68	4.96	4.81	4.75	4.17	3.14	5.75	4.67	5.71	
Cache	6.88	5.63	7.12	8.34	5.47	5.00	4.38	4.67	5.83	4.00	4.60	
Davis	5.14	6.67	5.14	6.52	4.50	--	3.50	2.75	4.33	5.73	4.79	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	4.67	--	--	--	--	--	--	--	--	--	--	
Weber	5.69	5.33	3.43	4.80	6.07	6.55	7.27	5.78	5.05	6.57	4.80	
REGIONAL TOTALS	5.25	5.56	5.28	6.33	5.13	6.00	4.84	4.26	5.19	5.29	5.00	5.22
Central Region												
Juab	5.40	4.33	4.22	7.00	4.50	--	5.00	9.00	7.33	8.00	5.60	
Salt Lake	5.28	5.35	4.95	5.76	6.93	4.58	5.00	5.73	6.09	5.33	6.00	
Sanpete	4.68	5.13	5.52	4.94	6.11	5.92	4.59	4.72	5.88	4.92	6.56	
Tooele	8.10	7.89	6.78	6.81	8.07	--	6.50	4.00	4.38	3.33	4.57	
Utah	5.07	5.08	5.13	5.89	5.31	5.78	6.24	4.12	4.86	4.56	4.91	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.28	5.37	5.41	5.70	5.92	5.60	5.46	4.73	5.35	4.70	5.29	5.44
Southern Region												
Beaver	10.67	--	--	5.75	6.17	4.33	8.00	6.00	7.75	6.00	6.50	
Garfield	4.00	4.25	3.00	--	--	--	--	--	--	--	--	
Iron	--	11.00	4.50	7.17	5.67	6.00	9.50	6.00	5.25	6.00	5.00	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	5.74	6.24	4.44	5.31	5.50	6.20	5.73	6.93	5.23	6.88	
Piute	--	5.00	3.50	5.00	--	--	--	--	--	--	--	
Sevier	--	4.22	5.00	5.24	5.67	6.14	4.82	4.25	5.17	6.17	6.40	
Washington	4.31	8.00	--	5.25	6.33	4.33	4.42	5.80	8.00	3.57	6.33	
Wayne	--	--	--	--	--	--	7.00	--	7.00	--	10.25	
REGIONAL TOTALS	5.37	5.42	5.30	5.13	5.60	5.38	5.83	5.31	6.37	5.45	6.71	5.49
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	6.45	6.45	4.82	6.50	4.45	5.64	5.43	6.40	4.64	4.55	6.54	
Uintah	6.54	6.65	6.14	6.05	5.75	6.28	5.21	4.22	5.00	5.00	5.75	
REGIONAL TOTALS	6.50	6.59	5.33	6.21	5.13	5.89	5.29	5.37	4.85	4.80	6.12	5.62
Southeastern Region												
Carbon	7.50	1.00	4.00	5.00	6.50	--	--	--	3.00	2.50	6.75	
Emery	4.00	8.42	5.64	6.00	5.08	6.22	6.67	5.00	4.86	4.33	5.27	
Grand	--	--	--	--	4.00	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	6.12	--	3.50	4.00	--	
REGIONAL TOTALS	6.45	7.85	5.29	5.89	5.00	6.22	6.36	5.00	4.40	4.07	5.67	5.68
STATE TOTALS	5.40	5.59	5.36	5.73	5.62	5.65	5.46	4.80	5.37	4.94	5.69	5.43

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	484	24,097	24,377	1.01	9.37	11.06
Cache	376	19,094	18,834	0.99	7.42	8.55
Davis	474	27,079	18,673	0.69	10.52	8.47
Morgan	16	721	560	0.78	0.28	0.25
Rich	6	280	520	1.86	0.11	0.24
Summit	1	200	80	0.40	0.08	0.04
Weber	545	31,643	22,276	0.70	12.30	10.11
REGIONAL TOTALS	1,902	103,114	85,321	0.83	40.07	38.71
Central Region						
Juab	65	3,462	2,742	0.79	1.35	1.24
Salt Lake	487	24,978	18,053	0.72	9.71	8.19
Sanpete	210	10,748	9,787	0.91	4.18	4.44
Tooele	129	6,024	4,884	0.81	2.34	2.22
Utah	966	49,996	41,510	0.83	19.43	18.83
Wasatch	2	80	160	2.00	0.03	0.07
REGIONAL TOTALS	1,859	95,289	77,135	0.81	37.03	35.00
Southern Region						
Beaver	27	1,161	1,121	0.97	0.45	0.51
Garfield	13	600	580	0.97	0.23	0.26
Iron	46	2,442	2,021	0.83	0.95	0.92
Kane	0	0	0	0.00	0.00	0.00
Millard	180	9,787	10,327	1.06	3.80	4.69
Piute	12	680	660	0.97	0.26	0.30
Sevier	193	10,688	8,786	0.82	4.15	3.99
Washington	51	2,462	1,721	0.70	0.96	0.78
Wayne	7	200	200	1.00	0.08	0.09
REGIONAL TOTALS	529	28,020	25,418	0.91	10.89	11.53
Northeastern Region						
Daggett	4	160	160	1.00	0.06	0.07
Duchesne	165	8,766	12,369	1.41	3.41	5.61
Uintah	176	11,788	12,409	1.05	4.58	5.63
REGIONAL TOTALS	345	20,715	24,938	1.20	8.05	11.31
Southeastern Region						
Carbon	66	2,662	2,282	0.86	1.03	1.04
Emery	95	4,884	3,162	0.65	1.90	1.43
Grand	5	300	220	0.73	0.12	0.10
San Juan	5	140	80	0.57	0.05	0.04
REGIONAL TOTALS	171	7,986	5,744	0.72	3.10	2.61
Unknown counties	51	2,162	1,841	0.85	0.84	0.84
Mixed counties	1	20	0	0.00	0.01	0.00
STATE TOTALS	4,858	257,305	220,398	0.86	100	100

*Total hunter-trips from questionnaire returns.

Table 10. Summary of pheasants bagged per hunter-day by region and county, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	0.85	0.85	0.69	0.83	0.76	0.96	1.01
Cache	0.85	0.87	0.70	0.79	0.82	0.88	0.99
Davis	0.54	0.50	0.47	0.52	0.54	0.68	0.69
Morgan	0.54	0.63	0.30	0.24	0.87	0.73	0.78
Rich	0.38	0.00	1.00	0.56	0.00	0.33	1.86
Summit	1.00	0.33	0.69	0.50	0.00	0.00	0.40
Weber	0.69	0.63	0.52	0.59	0.66	0.76	0.70
REGIONAL TOTALS	0.75	0.72	0.59	0.66	0.68	0.81	0.83
Central Region							
Juab	0.52	0.43	0.39	0.38	0.59	0.68	0.79
Salt Lake	0.55	0.61	0.44	0.47	0.56	0.60	0.72
Sanpete	0.91	0.81	0.89	0.80	0.78	0.79	0.91
Tooele	0.46	0.48	0.37	0.47	0.71	0.55	0.81
Utah	0.75	0.67	0.61	0.58	0.73	0.78	0.83
Wasatch	0.25	0.00	0.00	0.22	0.54	0.50	2.00
REGIONAL TOTALS	0.66	0.65	0.56	0.56	0.68	0.71	0.81
Southern Region							
Beaver	0.70	0.53	0.58	0.58	0.70	0.74	0.97
Garfield	0.50	0.88	0.44	0.21	0.27	0.88	0.97
Iron	0.63	0.45	0.55	0.43	0.38	0.59	0.83
Kane	--	--	--	0.33	1.00	0.00	0.00
Millard	0.81	0.86	0.65	0.73	0.71	0.79	1.06
Piute	0.39	0.77	0.88	0.40	0.73	0.56	0.97
Sevier	0.84	0.73	0.70	0.56	0.73	0.76	0.82
Washington	0.49	0.36	0.38	0.39	0.97	0.46	0.70
Wayne	0.00	1.57	1.09	0.00	0.71	0.40	1.00
REGIONAL TOTALS	0.74	0.70	0.63	0.58	0.72	0.72	0.91
Northeastern Region							
Daggett	1.00	0.50	0.50	2.25	1.40	0.00	1.00
Duchesne	1.09	1.15	0.83	0.76	1.08	1.09	1.41
Uintah	0.82	0.92	0.70	0.74	1.12	1.11	1.05
REGIONAL TOTALS	0.93	1.03	0.76	0.76	1.10	1.10	1.20
Southeastern Region							
Carbon	0.45	0.52	0.25	0.34	0.54	0.50	0.86
Emery	0.92	0.60	0.46	0.53	0.67	0.55	0.65
Grand	0.20	0.30	0.00	0.31	0.42	0.75	0.73
San Juan	--	1.08	0.94	0.31	0.56	0.33	0.57
REGIONAL TOTALS	0.73	0.57	0.42	0.46	0.61	0.54	0.72
Unknown counties	0.75	0.75	0.63	0.83	0.74	0.70	0.85
Mixed counties	0.00	0.75	1.95	0.00	0.00	0.00	0.00
STATE TOTALS	0.73	0.70	0.59	0.61	0.71	0.78	0.86

Table 11. Percentage distribution of pheasant harvest by region and county, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	16.87	12.86	11.64	13.05	10.10	11.45	11.06
Cache	12.07	11.31	11.76	8.75	9.13	8.28	8.55
Davis	6.81	5.70	8.27	8.73	7.99	8.97	8.47
Morgan	0.37	0.38	0.24	0.09	0.27	0.24	0.25
Rich	0.03	0.00	0.05	0.06	0.00	0.01	0.24
Summit	0.02	0.04	0.10	0.01	0.00	0.00	0.04
Weber	9.21	8.31	10.26	13.21	13.40	12.17	10.11
REGIONAL TOTALS	45.39	38.60	42.31	43.91	40.89	41.12	38.71
Central Region							
Juab	1.31	0.87	0.96	0.69	1.25	1.03	1.24
Salt Lake	6.33	7.80	8.12	8.73	7.65	7.51	8.19
Sanpete	4.90	6.88	6.56	6.03	5.59	4.68	4.44
Tooele	1.46	1.87	1.72	1.80	3.00	1.77	2.22
Utah	14.51	15.84	14.27	14.70	14.35	17.08	18.83
Wasatch	0.01	0.00	0.00	0.02	0.09	0.01	0.07
REGIONAL TOTALS	28.52	33.26	31.65	31.97	31.94	32.08	35.00
Southern Region							
Beaver	0.79	0.82	0.64	0.34	1.23	0.65	0.51
Garfield	0.07	0.07	0.05	0.05	0.04	0.07	0.26
Iron	1.41	1.06	0.77	0.98	0.55	0.48	0.92
Kane	--	--	--	0.03	0.01	0.00	0.00
Millard	5.05	6.01	5.32	5.23	3.71	4.02	4.69
Piute	0.08	0.35	0.17	0.07	0.25	0.10	0.30
Sevier	4.25	4.06	5.39	4.62	4.47	4.24	3.99
Washington	0.93	0.74	0.89	1.06	2.28	0.73	0.78
Wayne	0.00	0.32	0.14	0.00	0.13	0.04	0.09
REGIONAL TOTALS	12.59	13.42	13.36	12.38	12.68	10.34	11.53
Northeastern Region							
Daggett	0.01	0.02	0.02	0.10	0.09	0.00	0.07
Duchesne	3.30	4.45	3.97	2.86	4.00	5.85	5.61
Uintah	3.95	4.24	4.24	4.24	4.39	5.27	5.63
REGIONAL TOTALS	7.27	8.71	8.24	8.24	8.49	11.12	11.31
Southeastern Region							
Carbon	1.05	1.51	0.36	0.87	0.95	0.79	1.04
Emery	3.62	2.32	1.86	2.69	2.34	1.80	1.43
Grand	0.04	0.03	0.00	0.05	0.11	0.06	0.10
San Juan	--	0.13	0.17	0.05	0.07	0.02	0.04
REGIONAL TOTALS	4.71	3.99	2.39	3.65	3.46	2.68	2.61
Unknown counties	1.52	1.99	1.59	1.04	2.55	2.68	0.84
Mixed counties	0.00	0.03	0.47	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100

Table 12. Percentage distribution of pheasant hunting pressure by county hunted, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	14.61	10.71	9.95	9.61	9.39	9.22	9.37
Cache	10.42	9.21	9.92	6.75	7.90	7.25	7.42
Davis	9.28	8.05	10.34	10.24	10.54	10.24	10.52
Morgan	0.50	0.42	0.46	0.23	0.22	0.26	0.28
Rich	0.06	0.01	0.03	0.06	0.02	0.02	0.11
Summit	0.01	0.08	0.09	0.01	0.01	0.01	0.08
Weber	9.76	9.24	11.64	13.70	14.28	12.35	12.30
REGIONAL TOTALS	44.64	37.72	42.43	40.60	42.35	39.35	40.07
Central Region							
Juab	1.84	1.44	1.48	1.12	1.49	1.17	1.35
Salt Lake	8.46	8.99	11.06	11.37	9.70	9.70	9.71
Sanpete	3.95	6.00	4.39	4.62	5.08	4.60	4.18
Tooele	2.31	2.72	2.74	2.33	2.98	2.50	2.34
Utah	14.27	16.68	13.87	15.42	13.95	16.95	19.43
Wasatch	0.03	0.03	0.01	0.06	0.12	0.02	0.03
REGIONAL TOTALS	37.86	35.85	33.54	34.92	33.32	34.93	37.03
Southern Region							
Beaver	0.83	1.10	0.65	0.36	1.25	0.68	0.45
Garfield	0.10	0.05	0.06	0.13	0.10	0.06	0.23
Iron	1.66	1.66	0.83	1.40	1.01	0.62	0.95
Kane	--	--	--	0.06	0.01	0.00	0.00
Millard	4.60	4.95	4.89	4.42	3.67	3.95	3.80
Piute	0.16	0.32	0.11	0.10	0.25	0.14	0.26
Sevier	3.70	3.93	4.55	5.04	4.35	4.31	4.15
Washington	1.39	1.44	1.39	1.65	1.66	1.24	0.96
Wayne	0.07	0.14	0.07	0.01	0.13	0.08	0.08
REGIONAL TOTALS	12.50	13.59	12.55	13.18	12.44	11.08	10.89
Northeastern Region							
Daggett	0.01	0.03	0.03	0.03	0.05	0.00	0.06
Duchesne	2.22	2.72	2.83	2.29	2.63	4.15	3.41
Uintah	3.52	3.23	3.58	3.38	2.78	3.67	4.58
REGIONAL TOTALS	5.76	5.98	6.43	5.70	5.45	7.82	8.05
Southeastern Region							
Carbon	1.71	2.05	0.85	1.56	1.25	1.22	1.03
Emery	2.88	2.73	2.40	3.09	2.47	2.52	1.90
Grand	0.14	0.07	0.03	0.09	0.18	0.06	0.12
San Juan	--	0.08	0.11	0.09	0.09	0.05	0.05
REGIONAL TOTALS	4.73	4.93	3.40	4.82	3.99	3.86	3.10
Unknown counties	1.49	1.88	1.50	0.77	2.45	2.95	0.84
Mixed counties	0.03	0.03	0.14	0.00	0.00	0.01	0.01
STATE TOTALS	100	100	100	100	100	100	100

Table 13. Statewide summary of pheasant harvest statistics, 1948-1978.

Year	Total Hunters	Total Harvest	Hunter-days Afield	Pheasants Per Hunter-day	Pheasants Per Hunter
1948	96,534	280,914	--	--	2.91
1949	88,369	263,340	189,453	1.39	2.98
1950	92,724	249,428	235,309	1.06	2.69
1951	76,576	246,575	171,233	1.44	3.22
1952	78,773	246,559	185,383	1.33	3.13
1953	82,595	245,307	176,480	1.39	2.97
1954	82,370	260,289	201,774	1.29	3.16
1955	78,793	196,195	178,359	1.10	2.49
1956	77,826	206,239	182,512	1.13	2.65
1957	83,025	228,319	170,387	1.34	2.75
1958	88,290	309,015	220,725	1.40	3.50
1959	86,268	243,276	202,730	1.21	2.82
1960	81,976	232,812	177,719	1.31	2.84
1961	83,493	238,439	243,305	0.98	2.86
1962	86,336	262,448	209,921	1.25	3.04
1963	87,647	297,873	198,582	1.50	3.40
1964	88,242	225,775	196,314	1.15	2.56
1965	77,409	211,876	186,215	1.14	2.74
1966	78,721	249,814	209,082	1.19	3.17
1967	85,664	284,000	257,033	1.10	3.32
1968	90,453	297,752	267,788	1.11	3.29
1969	90,573	250,241	277,887	0.90	2.76
1970	78,585	250,503	244,958	1.02	3.19
1971	87,878	259,189	294,618	0.88	2.95
1972	84,311	240,573	327,669	.73	2.85
1973	75,968	196,012	278,033	0.70	2.58
1974	85,252	167,408	282,294	0.59	1.96
1975	77,566	143,783	234,615	0.61	1.85
1976	74,029	151,476	214,023	0.71	2.05
1977	67,195	148,168	191,142	0.78	2.21
1978	83,800	220,398	257,305	0.86	2.63
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TOTALS					
1948-78	2,577,241	7,303,996	6,662,848	1.10	2.83
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AVERAGES					
1948-77	83,115	236,120	213,518	1.11	2.84

Table 14. Pheasant field bag check summary, 1978.

Region and County	ALL HUNTS					COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.
Northern Region										
Box Elder	283	595	1,517	377	25	237	483	1,270	300	24
Cache	218	558	1,726	277	16	108	172	634	106	17
Davis	90	217	591	92	16	55	122	356	66	19
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	2	4	32	5	16	2	4	32	5	16
REGIONAL TOTALS	593	1,374	3,866	751	19	402	781	2,292	477	21
Central Region										
Juab	23	66	208	38	18	4	12	11	9	82
Salt Lake	25	45	47	1	2	14	22	32	1	3
Sanpete	103	388	1,199	228	19	21	63	265	45	17
Tooele	48	111	244	73	30	3	5	6	10	167
Utah	251	602	1,326	315	24	63	138	410	111	27
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	450	1,212	3,024	655	22	105	240	724	176	24
Southern Region										
Beaver	15	42	88	12	14	2	6	17	2	12
Garfield	3	10	8	4	50	--	--	--	--	--
Iron	46	139	385	97	25	13	28	82	35	43
Kane	--	--	--	--	--	--	--	--	--	--
Millard	273	704	2,332	401	17	134	320	1,055	199	19
Piute	2	4	8	2	25	1	2	4	1	25
Sevier	131	430	1,386	288	21	36	117	534	122	23
Washington	40	112	186	36	19	6	17	31	10	32
Wayne	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	510	1,441	4,393	840	19	192	490	1,723	369	21
Northeastern Region										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	162	650	3,657	694	19	166	392	2,909	536	18
Uintah	41	398	1,741	424	24	93	212	1,547	313	20
REGIONAL TOTALS	303	1,048	5,398	1,118	21	259	604	4,456	849	19
Southeastern Region										
Carbon	36	73	148	27	18	9	29	67	12	18
Emery	61	164	634	61	10	10	29	215	21	10
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	2	4	10	2	20	1	2	5	2	40
REGIONAL TOTALS	99	241	792	90	11	20	60	286	35	12
STATE TOTALS	1,955	5,316	17,473	3,454	20	978	2,175	9,481	1,906	20

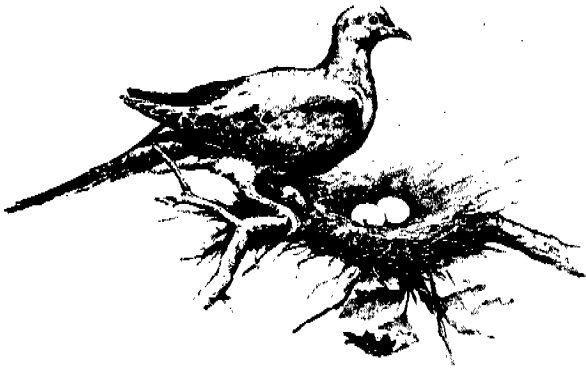
Table 15. Pheasant hunter success trend as determined by field bag check, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Birds/100 hr. Hunter	Birds/Hunter	Birds/100 hr. Hunter	Birds/Hunter	Birds/100 hr. Hunter	Birds/Hunter	Birds/100 hr. Hunter	Birds/100 hr. Hunter	Birds/100 hr. Hunter	Birds/100 hr. Hunter	Birds/100 hr. Hunter	Birds/100 hr. Hunter
Northern Region												
Box Elder	13	0.51	13	0.43	18	0.52	24	0.74	18	0.54	24	0.62
Cache	16	0.69	16	0.61	15	0.61	13	0.46	17	0.63	17	0.62
Davis	13	0.52	11	0.55	8	0.28	14	0.51	9	0.25	19	0.54
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	13	0.37	14	0.54	8	0.38	10	0.35	13	0.75	16	1.25
REGIONAL TOTALS	14	0.53	14	0.47	12	0.48	17	0.60	16	0.51	21	0.61
Central Region												
Juab	6	0.80	5	0.10	16	0.28	7	0.11	27	0.67	82	0.75
Salt Lake	15	0.71	9	0.27	15	0.47	11	0.12	4	0.07	3	0.05
Sanpete	20	1.68	13	0.14	14	0.73	15	1.09	27	0.73	17	0.71
Tooele	17	0.67	10	1.67	13	0.34	27	0.53*	67	2.00	167	2.00
Utah	13	0.62	17	0.94	11	0.42	14	1.05	25	0.66	27	0.80
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	15	0.77	14	0.46	13	0.58	15	0.89	23	0.59	24	0.73
Southern Region												
Beaver	11	0.94	--	--	14	0.56	14	0.16*	43	0.67	12	0.33
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	7	--	18	0.44	39	0.37	--	--	17	0.67	43	1.25
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	14	0.79	14	0.79	12	0.70	13	0.44	10	0.37	19	0.62
Piute	--	--	20	1.00	--	--	--	--	--	--	25	0.50
Sevier	14	0.80	16	0.30	15	0.66	17	0.63	20	1.00	23	1.04
Washington	17	0.80	--	--	15	0.29	21	0.33	12	0.29	32	0.59
Wayne	--	--	--	--	--	--	17	0.35*	--	--	--	--
REGIONAL TOTALS	14	0.81	15	0.57	14	0.65	15	0.50	13	0.50	21	0.75
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	16	1.13	9	0.57	12	0.89	15	1.41	16	1.14	18	1.37
Uintah	15	0.89	10	0.59	13	0.71	18	1.27	15	1.01	20	1.48
REGIONAL TOTALS	16	1.03	9	0.58	12	0.81	16	1.34	16	1.10	19	1.41
Southeastern Region												
Carbon	6	0.15	3	0.40	14	0.54	9	0.24	11	0.25	18	0.41
Emery	9	0.42	12	0.42	10	0.41	18	0.44	21	0.75	10	0.72
Grand	--	--	--	--	--	--	19	1.00	--	--	--	--
San Juan	12	0.40	15	0.62	11	0.38	8	0.23	0	0.00	40	1.00
REGIONAL TOTALS	9	0.37	11	0.46	12	0.47	16	0.42	18	0.58	12	0.58
STATE TOTALS	14	0.70	12	0.51	13	0.63	16	0.85	16	0.66	20	0.88

*Pheasants per hunter index based on all hunts.

MIGRATORY UPLAND GAME BIRDS

SUMMARY



Mourning Doves

The breeding density index decreased significantly in 1978 and was well below average. May weather was cold statewide and may have curtailed early nesting.

Harvest statistics derived from the questionnaire showed increased hunter pressure and harvest compared to 1977. The total harvest was the second highest ever recorded and was 54 percent above the 1951-1977 average. Hunter success decreased slightly.

Field bag checks indicated slightly decreased hunting pressure and reduced hunter success contrary to the questionnaire survey. The 1978 hunt was much better overall compared to the 1977 hunt.

Considerably more wings were collected for aging during 1978 than in 1977 and 1976. The adult:juvenile ratio was the lowest ever recorded and indicated an early hatch and subsequent early migration of young doves.

Band-tailed Pigeons

During 1978, 102 band-tailed pigeons were banded raising the long-term total (since 1969) to 2,649. An additional 65 previously banded pigeons were recaptured.

Hunter participation during the 1978 season remained at an extremely low level with only 45 hunters afield. Total hunter-days decreased from 1977 but remained above average. Total harvest was 264 pigeons.



MOURNING DOVE

Call-Count Survey

Results of the 1978 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 from those published in the annual Mourning Dove Status Report compiled by the Fish and Wildlife Service; however, indicated trends are similar (Figure 1). The following is a comparison of the results of the 1978 survey to 1977 and the average for the period 1964-77:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total doves heard per route	6.9	-52	-56
Total calls heard per route	25.5	-50	-60
Total doves seen per route	7.7	-29	-52

Coo count data indicated a reduced breeding activity in late May. Below average May temperatures apparently curtailed early nesting activity.

Harvest

Hunter Questionnaire

Information obtained from the hunter questionnaire for 1978 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 statewide harvest statistics in Table 7. The following is a comparison of the harvest statistics for 1978 compared to 1977 and the 10-year (1968-77) average:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Mourning dove hunters	35,985	+34	+24
Mourning dove harvest	383,696	+43	+38
Hunter-days afield	130,173	+56	+38
Mourning doves per hunter-day	2.95	- 8	0
Mourning doves per hunter	10.66	+ 7	+12

Hunting pressure and harvest increased from 1977, but hunter success decreased slightly. The harvest was second highest on record.

Long-term harvest trends are depicted in Figure 2.

Field Bag Checks

A summary of field bag check data for 1978 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1978 survey compared to 1977 and the average (1967-77) follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	1,357	- 16	- 8
Total hours hunted	9,439	+103	+125
Doves per hunter (complete hunts)	2.65	- 16	- 27
Doves bagged per 100 hours	82	- 9	- 16
Average hours per hunter-day (complete hunts)	3.2	- 6	- 11
Hours hunted per dove bagged	1.3	+ 44	+ 30

Field bag checks indicated slightly decreased hunting pressure and reduced hunter success. However, the questionnaire results indicated an increase in pressure, but also substantiated the reduced hunter success, even though the harvest was the second highest recorded. Dove hunters spent a lesser amount of time afield per hunter-day than in 1977 and more time was spent per dove bagged, according to field bag check data.

Age Composition of the Harvest

A summary of the age composition of harvested mourning doves from 1969 through 1978 is contained in Table 10. Hatching dates for immature doves harvested in the Northern Region are shown in Table 11.

Following is a comparison of data collected in 1978 to 1977 and long-term averages:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Sample size	5,163	+136	+111
Immatures/100 adults	75	- 63	- 42
Percent of immatures hatched on:			
August 3 or later	52.8	+ 45	+ 40
July 25 or later	90.1	+ 10	+ 14
Before July 25	9.8	- 47	- 54

Considerably more wings were collected for aging during the 1978 season compared to 1977 and 1976. The 75 immatures per 100 adults ratio was the lowest recorded and indicated an early hatch and subsequent early migration of newly hatched young.

Banding

A banding moratorium was declared for the Western Management Unit beginning in 1976 to facilitate a complete analysis of past accumulated banding data.

A summary of banding accomplished by county and region through 1975 is contained in Table 12, a summary of statewide recovery rates through 1973 in Table 13 and a summary of recovery and return locations through 1971 in Table 14.

A summary of doves recovered in Utah that were banded in other states through August 1970 is found in Table 15.

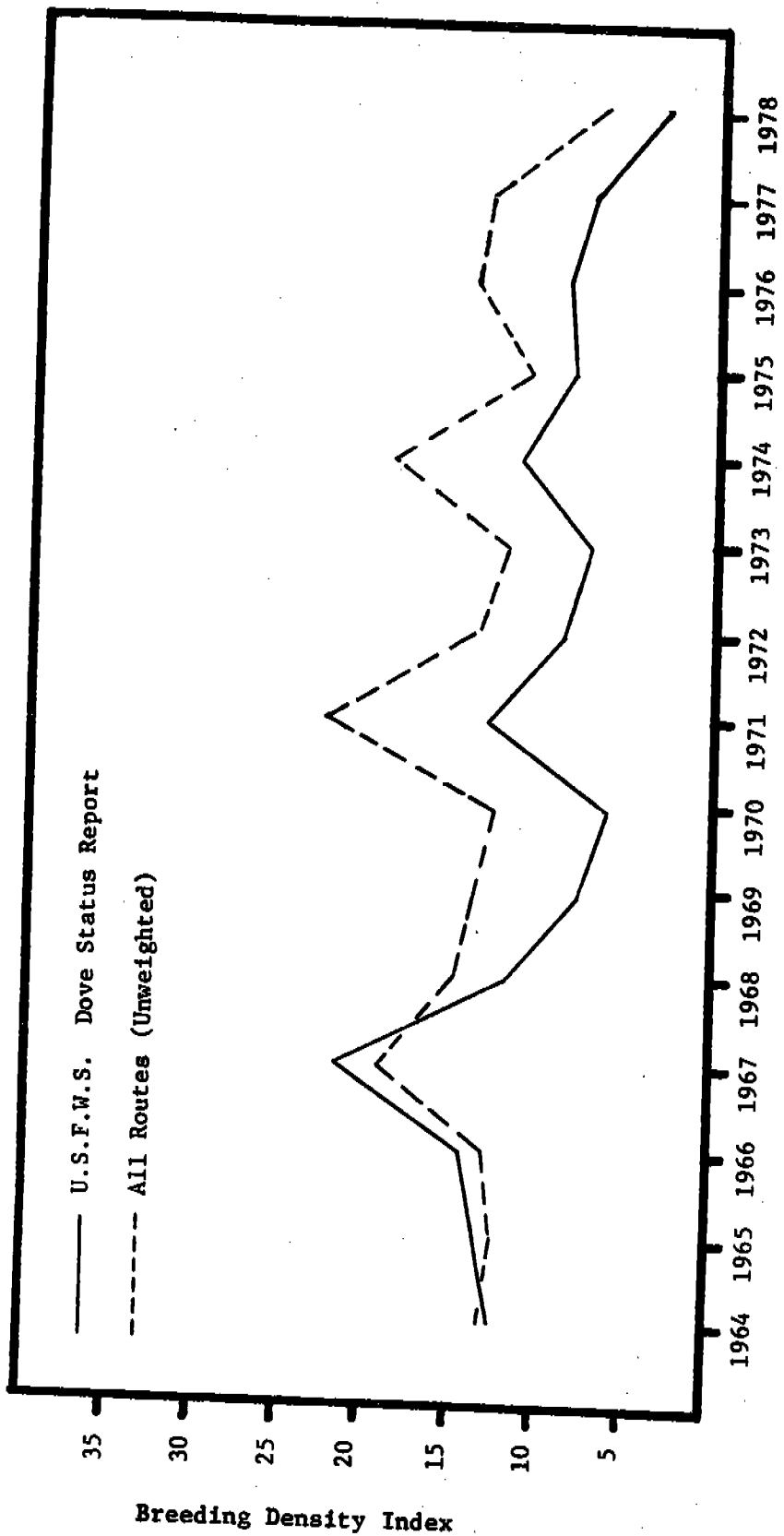


Figure 1. Mourning dove breeding density index trend, 1964-77

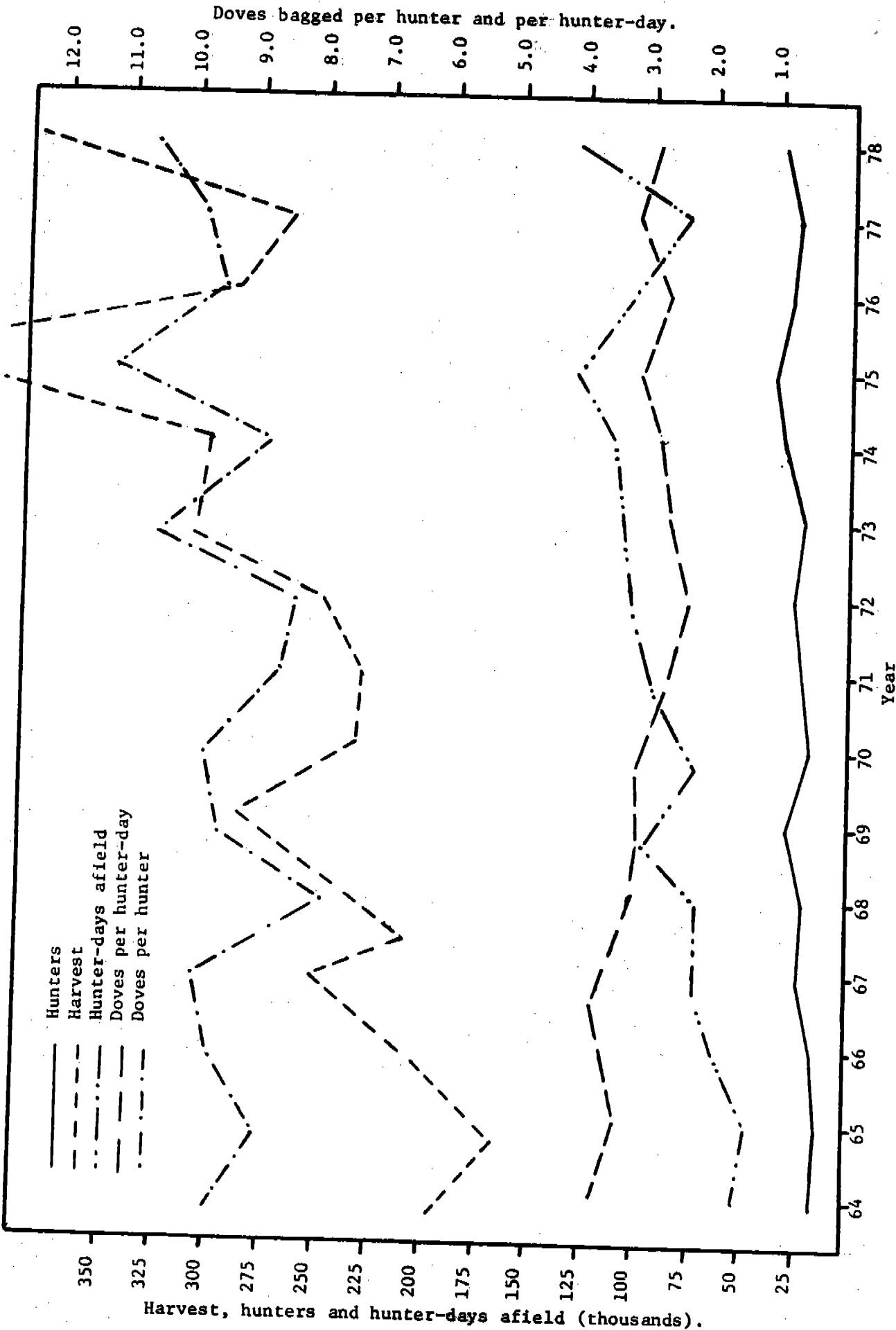


Figure 2. Statewide trends of mourning dove harvest statistics.

Table 1. Summary of the mourning dove call-count survey for 1978.

Region and County	Route Number	Total Doves Heard Per Route	Total Calls Heard Per Route	Total Doves Seen Per Route
Northern Region				
Summit	R1020	5	19	5
Box Elder	R1500	2	4	7
REGIONAL TOTALS		7	23	12
Central Region				
Juab	R2830	31	124	3
REGIONAL TOTALS		31	124	3
Southern Region				
Sevier-Sanpete	R0370	0	0	0
Wayne-Sevier	R0660	1	3	0
Garfield	R1090	0	0	0
Millard	R3640	8	15	0
Beaver	R3820	0	0	15
Iron	R4000	12	49	3
Washington	R4310	1	3	0
REGIONAL TOTALS		22	70	18
Northeastern Region				
Duchesne	R0080	2	5	7
Uintah	R0220	4	51	1
REGIONAL TOTALS		6	56	8
Southeastern Region				
Emery	R0540	10	27	20
San Juan	R1170	24	74	54
San Juan	R1450	3	8	0
REGIONAL TOTALS		37	109	79
STATE TOTALS		103	382	115
STATE AVERAGE		6.9	25.5	7.7
PERCENT CHANGE (from previous year)		- 51.7	- 50	- 29.9

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, 1968-78.

Region and County		Number of Doves Heard Per Route										
Route Number		1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Northern Region												
Summit	R1020	16	7	11	10	7	3	3	3	11	10	5
Box Elder	R1500	6	3	7	4	2	5	3	5	1	4	2
REGIONAL TOTALS		22	10	18	14	9	8	6	8	12	14	7
Central Region												
Juab	R2830	23	8	15	32	6	17	16	13	28	25	31
REGIONAL TOTALS		23	8	15	32	6	17	16	13	28	25	31
Southern Region												
Sevier-Sanpete	R0370	1	0	1	1	0	0	0	0	0	2	0
Wayne-Sevier	R0660	7	2	8	11	20	11	16	7	5	8	1
Garfield	R1090	17	18	6	14	29	0	0	0	3	1	0
Millard	R3640	43	26	7	17	19	24	22	21	6	29	8
Beaver	R3820	23	9	17	12	13	6	24	0	0	0	0
Iron	R4000	13	26	15	24	20	35	103	42	45	27	12
Washington	R4310	21	38	54	64	61	26	32	37	19	15	1
REGIONAL TOTALS		125	119	108	143	162	102	197	107	78	82	22
Northeastern Region												
Duchesne	R0080	11	10	3	16	8	3	14	9	11	14	2
Uintah	R0220	33	38	15	66	4	18	12	7	27	7	4
REGIONAL TOTALS		44	48	18	82	12	21	26	16	38	21	6
Southeastern Region												
Emery	R0540	7	11	9	10	1	27	4	6	14	4	10
San Juan	R1170	7	18	33	60	24	17	41	32	51	67	24
San Juan	R1450	0	Automatic	Zero						2	1	3
REGIONAL TOTALS		14	29	42	70	25	44	45	38	67	72	37
STATE TOTALS		228	214	201	341	214	192	290	182	223	214	103
STATE AVERAGES		15.2	14.3	13.4	22.7	14.3	12.8	19.3	12.1	14.9	14.3	6.9
PERCENT CHANGE (from previous year)		-23	-6	-6	+69	-37	-10	+51	-37	+23	-4	-52

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	158	8,626	31,062	3.60	6.63	8.10
Cache	76	5,244	10,387	1.98	4.03	2.71
Davis	73	4,143	6,164	1.49	3.18	1.61
Morgan	26	1,181	2,482	2.10	0.91	0.65
Rich	10	540	2,262	4.19	0.42	0.59
Summit	9	741	1,381	1.86	0.57	0.36
Weber	108	7,085	11,788	1.66	5.44	3.07
REGIONAL TOTALS	460	27,560	65,527	2.38	21.17	17.08
Central Region						
Juab	143	7,645	34,065	4.46	5.87	8.88
Salt Lake	191	12,909	27,480	2.13	9.92	7.16
Sanpete	75	5,444	14,851	2.73	4.18	3.87
Tooele	127	7,425	23,697	3.19	5.70	6.18
Utah	409	26,039	62,145	2.39	20.00	16.20
Wasatch	15	881	2,542	2.89	0.68	0.66
REGIONAL TOTALS	960	60,343	164,779	2.73	46.36	42.95
Southern Region						
Beaver	20	1,141	6,465	5.67	0.88	1.68
Garfield	17	1,461	2,482	1.70	1.12	0.65
Iron	44	3,603	16,132	4.48	2.77	4.20
Kane	9	741	3,763	5.08	0.57	0.98
Millard	119	6,945	35,606	5.13	5.34	9.28
Piute	9	1,201	3,122	2.60	0.92	0.81
Sevier	71	6,485	16,332	2.52	4.98	4.26
Washington	33	2,862	11,168	3.90	2.20	2.91
Wayne	15	901	3,282	3.64	0.69	0.86
REGIONAL TOTALS	337	25,338	98,351	3.88	19.46	25.63
Northeastern Region						
Daggett	4	100	340	3.40	0.08	0.09
Duchesne	39	2,582	8,866	3.43	1.98	2.31
Uintah	42	3,703	10,007	2.70	2.84	2.61
REGIONAL TOTALS	85	6,385	19,214	3.01	4.90	5.01
Southeastern Region						
Carbon	37	2,362	6,725	2.85	1.81	1.75
Emery	38	3,042	9,127	3.00	2.34	2.38
Grand	19	2,222	8,886	4.00	1.71	2.32
San Juan	28	1,781	7,285	4.09	1.37	1.90
REGIONAL TOTALS	122	9,407	32,023	3.40	7.23	8.35
Unknown counties	21	1,041	3,603	3.46	0.80	0.94
Mixed counties	1	100	200	2.00	0.08	0.05
STATE TOTALS	1,986	130,173	383,696	2.95	100	100

*Total hunter-trips from questionnaire returns.

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	3.16	4.25	3.34	4.74	3.55	3.92	3.60
Cache	2.23	2.29	1.92	2.62	2.26	2.84	1.98
Davis	1.30	1.43	1.30	1.70	1.54	1.81	1.49
Morgan	2.11	3.42	3.09	3.14	2.58	3.87	2.10
Rich	3.08	1.30	1.97	2.89	1.53	0.82	4.19
Summit	2.03	2.65	2.21	2.73	1.52	5.69	1.86
Weber	1.67	1.36	1.53	1.78	1.67	1.97	1.66
REGIONAL TOTALS	2.23	2.53	2.14	2.89	2.39	2.91	2.38
Central Region							
Juab	3.83	5.38	3.62	5.30	4.11	5.07	4.46
Salt Lake	1.81	2.36	1.88	2.35	2.16	2.58	2.13
Sanpete	2.04	2.50	3.65	2.65	3.15	4.16	2.73
Tooele	2.38	2.58	2.80	3.70	3.53	3.26	3.19
Utah	2.24	2.78	2.66	2.50	2.30	2.92	2.39
Wasatch	1.48	2.12	2.00	3.12	1.83	2.50	2.89
REGIONAL TOTALS	2.55	2.90	2.70	2.98	2.71	3.20	2.73
Southern Region							
Beaver	4.71	4.31	2.94	5.37	2.87	5.27	5.67
Garfield	4.93	6.03	1.79	5.35	2.44	1.04	1.70
Iron	3.35	3.96	4.65	4.09	4.45	4.00	4.48
Kane	2.60	4.98	2.83	4.92	3.52	3.05	5.08
Millard	3.84	4.63	5.14	4.73	3.78	4.62	5.13
Piute	3.54	2.00	2.00	3.30	2.59	3.10	2.60
Sevier	2.44	3.22	2.83	3.67	2.47	3.66	2.52
Washington	3.33	3.92	3.85	5.05	2.70	4.84	3.90
Wayne	2.50	6.74	2.83	4.10	4.93	6.40	3.64
REGIONAL TOTALS	3.42	4.15	3.82	4.36	3.26	4.23	3.88
Northeastern Region							
Daggett	2.70	0.82	2.12	4.63	5.00	3.44	3.40
Duchesne	4.91	4.73	2.80	3.55	4.76	2.65	3.43
Uintah	1.58	2.97	1.78	3.03	2.27	3.10	2.70
REGIONAL TOTALS	2.39	3.04	2.05	3.21	3.01	2.94	3.01
Southeastern Region							
Carbon	2.95	3.65	2.55	2.87	2.31	2.25	2.85
Emery	2.68	2.66	1.86	1.93	2.86	2.88	3.00
Grand	3.14	3.84	3.62	3.68	1.94	1.26	4.00
San Juan	3.94	4.36	4.22	3.21	2.24	3.88	4.09
REGIONAL TOTALS	3.15	3.61	2.49	2.73	2.41	2.61	3.40
Unknown counties	2.90	2.58	3.55	4.18	3.45	2.13	3.46
Mixed counties	10.00	0.00	3.00	--	--	10.00	2.00
STATE TOTALS	2.53	3.14	2.71	3.20	2.74	3.21	2.95

Table 5. Percentage distribution of mourning dove harvest by region and county, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	10.11	7.85	9.09	9.86	9.82	8.44	8.10
Cache	4.08	3.29	3.68	3.50	4.19	2.64	2.71
Davis	1.69	1.80	2.62	1.68	2.16	1.81	1.61
Morgan	1.24	1.27	1.57	1.02	0.96	1.55	0.65
Rich	0.38	0.08	0.47	0.30	0.33	0.08	0.59
Summit	0.75	0.61	0.40	0.35	0.41	1.16	0.36
Weber	5.05	2.03	4.00	3.74	3.39	3.72	3.07
REGIONAL TOTALS	23.31	16.93	21.83	20.43	21.26	19.40	17.08
Central Region							
Juab	8.16	8.58	8.30	9.64	6.98	7.62	8.88
Salt Lake	8.83	7.95	6.51	8.02	7.67	8.49	7.16
Sanpete	2.13	2.51	3.61	2.10	5.31	3.31	3.87
Tooele	5.99	6.07	5.06	6.83	8.39	7.15	6.18
Utah	16.48	14.30	19.26	16.31	16.70	16.40	16.20
Wasatch	0.38	1.11	0.53	0.83	0.37	0.56	0.66
REGIONAL TOTALS	41.97	40.52	43.26	43.73	45.42	43.54	42.95
Southern Region							
Beaver	3.45	2.26	1.15	2.03	2.00	2.55	1.68
Garfield	0.70	1.08	0.52	0.64	0.30	0.15	0.65
Iron	3.09	5.63	3.87	3.96	4.40	3.97	4.20
Kane	0.12	1.35	0.51	0.49	1.10	0.38	0.98
Millard	4.70	8.04	8.68	5.30	5.92	7.27	9.28
Piute	0.87	0.31	0.22	0.42	1.10	0.37	0.81
Sevier	3.71	3.26	4.57	6.07	4.01	4.83	4.26
Washington	4.02	3.63	3.87	4.31	2.38	3.82	2.91
Wayne	0.09	0.79	0.11	0.66	1.00	0.36	0.86
REGIONAL TOTALS	20.76	26.37	23.48	23.89	22.21	23.70	25.63
Northeastern Region							
Daggett	0.26	0.20	0.11	0.34	0.03	0.35	0.09
Duchesne	1.54	1.61	1.06	1.00	1.58	1.51	2.31
Uintah	1.59	1.85	1.87	3.35	1.81	2.18	2.61
REGIONAL TOTALS	3.38	3.66	3.03	4.69	3.43	4.04	5.01
Southeastern Region							
Carbon	2.75	3.47	1.56	2.22	1.50	2.03	1.75
Emery	1.20	2.02	2.12	1.60	1.74	1.84	2.38
Grand	1.73	2.51	0.65	1.12	0.62	0.33	2.32
San Juan	1.95	3.18	1.20	1.70	0.74	1.51	1.90
REGIONAL TOTALS	7.62	11.18	5.54	6.64	4.61	5.70	8.35
Unknown counties	2.48	1.34	2.66	0.61	3.08	3.51	0.94
Mixed counties	0.47	0.00	0.19	--	--	0.11	0.05
STATE TOTALS	100	100	100	100	100	100	100

Table 6. Percentage distribution of mourning dove hunting pressure by region and county, 1972-78.

Region and County	1972	1973	1974	1975	1976	1977	1978
Northern Region							
Box Elder	8.11	5.80	7.37	6.65	7.58	6.92	6.63
Cache	4.65	4.50	5.20	4.28	5.09	2.99	4.03
Davis	3.30	3.96	5.46	3.17	3.85	3.22	3.18
Morgan	1.49	1.16	1.38	1.04	1.02	1.29	0.91
Rich	0.31	0.19	0.64	0.33	0.59	0.31	0.42
Summit	0.94	0.72	0.49	0.41	0.74	0.65	0.57
Weber	7.68	4.70	7.10	6.73	5.58	6.07	5.44
REGIONAL TOTALS	26.48	21.03	27.63	22.60	24.46	21.45	21.17
Central Region							
Juab	5.39	5.01	6.20	5.82	4.66	4.84	5.87
Salt Lake	12.37	10.59	9.38	10.91	9.76	10.58	9.92
Sanpete	2.65	3.16	2.67	2.53	4.63	2.55	4.18
Tooele	6.38	7.37	4.89	5.90	6.52	7.05	5.70
Utah	18.66	16.12	19.61	20.89	19.88	18.02	20.00
Wasatch	0.65	1.65	0.72	0.85	0.56	0.72	0.68
REGIONAL TOTALS	46.10	43.91	43.48	46.90	46.01	43.76	46.36
Southern Region							
Beaver	1.86	1.65	1.06	1.21	1.91	1.56	0.88
Garfield	0.36	0.56	0.79	0.38	0.33	0.47	1.12
Iron	2.34	4.46	2.25	3.10	2.71	3.19	2.77
Kane	0.12	0.85	0.49	0.32	0.85	0.40	0.57
Millard	3.11	5.45	4.57	3.59	4.29	5.05	5.34
Plute	0.63	0.49	0.30	0.41	1.17	0.38	0.92
Sevier	3.85	3.18	4.37	5.29	4.46	4.24	4.98
Washington	3.06	2.91	2.72	2.73	2.42	2.54	2.20
Wayne	0.10	0.37	0.10	0.52	0.56	0.18	0.69
REGIONAL TOTALS	15.41	19.93	16.66	17.56	18.71	18.00	19.46
Northeastern Region							
Daggett	0.24	0.76	0.13	0.23	0.02	0.33	0.08
Duchesne	0.79	1.07	1.03	0.90	0.91	1.83	1.98
Uintah	2.55	1.96	2.84	3.54	2.19	2.26	2.84
REGIONAL TOTALS	3.59	3.78	4.00	4.67	3.12	4.22	4.90
Southeastern Region							
Carbon	2.36	2.99	1.66	2.47	1.78	2.90	1.81
Emery	1.13	2.39	3.09	2.65	1.67	2.05	2.34
Grand	1.40	2.06	0.49	0.98	0.87	0.83	1.71
San Juan	1.25	2.29	0.77	1.69	0.91	1.25	1.37
REGIONAL TOTALS	6.14	9.72	6.02	7.79	5.24	7.03	7.23
Unknown counties	2.17	1.63	2.03	0.47	2.45	5.31	0.80
Mixed counties	0.12	0.00	0.17	--	--	0.04	0.08
STATE TOTALS	100	100	100	100	100	100	100

Table 7. Statewide summary of mourning dove harvest statistics, 1951-78.

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
1974	34,021	306,076	112,967	2.71	9.00
1975	37,378	420,308	131,312	3.20	11.24
1976	31,293	298,505	108,780	2.74	9.54
1977	26,905	267,487	83,218	3.21	9.94
1978	35,985	383,696	130,173	2.95	10.66
<hr/>					
TOTALS					
1951-78	556,318	5,226,433	1,601,521	3.26	9.39
<hr/>					
AVERAGES					
1951-77	19,272	179,361	54,494	3.29	9.31

*Estimated.

Table 8. Mourning dove field bag check summary, 1978.

Region and County	ALL HUNTS					COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.
Northern Region	166*	365	1,348	983	73	161*	355	1,330	979	74
Box Elder	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	166	365	1,348	983	73	161	355	1,330	979	74
Central Region	58	136	640	563	88	7	109	543	436	80
Juab	15	30	101	50	50	4	5	17	13	76
Salt Lake	3	7	9	7	78	0	0	0	0	0
Sanpete	81	196	612	393	64	31	65	243	195	80
Tooele	796	1,721	5,446	3,229	59	530	1,146	3,401	2,389	70
Utah	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	953	2,090	6,808	4,285	63	612	1,325	4,204	3,033	72
Southern Region	--	--	--	--	--	--	--	--	--	--
Beaver	8	16	43	65	151	2	3	8	20	250
Garfield	33	75	164	271	165	14	33	101	167	165
Iron	20	47	86	309	359	15	38	74	291	393
Kane	94	214	628	933	148	10	24	86	183	213
Millard	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	12	31	63	92	146	4	9	27	37	137
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	167	383	984	1,670	170	45	107	296	698	236
REGIONAL TOTALS	167	383	984	1,670	170	45	107	296	698	236
Northeastern Region	5	15	43	0	0	3	9	28	0	0
Daggett	18	35	26	134	515	12	24	30	114	380
Duchesne	23	56	136	133	98	12	29	60	58	97
Uintah	46	106	205	267	130	27	62	118	172	146
REGIONAL TOTALS	11	22	55	71	129	4	6	13	13	100
Southeastern Region	9	18	27	30	167	1	2	2	1	50
Carbon	2	5	3	1	36	--	--	--	--	--
Emery	3	6	9	33	388	1	3	8	30	400
Grand	25	51	94	135	144	6	11	23	44	196
San Juan	1,357	2,995	9,439	7,340	78	851	1,860	5,971	4,926	82
REGIONAL TOTALS	1,357	2,995	9,439	7,340	78	851	1,860	5,971	4,926	82
STATE TOTALS	1,357	2,995	9,439	7,340	78	851	1,860	5,971	4,926	82
*Estimated.										

Table 9. Mourning dove hunter success trend determined by field bag checks, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter	Doves/ 100 hrs. Hunter
Northern Region												
Box Elder	85	3.41	77	3.74	120	5.34	114	4.35	82	2.96	74	2.76
Cache	33	1.00	25	1.12	76	1.69*	--	--	177	2.88	--	--
Davis	30	0.33	7	0.18	92	2.01	--	--	31	0.36	--	--
Morgan	--	--	--	--	169	5.30	--	--	38	0.56	--	--
Rich	55	0.80	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	83	3.50	38	1.59	34	0.67*	--	--	--	--	--	--
REGIONAL TOTALS	83	3.37	72	3.40	114	4.85	107	3.94	81	2.82	74	2.76
Central Region												
Juab	119	10.00	171	3.95*	178	7.53	100	8.36	81	4.49	80	4.00
Salt Lake	57	1.16	27	0.32	78	1.61	50	0.98	91	1.80	76	2.00
Sanpete	47	1.94	49	0.63	--	--	64	1.28*	38	0.69	0	0.00
Tooele	83	7.15	85	3.33	109	6.82	40	1.08*	93	4.00	80	3.00
Utah	105	3.89	45	1.06	85	3.47	67	2.63	73	2.61	70	2.08
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	80	2.51	58	0.90	104	3.35	66	2.50	77	2.53	72	2.29
Southern Region												
Beaver	150	4.50	114	6.56	181	4.40*	179	9.86	--	--	--	--
Garfield	150	1.50	100	10.00	164	4.00	98	2.32	--	--	250	6.67
Iron	249	7.67	--	--	204	4.95*	238	7.47	666	10.00	165	5.06
Kane	220	6.67	352	6.75	--	--	--	--	--	--	393	7.66
Millard	88	4.29	109	7.08	142	6.70	150	3.90*	136	6.80	213	7.62
Piute	200	0.66	86	1.50	--	--	--	--	--	--	--	--
Sevier	105	5.57	151	3.32*	121	5.30	64	0.64*	--	--	--	--
Washington	42	0.72	--	--	--	--	--	--	231	3.92	137	4.11
Wayne	88	1.75	100	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	119	5.19	120	6.71	148	6.05	158	5.29	150	6.08	236	6.52
Northeastern Region												
Daggett	20	0.75	5	0.40	12	0.00	--	--	--	--	0	0.00
Duchesne	238	6.76	98	3.92	265	5.48	115	2.07	--	--	380	4.75
Uintah	179	7.11	135	4.23	167	7.60	108	2.59	121	2.66	97	2.00
REGIONAL TOTALS	162	4.95	104	3.65	181	5.77	110	2.35	121	2.66	146	2.77
Southeastern Region												
Carbon	92	1.00	--	--	256	7.00	0	0.00	127	3.12	100	2.17
Emery	147	1.87	--	--	162	4.05	50	1.50	33	2.00	50	0.50
Grand	--	--	--	--	188	5.75	47	1.06*	50	1.50	--	--
San Juan	--	--	185	6.32	187	5.08	203	5.69	250	6.33	400	10.00
REGIONAL TOTALS	126	1.00	185	6.32	181	5.05	155	5.21	168	4.27	196	4.00
STATE TOTALS	92	3.51	81	3.51	124	4.81	97	3.81	93	3.14	82	2.65

*Doves per hunter index based on all hunts.

Table 10. Age composition (Immatures/100 Adults) of mourning doves harvested, 1969-78.

Region and County	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1969-77 Average
	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)	I/100A (n)
Northern Region											
Box Elder	119 (1753)	109 (991)	145 (963)	112 (1380)	102 (1324)	129 (1430)	123 (2830)	103 (1870)	216 (1296)	88 (999)	129 (1537)
Cache	100 (160)	--	100 (58)	155 (28)	100 (2)	--	66 (128)	114 (15)	0 (2)	--	91 (56)
Davis	--	--	--	--	450 (11)	--	100 (4)	--	150 (10)	--	233 (8)
Morgan	147 (57)	288 (101)	151 (93)	41 (24)	--	250 (7)	84 (116)	--	--	--	160 (50)
Rich	187 (23)	--	--	125 (9)	100 (10)	--	--	--	--	--	137 (14)
Summit	328 (30)	66 (10)	--	--	--	--	--	--	--	--	197 (20)
Weber	206 (105)	160 (39)	--	70 (136)	71 (24)	213 (119)	100 (26)	117 (13)	233 (20)	--	146 (60)
REGIONAL TOTALS	120 (2128)	118 (1141)	106 (1114)	106 (1577)	103 (1371)	134 (1556)	118 (3104)	103 (1898)	216 (1328)	88 (999)	125 (1691)
Central Region											
Juab	--	32 (139)	77 (39)	79 (86)	29 (66)	105 (88)	228 (220)	240 (136)	283 (199)	63 (75)	134 (122)
Salt Lake	578 (61)	111 (213)	204 (164)	57 (74)	136 (33)	50 (9)	109 (338)	147 (42)	275 (120)	--	185 (117)
Sampete	--	--	--	227 (85)	46 (114)	185 (111)	650 (30)	222 (87)	139 (74)	--	245 (84)
Tooele	83 (146)	88 (45)	129 (16)	211 (28)	290 (82)	99 (219)	76 (202)	156 (115)	195 (177)	60 (262)	147 (114)
Utah	82 (237)	88 (139)	170 (189)	178 (153)	132 (267)	123 (261)	128 (392)	170 (278)	113 (286)	61 (1814)	132 (245)
Wasatch	354 (59)	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	117 (503)	76 (536)	167 (408)	130 (426)	101 (562)	118 (688)	128 (1182)	184 (658)	177 (856)	61 (2151)	133 (647)
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	176 (47)	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	176 (47)	320 (30)	--	--	248 (39)
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	233 (30)	--	--	--	--
Grand	--	--	--	--	--	--	300 (84)	--	--	--	--
San Juan	--	--	--	--	--	--	189 (214)	97 (274)	--	--	143 (244)
REGIONAL TOTALS	80 (124)	--	--	--	--	263 (196)	215 (328)	97 (274)	--	--	164 (231)
NEPHI CHECKING STATION											
STATE TOTALS	120 (2755)	103 (1677)	149 (1522)	111 (2003)	102 (1933)	136 (2440)	126 (4661)	118 (2860)	200 (2184)	87 (2013)	129 (2448)

*n = wing sample

Table 11. Percent of harvest by hatching date of immature mourning doves in northern Utah, 1969-78.

Date Hatched	Age* (Days)	P	Percent of Harvest by Hatch Date										Sample Size									
			1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Aug. 3	29	none	41.7	36.1	36.2	40.8	22.2	48.3	11.1	42.5	36.4	52.8	479	224	236	322	154	428	177	409	329	246
July 31	32	1	23.9	30.8	23.0	27.2	21.4	28.6	24.3	22.9	27.9	25.3	275	191	150	215	149	253	389	220	252	118
July 25	38	2	17.6	17.2	17.2	15.7	18.8	14.3	32.3	17.9	17.3	12.0	202	107	112	124	131	127	517	172	156	56
July 18	45	3	9.0	9.4	10.3	9.6	15.4	3.7	18.4	7.2	6.7	5.8	104	58	67	76	107	33	295	69	60	27
July 9	54	4	4.0	3.9	7.8	3.9	9.9	2.3	8.6	4.0	4.3	3.0	46	24	51	31	69	20	137	38	39	14
June 30	63	5	2.5	1.9	2.9	2.3	6.8	1.1	5.3	2.0	2.4	0.4	29	12	19	18	47	10	85	19	22	2
June 21	72	6	0.9	0.6	1.8	0.2	3.7	1.2	--	1.0	2.9	0.2	11	4	12	2	26	11	--	10	26	1
June 8	85	7	0.2	--	0.5	0.1	1.6	0.4	--	0.9	2.2	--	2	--	3	1	11	4	--	9	20	0
May 22	102	8	--	--	0.2	--	0.1	--	--	1.7	--	0.2	--	--	1	--	1	--	--	16	--	1
Apr. 27	127	9	--	--	--	--	--	--	--	--	--	0.2	--	--	--	--	--	--	--	--	--	1
Apr. 21	133	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			100	100	100	100	100	100	100	100	100	100	1148	620	651	789	695	886	1600	962	904	466

*Allen, J.M., 1963.

P = Last primary molted.

Table 12. Summary of mourning doves banded in Utah, 1971-75.

Region and County	1971		1972		1973		1974		1975		Totals 1961-75				
	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total	Imm.	Adult Total			
Northern Region															
Box Elder	--	--	2	5	7	--	--	16	22	38	--	--	1011	2444	3455
Cache	--	--	--	--	--	--	--	--	--	--	--	--	30	39	69
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	22	20	45*	--	--	--	--	59	12	71	28	37	65	109	69
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	178*
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	22	20	45*	2	5	7	--	75	34	109	28	37	65	1,150	2,552
Central Region															
Juab	64	53	117	71	151	229*	--	91	297	388	137	153	290	1,815	3,009
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	47	214
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	85	370	455	60	158	218	27	57	84	487	138	113	251	1,538	2,550
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	61	155
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	149	423	572	131	309	447*	27	57	84	875	275	266	541	3,461	5,928
Southern Region															
Beaver	--	--	--	--	--	--	6	4	10	84	--	--	--	34	92
Garfield	--	--	--	--	--	--	--	--	--	--	5	41	46	5	46
Iron	113	1	114	125	124	249	4	13	4	49	70	47	117	504	257
Kane	--	--	--	--	--	--	206	17	223	--	115	66	181	407	151
Millard	38	13	51	15	12	27	1	56	57	216	197	125	322	589	766
Piute	166	211	377	75	15	90	--	--	--	--	3	3	6	548	668
Sevier	2	0	2	--	--	--	--	--	--	--	30	199	299	34	225
Washington	41	2	43	37	17	55*	136	84	220	300	87	158	245	452	1,408
Wayne	--	--	--	--	--	--	--	28	54	82	5	13	18	37	75
REGIONAL TOTALS	360	227	587	252	168	421*	353	161	514	731	512	652	1,164	2,650	3,643
Northeastern Region															
Daggett	7	28	35	39	60	99	0	137	137	159	0	68	68	54	457
Duchesne	7	64	71	15	128	143	1	2	3	37	34	80	114	98	371
Uintah	49	123	172	9	85	94	--	--	--	48	247	295	0	95	416
REGIONAL TOTALS	63	215	278	63	273	336	1	139	140	562	34	243	277	568	2,337
Southeastern Region															
Carbon	--	--	--	--	--	--	--	58	42	100	--	--	--	66	46
Emery	--	--	--	--	--	--	--	153	76	229	118	107	225	310	197
Grand	--	--	--	--	--	--	--	--	--	--	0	1	1	52	18
San Juan	37	52	89	73	129	202	7	10	17	289	45	370	415	780	693
REGIONAL TOTALS	37	52	89	73	129	202	7	10	17	712	163	478	641	1,208	954
STATE TOTALS	631	937	1,571	521	884	1,413	388	367	755	1,212	1,777	2,989	1,012	1,676	2,688
*Includes some unclassified birds.															

Table 13. Summary of mourning dove band recovery rates for the period 1949-73.

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
1972	1,413	5	--	.004	--
1973	755	5	--	.007	--
<hr/>					
TOTALS 1964-73	14,439	184	314***	.013	.026
<hr/>					
GRAND TOTALS	18,440	227	424***	.012	.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.

***Total recoveries updated through 1971 only.

Table 14. 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 15. Summary of mourning doves banded in other states and recovered in Utah through August, 1970.

State Where Banded	Number of Returns
Arizona	14
Idaho	7
Washington	4
Nevada	3
Texas	2
Oregon	1
Total recoveries and returns of doves banded in other states:	31

BAND-TAILED PIGEON

Banding

Results of banding efforts in 1978 are summarized in Table 16 and state totals since 1969 in Table 17.

During 1978, 102 pigeons were banded. An additional 65 previously banded pigeons were recaptured. Since 1969, 2,649 total pigeons have been banded in Utah and 975 recaptured. Results of banding efforts through 1972 indicated a direct recovery rate of 1.4 percent. If expanded, using an assumed 30 percent band reporting rate, an estimated harvest rate of less than 5 percent of the state's pigeon population is indicated. Addition of an estimated 16 percent crippling loss would result in a total kill rate of from 5-10 percent, well within the harvestable surplus.

Harvest

Results of the 1978 harvest questionnaire are shown in Table 18 and harvest trends since 1970 in Table 19. A comparison of the 1978 season to 1977 and the average follows:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Band-tailed pigeon hunters	78	+11	+47
Band-tailed pigeon harvest	264	-39	+68
Hunter-days afield	238	+ 6	+95
Pigeons per hunter-day	1.1	-42	-15
Pigeons per hunter	3.4	-45	+13

Total hunters increased slightly from 1977 and hunter-days afield also increased. Total harvest decreased dramatically from 1977 but was the second highest ever recorded. Most of the 1978 harvest occurred in Millard, Iron and Washington counties.

Table 16. Results of band-tailed pigeon banding efforts in Utah during 1978.

Area	Time Period	Adults		Total Pigeons	Immatures	Immatures/100 adults	Total Recaptures*
		Males	Females				
Monticello, San Juan County	June 24	67	35	102	0	--	65
New Harmony, Washington County	--	--	--	--	--	--	--
TOTALS		67	35	102	0	--	65

*Includes repeats and returns.

Table 17. Band-tailed pigeon banding trend for Utah, 1969-78.

Year	Adults		Total Pigeons	Immatures	Immatures/100 Adults	Total Recaptures*
	Males	Females				
1969	147	51	198	39	20	7
1970	254	94	348	54	16	43
1971	110	52	162	79	49	72
1972	284	117	401	4	1	235
1973	263	54	317	14	4	162
1974	87	12	99	11	11	78
1975	202	70	272	13	5	118
1976	180	33	213	4	2	131
1977	286	25	311	8	3	64
1978	67	35	102	0	--	65
TOTALS	1,880	543	2,423	226	9	975

*Includes repeats and returns.

Table 18. Band-tailed pigeon harvest statistics, 1978.

Area Hunted	Participating Hunters		Hunter-days		Harvest		Pigeons/ Hunter-day	Percent of Pressure*	Percent of Harvest
	Reported	Calc.	Reported	Calc.	Reported	Calc.			
Beaver County	3	5	4	7	0	0	0.0	3	0
Blue Mountain-Elk Ridge	3	5	9	16	5	9	0.6	7	3
Garfield County	--	--	--	--	--	--	--	--	--
Iron County	18	31	35	61	35	61	1.0	26	23
Kane County	2	3	4	7	0	0	0.0	3	0
LaSal Mountain	13	23	25	44	16	28	0.6	18	11
Millard County	2	3	29	51	62	108	2.1	21	41
Piute County	--	--	--	--	--	--	--	--	--
Washington County	9	16	30	52	33	58	1.1	22	22
Wayne County	--	--	--	--	--	--	--	--	--
TOTALS	50*	86	136	238	151	264	1.1	100	100

* Based on hunter-days.

**The number of hunters afield who reported was 45; 5 hunters report hunting more than one area, and are included as participating hunters.

Projection factor = 1.7429 (122 permits issued; 70 questionnaires returned).

Table 19. Band-tailed pigeon harvest trend, 1970-78.

Year	Total		Hunter-days Afield	Pigeons Per	
	Hunters Afield	Harvest		Hunter-day	Hunter
1970	34	109	53	2.1	3.2
1971	54	156	110	1.4	2.9
1972	61	211	122	1.7	3.5
1973	25	18	42	0.4	0.7
1974	74	95	141	0.7	1.3
1975	54	116	119	1.0	2.2
1976	54	119	162	0.7	2.2
1977	70	435	225	1.9	6.2
1978	78	264	238	1.1	3.4
TOTALS					
1970-78	504	1,523	1,212	1.3	3.0
AVERAGES					
1970-77	53	157	122	1.3	3.0

CHUKAR PARTRIDGE

SUMMARY

The statewide breeding population of chukars was slightly lower in 1978 according to 1977 harvest data. Overwinter survival was near normal with above average snowfall being offset by higher than average temperatures. Late winter and early spring precipitation, critical to successful chukar production, was far above average, indicating very good reproductive potential.

Results of the brood survey confirmed the very good reproduction expected due to the abundance of spring moisture and resulting excellent forage conditions during breeding and nesting. The indicated chukar density increased more than 100 percent from 1977, and the broods located were larger than the long-term average.

Harvest statistics reflected the high chukar density with harvest being third highest since chukars were introduced into Utah.

The total number of hunters afield increased over 1977 and was slightly more than the 20-year average.



Brood Counts

Results of the annual random brood survey for 1978 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 Table 2-4. Following are the survey results for 1978 compared to 1977 and the average:

	1978	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total chukars observed	294	- 5	-77
Young per 100 adults	444	+161	+12
Mean brood size	8.75	+ 52	+ 1
Chukars observed per 100 hours	213	+122	-41
Total hours effort	159	- 51	-56

Harvest data for 1977 indicated increased breeding populations for 1978 in all regions except the Northeastern and Southeastern. Late winter and early spring precipitation (Dec.-April) was above average over the entire state. March precipitation, for example, was in near record amounts over most of the state.

Forage conditions were much improved over 1977. Moderate temperatures and precipitation enhanced nesting and improved chukar production.

Effort on chukar brood counts increased from 1977 but remained below average.

Brood count sample sizes were extremely small for all regions. The Central Region counted eight of the state total of 16 broods. Indicated production was very good, however. The 444 young per 100 adult chukars and the 8.75 mean brood sizes were above the long-term average (1962-77).

Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1978 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 statewide harvest statistics in Table 9. Following is a comparison of 1978 harvest statistics to 1977 and the average:

	1978	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Chukar hunters	16,291	+28	+ 4
Chukars harvested	65,747	+94	+54
Hunter-days afield	54,239	+40	+20
Chukars per hunter-day	1.21	+30	+27
Chukars per hunter	4.04	+50	+47

Chukars harvested, chukar hunters, hunter-days afield and chukars per hunter-day all increased from 1977 and all were above average. The 16,291 hunters afield was the highest total since 1974 and the harvest of 65,747 was the highest since 1969. Daily and seasonal success (chukars per hunter-day and chukars per hunter) were both above 1977, and chukars per hunter was the highest ever recorded.

Field Bag Check

A summary of field bag check data for 1978 is shown in Table 10. The hunter success trend determined by field bag checks since 1973 is shown in Table 11. Data for the 1978 season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	241	- 44	-62
Total hours hunted	990	- 37	-66
Chukars per hunter (complete hunts)	1.60	+264	+47
Chukars bagged per 100 hours	36	+260	+57
Average hours per hunter-day (complete hunts)	4.5	+ 15	- 4
Hours hunted per chukar bagged	2.8	- 72	-44

Field bag checks reflected the excellent success shown by the questionnaire. Chukars per hunter increased by 264 percent from 1977 and was 47 percent above the average. Total hunters checked and total hours hunted decreased from 1977 reflecting decreased bag check effort statewide.

The daily hunter success rate shown by field bag checks was about 32 percent above the rate shown by the questionnaire, probably because field bag checks were almost entirely confined to the opening weekend and generally reflect the greater success of experienced chukar hunters returning to known hunting areas. Because of the relatively poor hunting in recent years, some hunters did not return to traditional areas and opening weekend hunter pressure (and resulting field bag checks) was reduced. Hunter interest increased later in the season as word of increased populations spread.

The average hours hunted per day increased somewhat from 1977 and the amount of time spent to bag each chukar decreased dramatically.

Chukars bagged per hunter and per hunter-day.

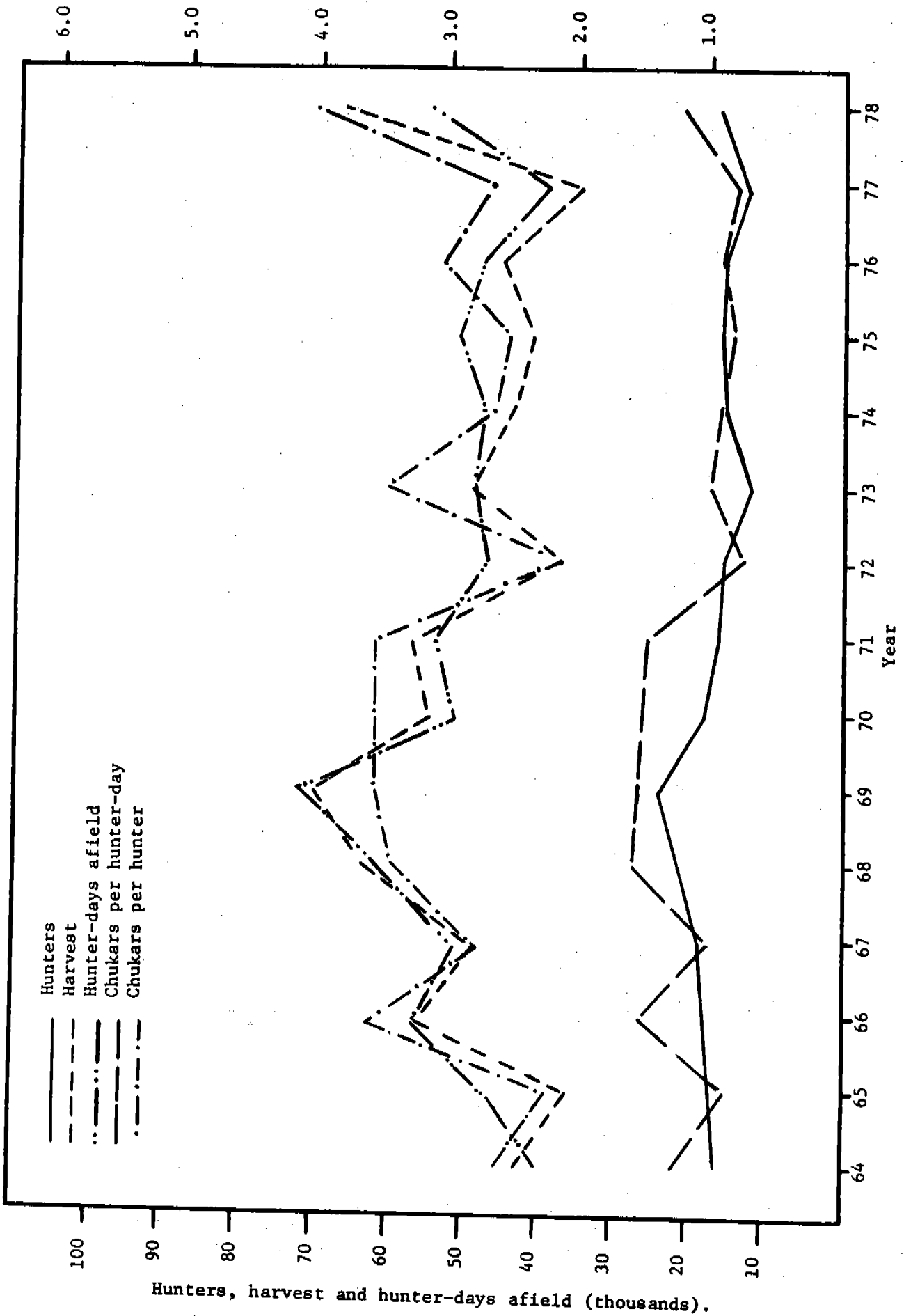


Figure 1. Statewide trends of chukar partridge harvest statistics.

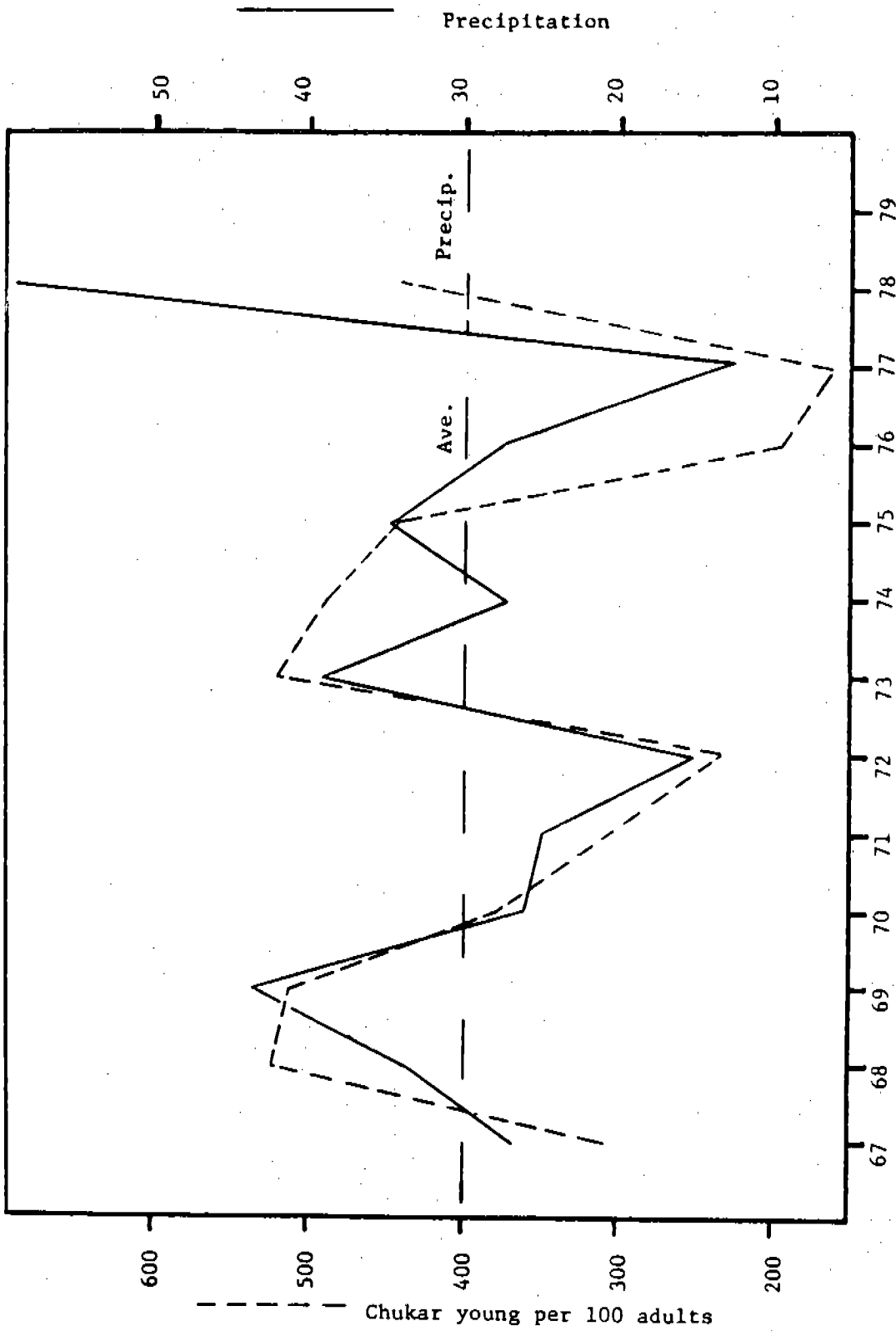


Figure 2. Relationship between late winter and early spring (Jan.-April) precipitation and chukar production.

Table 1. Chukar summer inventory summary, 1978.

Region and County	Distinct Broods		Mean Brood	Mixed Yng. & Adults		Total Adults w/o Yng.	Total Adults Yng.	Total Yng. 100 Ad. Miles	Hours Effort		Birds/ 100 hrs.				
	No. Ad.	Yng.		Ad.	Yng.				Veh. Miles	Horse Walk					
Northern Region															
Box Elder	5	6	73	14.60	0	0	7	73	562	359	27	0	1	28	307
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	6	73	14.60	0	0	7	73	562	359	27	0	1	28	307
Central Region															
Juab	1	1	11	11.00	0	0	0	11	1,100	138	11	0	0	11	109
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	3	3	15	5.00	2	7	0	22	440	200	14	0	5	19	142
Tooele	4	4	26	6.50	3	22	0	48	686	52	5	0	1	6	917
Utah	0	0	0	0.00	0	0	8	0	0	69	6	0	0	6	133
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	8	8	52	6.50	5	29	8	81	386	459	36	0	6	42	243
Southern Region															
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	0	0	0	0.00	3	12	5	8	150	90	11	0	0	11	182
Piute	0	0	0	0.00	0	0	0	0	0	45	3	0	0	3	0
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	1	1	9	9.00	0	0	0	1	900	125	12	0	0	12	83
REGIONAL TOTALS	1	1	9	9.00	3	12	5	21	233	260	26	0	0	26	115
Northeastern Region															
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	0	0	0	0.00	0	0	0	0	0	315	22	0	0	22	0
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	0	0.00	0	0	0	0	0	315	22	0	0	22	2
Southeastern Region															
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	1	1	5	5.00	0	0	0	1	500	24	3	0	0	3	200
Grand	0	0	0	0.00	4	49	1	5	980	160	13	0	1	14	379
San Juan	1	1	1	1.00	4	10	0	5	220	227	18	0	6	24	67
REGIONAL TOTALS	2	2	6	3.00	8	59	1	11	65	411	34	0	7	41	185
STATE TOTALS	16	17	140	8.75	16	100	21	54	444	1,804	145	0	14	159	213

Table 2. Trend of chukar young per 100 adults, 1968-78.

Region and County	Year											Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	455	600	247	529	492	760	663	842	733	300	562	
Cache	--	1,011	250	258	--	488	750	550	1,900	--	--	
Davis	--	1,100	--	--	--	--	--	--	--	--	--	
Morgan	315	668	178	950	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	525	--	--	--	--	--	--	--	--	
Weber	--	91	--	286	--	--	--	--	--	--	--	
REGIONAL TOTALS	420	510	267	382	475	639	684	814	722	300	562	470
<u>Central Region</u>												
Juab	450	607	421	594	420	725	350	500	352	356	1,100	
Salt Lake	409	372	0	367	--	0	--	0	--	380	--	
Sanpete	400	194	256	171	216	0	--	--	488	331	440	
Tooele	1,773	1,360	922	372	154	410	356	264	417	96	686	
Utah	240	463	360	352	552	335	96	--	800	150	0	
Wasatch	--	767	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	407	496	471	386	208	364	300	308	411	230	386	419
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	495	275	--	--	--	--	450	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	1,108	812	700	255	66	--	--	50	264	95	150	
Piute	--	--	--	550	500	--	--	500	--	--	0	
Sevier	--	--	--	--	800	--	0	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	67	--	--	--	--	--	--	900	
REGIONAL TOTALS	1,108	812	581	245	131	--	0	114	294	95	233	423
<u>Northeastern Region</u>												
Daggett	709	1,250	150	--	--	--	--	--	--	--	--	
Duchesne	515	548	--	120	--	--	--	--	800	375	0	
Uintah	482	463	450	678	--	--	733	--	766	--	--	
REGIONAL TOTALS	540	575	279	479	--	--	733	--	775	375	--	577
<u>Southeastern Region</u>												
Carbon	1,000	--	383	474	372	650	794	633	--	125	--	
Emery	--	--	900	--	--	725	842	367	200	--	500	
Grand	1,000	--	446	205	274	871	656	377	98	0	980	
San Juan	590	138	234	161	317	500	650	552	40	58	220	
REGIONAL TOTALS	635	138	338	226	324	712	717	437	94	59	591	384
STATE TOTALS	523	511	382	311	235	519	487	443	196	170	444	397

Table 3. Trend of chukar mean brood size from 1968-78.

Region and County	Year											Average 1963-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	10.09	8.00	10.59	6.17	13.23	13.00	11.00	11.00	10.50	6.00	14.60	
Cache	--	12.00	10.00	3.43	--	13.00	7.00	--	19.00	--	--	
Davis	--	10.50	--	--	--	--	--	--	--	--	--	
Morgan	--	10.17	8.00	9.50	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	7.33	--	--	--	--	--	--	--	--	
Weber	--	--	--	20.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	10.09	9.67	9.91	6.25	13.23	13.00	8.00	11.00	13.33	6.00	14.60	9.32
Central Region												
Juab	9.00	11.62	5.25	9.33	9.53	9.67	11.00	8.67	7.75	9.00	11.00	
Salt Lake	11.25	16.50	--	--	--	--	--	--	--	--	--	
Sanpete	6.00	--	6.67	7.00	6.00	--	--	--	11.00	6.50	5.00	
Tooele	17.33	14.50	12.14	11.29	10.83	15.00	11.89	9.00	7.20	6.00	6.50	
Utah	5.62	9.40	9.00	8.14	7.50	8.40	8.00	--	8.00	3.00	0.00	
Wasatch	--	11.50	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	9.22	11.38	9.00	9.88	9.98	10.10	11.35	8.83	7.68	6.64	6.50	8.66
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	8.20	5.00	--	--	--	--	9.50	--	--	
Iron	--	--	--	0	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	15.43	9.67	--	11.50	10.00	--	--	3.00	6.71	3.50	0.00	
Piute	--	--	--	5.50	5.67	--	--	5.00	--	--	0.00	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	6.00	--	--	--	--	--	--	9.00	
REGIONAL TOTALS	15.43	9.67	8.20	7.80	6.75	--	--	4.00	7.33	3.50	9.00	7.94
Northeastern Region												
Daggett	19.00	15.50	4.00	--	--	--	--	--	--	--	--	
Duchesne	7.64	11.50	--	6.00	--	--	--	--	8.00	3.75	0.00	
Uintah	--	9.00	4.50	7.00	10.00	--	6.00	--	7.67	--	--	
REGIONAL TOTALS	8.58	12.00	4.33	6.86	10.00	--	6.00	--	7.75	3.75	--	7.77
Southeastern Region												
Carbon	10.00	--	7.67	7.29	9.29	9.00	9.50	9.00	--	--	--	
Emery	--	--	9.00	--	--	12.00	9.80	12.00	6.17	--	5.00	
Grand	10.00	--	7.20	8.33	7.20	1.00	6.25	4.00	6.00	--	0.00	
San Juan	--	6.60	6.50	5.82	9.00	--	10.00	4.33	3.00	--	1.00	
REGIONAL TOTALS	10.00	6.60	7.36	6.88	8.50	8.50	9.05	6.00	5.58	--	3.00	8.30
STATE TOTALS	10.16	10.47	8.34	7.81	10.08	10.65	10.00	7.12	7.10	5.77	8.75	8.65

Table 4. Trend of chukars observed per 100 hours, 1968-78.

Region and County	Year											Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	274	1,322	386	71	374	77	468	895	208	32	307	
Cache	0	911	175	358	--	--	--	130	167	--	--	
Davis	--	600	--	--	--	--	--	--	--	--	--	
Morgan	--	1,670	500	262	--	--	--	--	100	--	--	
Rich	0	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	928	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	288	1,196	445	132	374	119	632	640	197	32	307	406
Central Region												
Juab	367	450	197	1,724	613	174	338	229	413	152	109	
Salt Lake	830	354	15	108	--	60	--	25	0	400	--	
Sanpete	48	91	371	475	527	7	0	0	157	192	142	
Tooele	688	730	1,022	592	2,044	198	730	291	452	136	917	
Utah	567	938	177	210	833	336	140	0	129	33	133	
Wasatch	0	867	0	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	285	408	320	510	997	167	437	178	302	157	243	376
Southern Region												
Beaver	--	0	--	--	--	--	--	--	--	--	--	
Garfield	--	0	761	123	--	0	0	0	440	--	--	
Iron	--	--	--	0	--	--	--	--	--	--	--	
Kane	--	0	--	--	--	--	0	--	--	--	--	
Millard	--	3,950	--	529	573	--	291	36	1,020	216	182	
Piute	--	0	0	650	2,400	--	--	150	0	--	0	
Sevier	--	--	--	--	900	--	100	--	--	--	--	
Washington	--	0	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	600	--	--	--	0	--	10	83	
REGIONAL TOTALS	--	484	1,448	259	543	0	79	37	616	114	115	398
Northeastern Region												
Daggett	741	2,700	1,333	0	--	0	0	0	--	0	--	
Duchesne	496	438	0	41	--	0	0	0	22	73	0	
Uintah	200	255	110	350	48	0	227	0	96	0	--	
REGIONAL TOTALS	433	396	82	162	16	0	83	0	52	27	0	125
Southeastern Region												
Carbon	550	--	--	1,282	621	375	947	1,100	--	450	--	
Emery	0	0	--	--	--	194	1,130	233	370	0	200	
Grand	37	--	693	643	710	358	900	2,277	2,950	40	379	
San Juan	1,144	438	731	321	431	800	789	721	492	136	67	
REGIONAL TOTALS	284	211	816	364	541	298	915	996	883	98	185	541
STATE TOTALS	382	516	459	325	556	150	469	303	370	96	213	363

Table 5. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	272	17,973	32,423	1.80	33.14	49.32
Cache	60	3,322	2,962	0.89	6.13	4.51
Davis	14	881	1,941	2.20	1.62	2.95
Morgan	27	1,661	1,801	1.08	3.06	2.74
Rich	4	180	220	1.22	0.33	0.33
Summit	5	240	180	0.75	0.44	0.27
Weber	39	1,861	1,441	0.77	3.43	2.19
REGIONAL TOTALS	421	26,119	40,969	1.57	48.15	62.31
Central Region						
Juab	28	921	580	0.63	1.70	0.88
Salt Lake	40	2,702	2,402	0.89	4.98	3.65
Sanpete	23	1,341	941	0.70	2.47	1.43
Tooele	129	10,347	11,008	1.06	19.08	16.74
Utah	108	5,124	3,402	0.66	9.45	5.18
Wasatch	11	560	721	1.29	1.03	1.10
REGIONAL TOTALS	339	20,995	19,054	0.91	38.71	28.98
Southern Region						
Beaver	1	40	0	0.00	0.07	0.00
Garfield	6	180	360	2.00	0.33	0.55
Iron	1	40	0	0.00	0.07	0.00
Kane	0	0	0	0.00	0.00	0.00
Millard	20	1,001	981	0.98	1.85	1.49
Piute	3	340	460	1.35	0.63	0.70
Sevier	21	1,581	1,201	0.76	2.92	1.83
Washington	0	0	0	0.00	0.00	0.00
Wayne	6	200	220	1.10	0.37	0.33
REGIONAL TOTALS	58	3,382	3,222	0.95	6.24	4.90
Northeastern Region						
Daggett	1	40	0	0.00	0.07	0.00
Duchesne	4	180	320	1.78	0.33	0.49
Uintah	4	100	180	1.80	0.18	0.27
REGIONAL TOTALS	9	320	500	1.56	0.59	0.76
Southeastern Region						
Carbon	8	380	220	0.58	0.70	0.33
Emery	11	781	140	0.18	1.44	0.21
Grand	19	1,501	500	0.33	2.77	0.76
San Juan	4	180	280	1.56	0.33	0.43
REGIONAL TOTALS	42	2,842	1,140	0.40	5.24	1.74
Unknown counties	13	580	861	1.48	1.07	1.31
Mixed counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	882	54,239	65,747	1.21	100	100

*Total hunter-trips from questionnaire returns.

Table 6. Summary of chukars bagged per hunter-day by region and county, 1970-78.

Region and County	1970	1971	1972	1973	1974	1975	1976	1977	1978
Northern Region									
Box Elder	1.00	1.66	0.88	1.41	1.47	1.20	1.31	1.23	1.80
Cache	1.28	0.91	0.75	0.68	0.92	0.64	0.70	1.11	0.89
Davis	0.93	0.98	0.89	1.12	1.61	0.31	0.89	1.29	2.20
Morgan	1.75	1.68	0.85	1.64	0.48	0.69	0.31	0.88	1.08
Rich	1.78	1.00	0.67	0.80	1.33	0.20	0.81	0.13	1.22
Summit	0.47	0.67	1.28	1.00	0.43	1.47	1.43	1.00	0.75
Weber	0.60	0.86	1.10	0.35	0.54	0.46	0.60	0.75	0.77
REGIONAL TOTALS	1.09	1.36	0.90	1.17	1.19	0.97	1.07	1.15	1.57
Central Region									
Juab	1.22	1.24	0.87	0.81	0.79	0.55	0.46	0.73	0.63
Salt Lake	1.15	0.77	0.64	1.01	0.55	0.76	0.54	1.41	0.89
Sanpete	0.21	0.83	0.63	1.12	0.96	0.72	0.35	0.90	0.70
Tooele	1.30	1.45	0.77	0.88	0.79	0.67	0.86	0.86	1.06
Utah	1.05	0.48	0.67	0.85	0.71	0.42	0.90	0.56	0.66
Wasatch	0.88	0.52	0.23	1.46	0.88	0.18	0.56	0.56	1.29
REGIONAL TOTALS	1.17	1.04	0.72	0.90	0.74	0.58	0.77	0.80	0.91
Southern Region									
Beaver	0.50	--	0.00	--	0.00	0.00	0.59	0.20	0.00
Garfield	2.57	0.00	0.50	0.00	1.00	5.00	0.50	0.00	2.00
Iron	2.00	1.17	1.74	0.33	0.00	0.00	0.76	--	0.00
Kane	0.00	2.00	0.00	--	0.00	0.00	0.00	--	0.00
Millard	2.10	1.63	1.33	0.96	0.52	0.48	0.87	0.66	0.98
Piute	0.42	1.15	1.29	0.58	0.29	0.69	0.24	0.67	1.35
Sevier	0.88	0.34	0.29	0.41	0.54	0.40	0.57	0.53	0.76
Washington	0.00	0.00	1.50	--	0.00	0.33	0.80	0.33	0.00
Wayne	0.44	0.80	0.87	0.00	0.73	2.43	2.74	3.94	1.10
REGIONAL TOTALS	1.29	0.86	0.90	0.62	0.51	0.64	0.79	0.80	0.95
Northeastern Region									
Daggett	0.00	0.00	0.00	0.00	0.00	0.00	2.00	--	0.00
Duchesne	0.29	0.88	0.59	0.71	0.50	0.34	0.77	0.19	1.78
Uintah	0.60	0.81	0.69	0.22	0.12	1.32	0.40	0.33	1.80
REGIONAL TOTALS	0.46	0.82	0.60	0.40	0.30	0.67	0.74	0.25	1.56
Southeastern Region									
Carbon	0.54	0.26	0.62	0.35	0.61	0.72	0.69	0.19	0.58
Emery	0.46	0.79	0.04	0.67	0.65	1.44	1.37	0.39	0.18
Grand	1.72	0.63	0.42	0.79	2.84	1.85	1.42	0.26	0.33
San Juan	5.00	0.11	0.25	1.46	1.33	0.50	0.43	0.00	1.56
REGIONAL TOTALS	0.94	0.44	0.40	0.64	1.22	1.31	1.05	0.27	0.40
Unknown counties	2.00	1.49	0.43	0.35	0.60	0.59	1.18	0.77	1.48
Mixed counties	0.00	--	0.00	--	3.00	0.00	0.00	0.00	0.00
STATE TOTALS	1.12	1.10	0.79	0.95	0.91	0.81	0.93	0.88	1.21

Table 7. Percentage distribution of chukar harvest by region and county, 1970-78.

Region and County	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Northern Region</u>									
Box Elder	16.49	25.52	30.59	27.24	40.28	30.32	32.64	37.25	49.32
Cache	12.09	4.69	6.44	5.44	5.70	3.56	5.04	6.97	4.51
Davis	2.35	1.78	1.96	3.00	1.57	0.39	2.31	1.77	2.95
Morgan	3.41	4.76	3.13	7.17	2.00	3.71	0.79	2.21	2.74
Rich	0.59	0.21	0.37	0.16	0.34	0.08	0.60	0.09	0.33
Summit	0.29	0.49	4.23	1.69	0.55	2.31	0.46	0.66	0.27
Weber	1.39	3.36	5.33	1.02	2.08	2.03	1.16	1.19	2.19
REGIONAL TOTALS	36.61	40.80	52.05	45.72	52.53	42.40	43.00	50.13	62.31
<u>Central Region</u>									
Juab	2.64	3.57	3.19	3.23	2.85	2.23	1.85	2.12	0.88
Salt Lake	6.41	3.46	5.52	6.23	3.66	3.79	2.36	5.78	3.65
Sanpete	0.15	1.01	0.74	1.14	2.21	2.62	0.69	2.07	1.43
Tooele	21.80	30.42	17.17	15.33	14.16	13.09	12.71	17.08	16.74
Utah	11.69	5.59	6.87	16.24	11.23	6.57	13.96	8.52	5.18
Wasatch	0.77	1.15	0.18	2.64	0.64	0.23	0.42	0.44	1.10
REGIONAL TOTALS	43.46	45.21	33.66	44.82	34.75	28.53	31.99	36.01	28.98
<u>Southern Region</u>									
Beaver	0.04	--	0.00	--	0.00	0.00	0.46	0.04	0.00
Garfield	0.66	0.00	0.06	0.00	0.30	0.39	0.23	0.00	0.55
Iron	0.37	0.24	2.02	0.08	0.00	0.00	0.14	--	0.00
Kane	0.00	0.07	0.00	--	0.00	0.00	0.00	--	0.00
Millard	5.31	4.44	3.43	2.84	1.53	1.25	2.54	2.52	1.49
Piute	0.18	0.80	0.55	0.59	0.43	0.70	0.37	0.71	0.70
Sevier	3.22	1.40	0.98	1.69	1.62	2.34	1.57	2.56	1.83
Washington	0.00	0.00	0.18	--	0.00	0.04	0.18	0.04	0.00
Wayne	0.26	0.14	1.23	0.00	0.34	2.19	2.40	2.78	0.33
REGIONAL TOTALS	10.04	7.10	8.46	5.20	4.21	6.92	7.91	8.65	4.90
<u>Northeastern Region</u>									
Daggett	0.00	0.00	0.00	0.00	0.00	0.00	0.18	--	0.00
Duchesne	0.37	0.98	1.41	0.39	0.68	0.59	0.79	0.40	0.49
Uintah	1.06	1.33	1.47	0.16	0.17	1.29	0.18	0.62	0.27
REGIONAL TOTALS	1.43	2.31	2.88	0.55	0.85	1.88	1.16	1.02	0.76
<u>Southeastern Region</u>									
Carbon	1.61	0.38	1.59	0.79	1.40	3.17	2.22	0.26	0.33
Emery	0.44	0.52	0.06	0.39	0.85	7.93	1.90	0.88	0.21
Grand	2.97	0.84	0.67	1.02	3.74	7.89	5.50	0.93	0.76
San Juan	0.37	0.07	0.06	0.75	0.34	0.27	0.46	0.00	0.43
REGIONAL TOTALS	5.39	1.82	2.39	2.96	6.34	19.27	10.08	2.07	1.74
Unknown counties	3.08	2.76	0.55	0.75	1.19	1.02	5.87	2.12	1.31
Mixed counties	0.00	--	0.00	--	0.13	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100	100	100

Table 8. Percentage distribution of chukar hunting pressure by region and county, 1970-78.

Region and County	1970	1971	1972	1973	1974	1975	1976	1977	1978
<u>Northern Region</u>									
Box Elder	18.48	16.95	27.51	18.38	25.08	20.53	23.07	26.68	33.14
Cache	10.62	5.71	6.82	7.56	5.68	4.55	6.65	5.51	6.13
Davis	2.84	2.01	1.75	2.55	0.89	1.02	2.40	1.20	1.62
Morgan	2.18	3.13	2.92	4.16	3.77	4.39	2.36	2.21	3.06
Rich	0.37	0.23	0.44	0.19	0.23	0.32	0.69	0.58	0.33
Summit	0.70	0.81	2.63	1.61	1.17	1.27	0.30	0.58	0.44
Weber	2.59	4.29	3.85	2.77	3.54	3.56	1.80	1.40	3.43
REGIONAL TOTALS	37.78	33.13	45.91	37.21	40.36	35.63	37.26	38.15	48.15
<u>Central Region</u>									
Juab	2.43	3.17	2.92	3.78	3.30	3.31	3.73	2.56	1.70
Salt Lake	6.26	4.94	6.82	5.84	6.03	4.07	4.03	3.61	4.98
Sanpete	0.78	1.35	0.93	0.97	2.10	2.96	1.84	2.02	2.47
Tooele	18.81	23.24	17.67	16.51	16.41	15.80	13.77	17.49	19.08
Utah	12.55	12.99	8.08	18.23	14.42	12.71	14.45	13.38	9.45
Wasatch	0.99	2.43	0.63	1.72	0.66	1.05	0.69	0.70	1.03
REGIONAL TOTALS	41.81	48.11	37.05	47.06	42.92	39.89	38.51	39.74	38.71
<u>Southern Region</u>									
Beaver	0.88	--	0.10	--	0.00	0.00	0.73	0.19	0.07
Garfield	0.29	0.12	0.10	0.04	0.27	0.06	0.43	0.04	0.33
Iron	0.21	0.23	0.93	0.22	0.00	0.25	0.17	--	0.07
Kane	0.00	0.04	0.00	--	0.00	0.00	0.21	--	0.00
Millard	2.84	3.01	2.04	2.81	2.68	2.10	2.70	3.33	1.85
Piute	0.49	0.77	0.34	0.97	1.36	0.83	1.42	0.93	0.63
Sevier	4.12	4.48	2.73	3.89	2.76	4.74	2.57	4.23	2.92
Washington	0.08	0.23	0.10	--	0.00	0.10	0.21	0.12	0.00
Wayne	0.66	0.19	1.12	0.04	0.43	0.73	0.81	0.62	0.37
REGIONAL TOTALS	8.77	9.07	7.45	7.97	7.50	8.80	9.26	9.46	6.24
<u>Northeastern Region</u>									
Daggett	0.12	0.04	0.18	0.11	0.08	0.10	0.09	--	0.07
Duchesne	1.40	1.24	1.90	0.52	1.24	1.40	0.94	1.86	0.33
Uintah	1.98	1.81	1.70	0.67	1.28	0.79	0.43	1.67	0.18
REGIONAL TOTALS	3.50	3.09	3.80	1.31	2.60	2.29	1.46	3.53	0.59
<u>Southeastern Region</u>									
Carbon	3.33	1.62	2.04	2.13	2.10	3.59	3.00	1.20	0.70
Emery	1.07	0.73	1.22	0.56	1.21	4.48	1.29	1.98	1.44
Grand	1.93	1.47	1.27	1.24	1.21	3.46	3.60	3.10	2.77
San Juan	0.08	0.73	0.19	0.49	0.23	0.45	0.99	0.39	0.33
REGIONAL TOTALS	6.42	4.56	4.72	4.42	4.74	11.98	8.88	6.67	5.24
Unknown counties	1.73	2.05	1.02	2.02	1.83	1.40	4.63	2.40	1.07
Mixed counties	0.00	--	0.05	--	0.04	0.00	0.00	0.04	0.00
STATE TOTALS	100	100	100	100	100	100	100	100	100

Table 9. Statewide summary of chukar partridge harvest statistics, 1956-78.

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
1974	16,412	44,658	48,856	0.91	2.72
1975	16,156	41,151	51,083	0.81	2.57
1976	14,171	43,726	47,143	0.93	3.09
1977	12,691	34,155	38,873	0.88	2.69
1978	16,291	65,747	54,239	1.21	4.04
<hr/>					
TOTALS (1958-78)	328,382	921,559	959,478	0.96	2.81
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AVERAGES (1958-77)	15,605	42,791	45,262	0.95	2.74

Table 10. Chukar field bag check summary, 1978.

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 Region</u>										
Box Elder	59	137	579	40	56	127	553	225	41	1.77
Cache	10	26	103	1	9	24	97	1	--	--
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	1	2	6	--	1	2	6	0	--	--
REGIONAL TOTALS	70	165	688	34	66	153	656	226	35	1.48
<u>Central Region</u>										
Juab	1	4	44	7	1	4	44	3	7	0.75
Salt Lake	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--
Tooele	24	51	181	33	5	12	66	25	38	2.08
Utah	8	21	77	75	7	18	71	45	63	2.50
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	33	76	302	40	13	34	181	73	40	2.15
<u>Southern Region</u>										
Beaver	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
<u>Northeastern Region</u>										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>										
Carbon	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	103	241	990	36	79	187	837	299	36	1.60

Table 11. Chukar hunter success trend as determined by field bag checks, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter
<u>Northern Region</u>												
Box Elder	20	0.98	29	2.12	17	1.05	27	1.10	16	0.75	40	1.77
Cache	19	0.91	16	0.79	53	1.00	18	0.56	2	0.12	1	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	17	1.00	--	--	--	--	25	0.50	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	20	0.96	28	1.94	18	1.04	25	0.98	10	0.47	34	1.48
<u>Central Region</u>												
Juab	8	0.50	3	0.16	4	0.33	11	1.00	8	0.36	7	0.75
Salt Lake	11	0.33	0	0.00	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	12	0.79	21	0.68	21	0.84	21	1.39	10	0.18	33	2.08
Utah	0	0.00	--	--	7	0.29*	11	0.50	33	0.00	75	2.50
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	9	0.62	17	0.55	17	0.78	16	1.13	10	0.27	40	2.15
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	233	1.75	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	22	0.72	37	1.54	1	--	--	--
Piute	--	--	--	--	100	0.50	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	22	0.70	40	1.60	1	--	--	--
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	0	0.00	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	33	0.50	--	--
REGIONAL TOTALS	--	--	0	0.00	--	--	--	--	33	0.50	--	--
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	18	0.67	200	1.33	47	1.75	9	1.00	--	--	--	--
Grand	67	1.71	112	4.00	53	2.73	20	2.08	10	0.20	--	--
San Juan	--	--	0	0.00	34	1.14	56	2.00	--	--	--	--
REGIONAL TOTALS	48	1.40	104	2.40	48	1.68	22	1.95	10	0.20	--	--
STATE TOTALS	17	0.91	27	1.60	24	0.95	24	1.11	10	0.44	36	1.60

*Chukars per hunter index based on all hunts.

SAGE GROUSE

SUMMARY

Harvest data for 1977 and spring strutting ground counts for 1978 indicated an average breeding population for 1978.

Brood surveys showed significantly increased production throughout the state during 1978. Brood size and the percentage of hens with broods both increased. Statewide production was very good--well above both 1977 and average.

The good production of 1978 was apparent in harvest statistics collected from questionnaires and from field bag checks. Total statewide harvest increased by 39 percent and established a record high harvest for sage grouse. Total hunters and hunter-days afield both increased. Sage grouse bagged per hunter and per 100 hours effort likewise showed an increase over 1977.

Wing samples collected at checking stations confirmed the good 1978 production. The young per 100 adult ratio increased by 108 percent and the young per 100 adult hens ratio increased almost as dramatically. Production was substantially above 1977 and the average.



Strutting Ground Counts

The status of the sage grouse breeding population for 1978 as indicated by strutting ground counts is shown in Table 1 of this section. Results of this survey for 1978 compared to 1977 and the 1968-78 average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Number of grounds counted	138	+1	+37
Total grouse counted	2,802	-2	+33
Average male grouse per ground	20.3	-3	- 4
Percent change from previous year (comparable grounds)	-15	--	--

The spring 1978 strutting ground counts indicated increased breeding populations in the Northern and Northeastern regions. Counts were down 21 percent in the Central Region, 13 percent in the Southern Region and 37 percent in the Southeastern Region. The statewide index for comparable grounds was down 15 percent. Harvest data for 1977 indicated decreased populations going into the 1977-78 winter throughout the state.

Brood Counts

Results of the survey for 1978 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 1978 are compared to 1977 and the average as follows:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total sage grouse counted	3,552	- 14	+14
Young per 100 adults	181	+108	+27
Mean brood size	4.97	+ 25	+11
Sage grouse observed per 100 hours	407	- 9	+13
Total hours effort	872	- 6	- 1

The effort devoted to sage grouse brood counts was down somewhat compared to 1977 but was about average. The total number of grouse counted was 14 percent less than 1977 but still above average.

Significantly increased production was apparent throughout the state during 1978. Mean brood size increased in every region and by almost one chick per brood statewide.

The young per 100 adult ratio increased statewide, by 108 percent. Statewide production was very good, being above both the 1977 and the average production.

Harvest

Hunter Questionnaire

Results of the 1978 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 results of the 1978 hunting season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Sage grouse hunters	16,231	+15	+59
Sage grouse harvested	25,938	+39	+85
Hunter-days afield	29,861	+16	+75
Sage grouse per hunter-day	0.87	+21	+ 6
Sage grouse per hunter	1.60	+21	+17

The very good production of 1978 was quite apparent in the harvest. Total statewide harvest increased by 39 percent and set a new record for sage grouse harvested in Utah. Total sage grouse hunters and hunter-days afield both increased to record numbers, reflecting the increasing interest in sage grouse hunting. Hunter success increased in every region except the Central where it was slightly down from 1977, due to the closure of Juab, Salt Lake and Tooele counties.

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

Field Bag Checks

A summary of field big check data for 1978 is shown in Table 11. Hunter success trends determined via this method are shown in Table 12. Results of the 1978 survey compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	2,344	-18	+10
Total hours hunted	9,064	-20	+ 8
Sage grouse per hunter (complete hunts)	0.98	+51	+24
Sage grouse bagged per 100 hours	23	+53	+21
Average hours per hunter-day (complete hunts)	4.2	- 2	+ 5
Hours hunted per grouse bagged	4.3	-37	-22

Field bag checks substantiated the harvest questionnaire data on hunter success. Sage grouse bagged per hunter increased by over one third of a bird and grouse bagged per 100 hours effort increased by 53 percent. The average hunter spent less time afield than in 1977, but was more successful because of the increased populations of sage grouse.

Sex and Age Composition of the Harvest

A summary of the sex and age composition of harvested sage grouse in 1978 is found in Table 13 and the trend from 1975-78 in Table 14.

Following is a comparison of data derived from wing surveys in 1978 to 1977 and the 1973-77 averages:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Sample size	1,787	+ 48	+61
Percent males	44	0	+ 5
Percent females	56	0	- 3
Young per 100 adults	183	+135	+24
Young per 100 hens (adult)	293	+120	+29

Analysis of wing samples collected at checking stations confirmed the good 1978 production indicated by summer brood surveys. The young per 100 adult ratio increased by 135 percent and the young per 100 hens increased almost as dramatically (up 120 percent). Both figures are substantially above average.

Sage grouse bagged per hunter and per hunter-day.

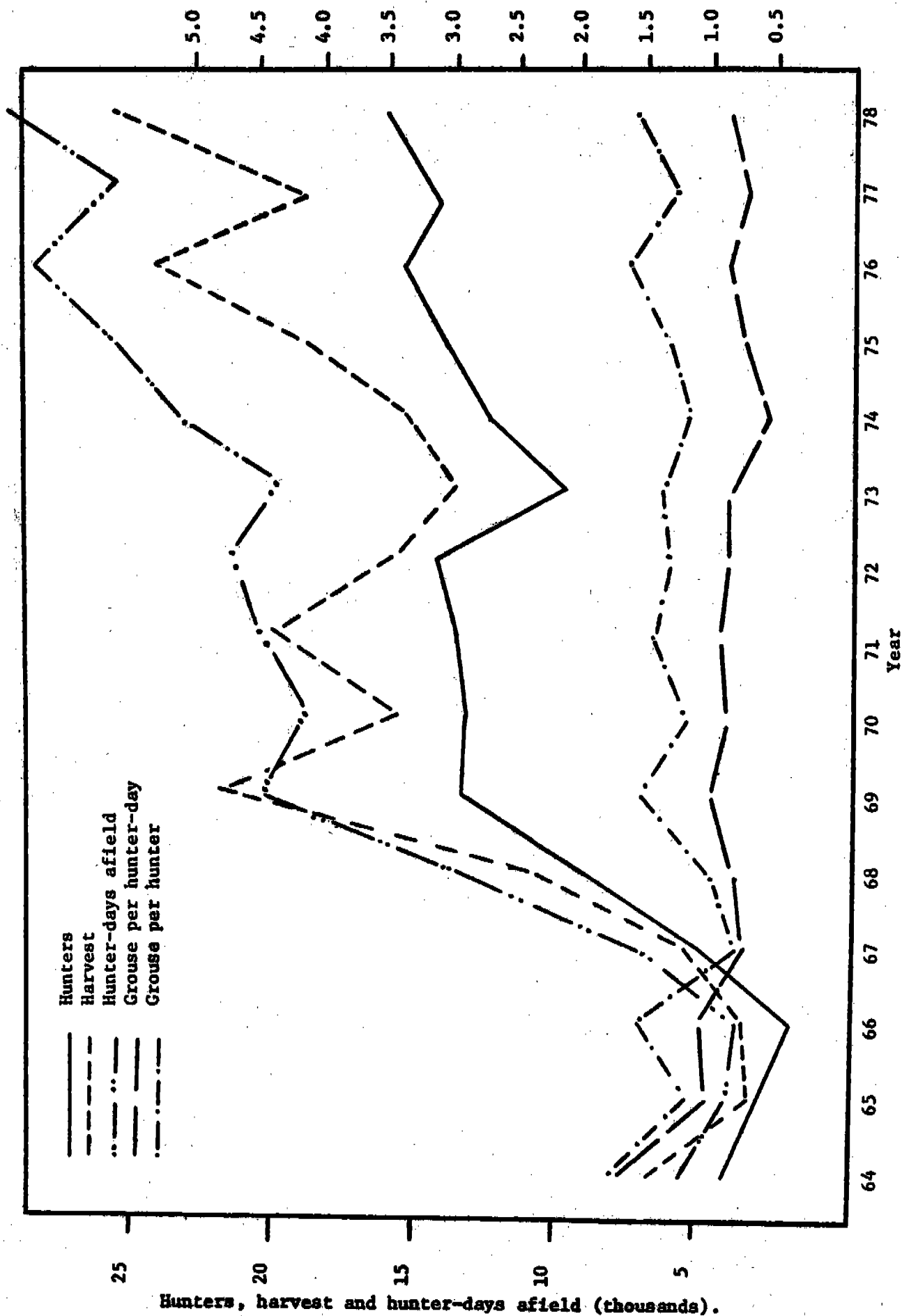


Figure 1. Statewide trend of sage grouse harvest statistics.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1968-78.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Northern Region											
BOX ELDER											
No. strutting grounds counted	15	22	21	21	20	21	25	19	15	22	18
Total grouse counted	253	667	556	479	422	325	306	346	239	621	452
County average	16.9	30.3	26.5	22.8	21.1	15.5	12.2	18.2	15.9	28.2	25.1
% change from previous year - comparable grounds	+23	+94	-8	-14	-10	-30	-19	+29	0	+53	+3
CACHE											
No. strutting grounds counted	3	2	2	3	3	2	3	3	3	3	1
Total grouse counted	30	45	59	58	57	50	44	100	35	45	15
County average	10.0	22.5	29.5	22.7	19.0	25.0	14.7	33.1	11.7	15.0	15.0
% change from previous year - comparable grounds	-78	+57	+31	+7	-16	+6	-14	+133	-68	+29	-40
MORGAN											
No. strutting grounds counted	2	2	2	2	3	3	3	3	3	3	3
Total grouse counted	85	45	45	35	53	61	63	41	52	43	111
County average	42.5	22.5	17.5	17.5	17.7	20.3	21.0	13.7	17.3	14.3	37.0
% change from previous year - comparable grounds	--	-47	-22	-22	+29	+15	+3	-35	+27	-17	+158
RICH											
No. strutting grounds counted	10	6	8	7	9	12	14	10	8	13	15
Total grouse counted	280	298	324	240	254	299	389	268	326	321	417
County average	28.0	49.7	40.5	34.3	28.2	24.9	27.8	26.8	40.8	24.7	27.8
% change from previous year - comparable grounds	-2	+84	-20	-12	-18	-13	+31	-32	+57	-13	+17

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
SUMMIT											
No. strutting grounds counted	4	5	5	5	5	5	5	4	6	6	6
Total grouse counted	71	168	185	223	152	138	113	88	107	169	91
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	17.8	33.6	37.0	44.6	30.4	27.6	22.6	22.0	17.8	28.2	15.2
	+23	+60	+10	+21	-32	-18	-18	-30	-10	+52	-29
REGIONAL TOTALS											
No. strutting grounds counted	32	37	37	38	40	43	50	39	35	47	43
Total grouse counted	634	1,263	1,147	1,045	938	873	915	843	759	1,199	1,086
Regional average											
(all strutting grounds)											
% change from previous year - comparable grounds	19.8	34.1	31.0	27.5	23.4	20.3	18.3	21.6	22.7	25.5	25.3
	+8	+85	-9	-16	-16	-20	-1	-1	+8	+19	+10
Southern Region											
GARFIELD											
No. strutting grounds counted	6	10	13	14	14	14	14	14	14	10	11
Total grouse counted	96	213	322	351	330	166	327	233	201	192	224
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	16.0	21.3	24.8	25.1	23.5	11.9	23.4	16.6	14.3	19.2	20.4
	-18	+59	+31	0	-7	-50	+114	-35	-14	+2	+4
WAYNE											
No. strutting grounds counted	7	8	11	11	12	10	11	11	13	12	12
Total grouse counted	331	497	458	248	311	231	237	160	260	256	166
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	47.3	62.1	41.6	22.5	26.0	23.1	21.5	14.5	20.0	21.3	13.8
	+3	+47	-15	-46	+18	-21	+3	-33	+3	+19	-31

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
BEAVER											
No. strutting grounds counted	2	2	2	5	5	5	5	6	8	7	7
Total grouse counted	0	79	47	141	153	82	110	122	108	90	66
County average	0.0	39.5	23.5	28.2	30.6	16.4	22.0	20.3	13.5	12.9	9.4
(all strutting grounds)											
% change from previous year - comparable grounds	--	--	-41	-49	+9	-47	+34	+1	-32	+8	-27
PIUTE											
No. strutting grounds counted	0	1	1	1	1	1	--	--	--	--	--
Total grouse counted	--	6	7	7	5	0	--	--	--	--	--
County average	--	6.0	7.0	7.0	5.0	--	--	--	--	--	--
(all strutting grounds)											
% change from previous year - comparable grounds	--	--	+17	0	-29	--	--	--	--	--	--
IRON											
No. strutting grounds counted	5	3	4	6	7	0	9	9	9	5	10
Total grouse counted	3	23	64	47	66	0	86	51	26	54	87
County average	0.6	7.7	16.0	7.8	9.3	--	9.6	5.6	2.8	10.8	8.7
(all strutting grounds)											
% change from previous year - comparable grounds	--	--	-9	-50	+42	--	--	-41	-50	+108	+11
SEVIER											
No. strutting grounds counted	1	0	1	1	1	1	1	--	2	3	4
Total grouse counted	0	--	0	0	0	0	9	--	2	26	23
County average	0.0	--	0.0	0.0	0.0	--	9.0	--	1.0	8.9	5.7
(all strutting grounds)											
% change from previous year - comparable grounds	-100	--	--	--	--	--	--	--	--	+200	-11

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
MILLARD											
No. strutting grounds counted	--	--	--	--	--	--	--	--	1	1	1
Total grouse counted	--	--	--	--	--	--	--	--	11	3	14
County average (all strutting grounds)	--	--	--	--	--	--	--	--	11.0	3.0	14.0
% change from previous year - comparable grounds	--	--	--	--	--	--	--	--	--	-73	+367
REGIONAL TOTALS											
No. strutting grounds counted	21	24	33	38	40	31	40	40	47	37	45
Total grouse counted	430	818	928	794	865	479	769	566	608	618	580
Regional average (all strutting grounds)	20.5	34.1	28.1	20.9	21.6	15.4	19.2	14.3	12.9	16.7	12.9
% change from previous year - comparable grounds	-4	+75	-5	-30	+7	-40	+49	-30	-13	+14	-13
Central Region											
SANPETE											
No. strutting grounds counted				2	1	2	2	2	2	2	2
Total grouse counted				13	2	0	0	5	10	4	7
County average (all strutting grounds)				6.5	2.0	--	--	2.5	5.0	2.0	3.5
% change from previous year - comparable grounds				--	-75	--	--	--	+100	-60	+75
TOOELE											
No. strutting grounds counted	2	3	3	4	5	5	5	5	5	5	5
Total grouse counted	44	96	74	92	128	60	95	59	80	77	37
County average (all strutting grounds)	22.0	32.0	24.7	23.0	25.6	12.0	19.0	11.8	16.0	15.4	7.4
% change from previous year - comparable grounds	--	+59	-23	-16	0	-35	+43	-30	+15	-4	-52

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
WASATCH											
No. strutting grounds counted			2	2	2	2	2	2	2	2	2
Total grouse counted	100		70	70	102	52	99	201	216	206	184
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	50.0		35.0	35.0	51.0	26.0	49.5	100.5	108.0	103.0	92.0
	--		-30	-30	+46	-49	+90	+103	+7	-5	-11
REGIONAL TOTALS											
No. strutting grounds counted	5		8	8	8	9	9	9	9	9	9
Total grouse counted	174		175	175	232	112	194	265	306	287	228
Regional average											
(all strutting grounds)											
% change from previous year - comparable grounds	34.8		21.9	21.9	29.0	12.4	21.6	29.4	34.0	31.9	25.3
	-23		-24	-24	+15	-42	+65	+45	+12	-6	-21
Northeastern Region											
DAGGETT											
No. strutting grounds counted	1		4	4	4	5	4	3	3	3	3
Total grouse counted	26		37	37	26	41	53	30	40	55	78
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	26.0		9.2	9.2	6.5	8.2	13.2	10.0	13.3	18.3	26.0
	--		-39	-39	-28	+31	-5	-19	+33	+38	+42
DUCHESNE											
No. strutting grounds counted	2		3	3	5	5	11	11	15	14	14
Total grouse counted	27		27	27	74	43	172	172	245	161	227
County average											
(all strutting grounds)											
% change from previous year - comparable grounds	13.5		9.0	9.0	14.8	8.6	15.6	15.6	16.3	11.5	16.2
	--		-26	-26	0	-41	+44	-5	-14	-20	+37

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
UINTAH											
No. strutting grounds counted	0	2	4	5	6	11	11	9	10	11	13
Total grouse counted	--	98	105	63	118	156	163	240	257	245	454
County average (all strutting grounds)	--	49.0	26.2	12.6	19.7	14.2	14.8	26.7	25.7	22.3	34.9
% change from previous year - comparable grounds	--	--	-32	-42	+77	-25	+8	+29	0	-16	+63
REGIONAL TOTALS											
No. strutting grounds counted	0	2	7	12	15	21	26	23	28	28	30
Total grouse counted	--	98	158	127	218	240	388	442	542	461	759
Regional average (all strutting grounds)	--	49.0	22.6	10.6	14.5	11.4	14.9	19.2	19.4	16.5	25.3
% change from previous year - comparable grounds	--	--	-32	-39	+32	-25	+13	+12	-3	-13	+51
Southeastern Region											
CARBON											
No. strutting grounds counted	1	7	1	3	1	0	8	2	5	9	5
Total grouse counted	1	45	39	58	40	0	77	65	134	140	41
County average (all strutting grounds)	1.0	6.4	39.0	19.3	40.0	--	9.6	32.5	26.8	15.6	8.2
% change from previous year - comparable grounds	--	+100	--	0	+2	--	--	+48	+83	-10	-64
EMERY											
No. strutting grounds counted	1	2	3	3	3	0	3	--	1	2	1
Total grouse counted	5	17	8	3	11	0	2	--	13	33	12
County average (all strutting grounds)	5.0	8.5	2.7	1.0	3.7	--	0.6	--	13.0	16.5	12.0
% change from previous year - comparable grounds	--	+60	-82	-63	+270	--	--	--	--	+23	-25

Table 1. Continued.

Region and County	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
SAN JUAN											
No. strutting grounds counted	2	3	6	6	6	4	6	6	6	4	5
Total grouse counted	8	42	115	152	168	105	137	115	98	117	96
County average	4.0	14.0	19.2	25.3	28.0	26.2	22.8	19.1	16.3	29.2	18.2
(all strutting grounds)											
% change from previous year - comparable grounds	—	+312	+38	+32	+11	+42	-19	-9	-14	+22	-17
REGIONAL TOTALS											
No. strutting grounds counted	4	12	10	12	10	4	17	8	12	15	11
Total grouse counted	14	104	121	213	219	105	216	180	245	290	149
Regional average	3.5	8.7	12.1	17.8	21.9	26.2	12.8	22.5	20.4	19.3	13.5
(all strutting grounds)											
% change from previous year - comparable grounds	—	+194	+3	+20	+13	+42	-19	+21	+20	+4	-37
STATE TOTALS											
No. strutting grounds counted	59	78	92	108	113	108	142	119	131	136	138
Total grouse counted	1,112	2,379	2,528	2,354	2,472	1,809	2,482	2,296	2,460	2,855	2,802
State average-grouse	19.0	30.5	27.5	21.8	21.9	16.8	17.5	19.3	18.8	21.0	20.3
per strutting ground											
% change from previous year - comparable grounds	+1	+81	-8	-17	-1	-26	+17	-4	+2	+6	-15

Table 2. Sage grouse summer inventory summary, 1978.

Region and County	Distinct Broods		Mean Brood	Mixed Yng. & Adults		Total Adults w/o Yng.	Total Adults	Total Yng.	Young/100 Ad.	Vehicle Miles	Hours Effort		Birds/100 hrs.			
	No. Ad.	Yng.		Ad.	Yng.						Veh.	Horse		Walk	Total	
Northern Region																
Box Elder	46	46	219	4.76	14	55	159	219	274	125	451	42	64	3	109	452
Cache	0	0	0	--	0	0	0	0	0	--	0	4	30	0	34	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	9	9	58	6.44	0	0	5	14	58	414	166	14	28	3	45	160
Rich	51	51	267	5.24	3	9	47	101	276	273	582	18	--	27	45	838
Summit	13	13	75	5.77	5	26	14	32	101	316	209	6	22	8	36	369
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	119	119	619	5.20	22	90	225	366	709	194	1,408	84	144	41	269	400
Central Region																
Juab	3	3	10	3.33	2	6	30	35	16	46	46	5	15	0	20	225
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	7	7	32	4.57	18	42	8	33	74	224	190	2	8	8	18	594
Tooele	8	8	41	5.13	3	10	7	18	51	283	152	8	7	11	26	265
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	42	42	206	4.90	9	20	191	242	226	93	153	22	28	11	61	767
REGIONAL TOTALS	60	60	289	4.82	32	78	236	328	367	112	541	37	58	30	125	556
Southern Region																
Beaver	7	7	30	4.29	14	23	13	34	53	156	0	0	17	19	36	242
Garfield	13	13	52	4.00	30	94	40	83	146	176	61	11	25	6	42	545
Iron	2	2	11	5.50	6	14	0	8	25	313	0	0	15	0	15	220
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	4	4	25	6.25	--	--	--	4	25	625	53	8	6	0	14	207
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	18	18	82	4.56	15	69	16	49	151	308	376	25	10	10	45	444
REGIONAL TOTALS	44	44	200	4.55	65	200	69	178	400	224	490	44	73	35	152	380
Northeastern Region																
Daggett	21	21	106	5.05	6	21	37	64	127	198	260	16	4	10	30	637
Duchesne	40	40	200	5.00	14	35	64	118	235	199	575	57	14	19	90	392
Uintah	61	61	297	4.87	3	13	51	115	310	269	781	92	12	3	107	397
REGIONAL TOTALS	122	122	603	4.94	23	69	152	297	672	226	1,616	165	30	32	227	427
Southeastern Region																
Carbon	12	12	62	5.17	23	59	39	74	121	164	629	46	--	20	66	295
Emery	--	--	--	--	--	--	--	--	0	--	64	4	--	4	8	0
Grand	--	--	--	--	--	--	5	5	--	--	30	3	--	4	7	71
San Juan	--	--	--	--	9	17	9	18	17	94	156	10	--	8	18	194
REGIONAL TOTALS	12	12	62	5.17	32	76	53	97	138	142	879	63	--	36	99	237
STATE TOTALS	357	357	1773	4.97	174	513	735	1,266	2,286	181	4,934	393	305	174	872	407

Table 3. Trend of sage grouse young per 100 adults, 1968-78.

Region and County	Year											Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	162	153	62	75	83	225	119	106	250	75	125	
Cache	600	71	10	168	171	80	161	329	486	450	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	533	400	58	600	245	131	64	71	35	414	
Rich	92	98	133	137	55	132	153	94	106	81	273	
Summit	133	121	211	158	173	146	275	52	247	106	316	
Weber	--	208	--	325	144	500	--	--	200	0	--	
REGIONAL TOTALS	132	128	94	135	99	167	131	102	170	77	194	124
<u>Central Region</u>												
Juab	600	300	117	--	1800	500	--	--	--	76	46	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	0	191	84	288	177	138	89	280	414	257	224	
Tooele	416	395	215	188	322	318	314	168	286	123	283	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	90	89	205	212	145	68	101	118	123	54	93	
REGIONAL TOTALS	103	137	170	208	216	106	141	138	187	77	112	148
<u>Southern Region</u>												
Beaver	--	169	--	250	467	329	219	205	181	69	156	
Garfield	263	238	107	93	93	121	143	277	174	174	176	
Iron	--	550	214	183	37	350	46	--	--	80	313	
Kane	--	470	300	--	336	450	--	--	0	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	317	67	0	--	--	
Sevier	82	107	--	--	--	500	400	0	533	0	625	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	371	178	347	63	62	394	166	545	286	115	308	
REGIONAL TOTALS	257	201	186	85	76	311	157	287	194	103	224	186
<u>Northeastern Region</u>												
Daggett	560	493	344	168	273	150	266	51	190	169	198	
Duchesne	209	156	77	230	219	--	161	120	161	53	199	
Uintah	596	450	419	339	105	312	446	107	249	235	269	
REGIONAL TOTALS	446	383	305	278	134	234	321	97	206	154	226	256
<u>Southeastern Region</u>												
Carbon	512	250	167	145	125	328	185	116	214	46	164	
Emery	300	164	100	--	--	--	0	--	--	--	--	
Grand	--	--	--	275	--	0	--	400	25	3	--	
San Juan	214	37	28	70	26	375	82	47	22	24	94	
REGIONAL TOTALS	369	64	30	81	56	340	100	63	68	25	142	120
STATE TOTALS	178	160	117	138	100	195	160	120	171	87	181	143

Table 4. Trend of sage grouse mean brood size, 1968-78.

Region and County	Year										Average 1968-77	
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977		1978
Northern Region												
Box Elder	3.80	5.16	4.13	4.25	3.93	4.69	4.07	3.81	5.59	4.36	4.76	
Cache	6.00	4.60	5.00	4.50	4.88	4.00	4.62	5.00	6.25	4.50	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	5.33	4.00	5.50	6.00	4.40	4.75	3.80	4.25	3.50	6.44	
Rich	4.07	5.42	4.68	4.44	4.69	4.48	3.91	4.00	6.04	3.83	5.24	
Summit	3.94	5.91	5.00	5.58	4.73	4.56	5.00	3.75	5.00	4.50	5.77	
Weber	--	3.38	--	4.33	6.50	5.00	--	--	2.00	--	--	
REGIONAL TOTALS	3.94	5.18	4.55	4.98	4.58	4.55	4.17	4.03	5.45	4.17	5.20	4.56
Central Region												
Juab	6.00	2.00	3.50	--	7.50	5.00	--	--	--	4.50	3.33	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	5.40	4.50	6.00	5.33	4.75	4.00	4.00	5.67	3.20	4.57	
Tooele	5.75	5.62	4.44	4.19	4.81	4.90	5.25	5.50	5.07	4.17	5.13	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	4.29	4.64	4.52	2.94	3.06	4.00	4.24	3.86	4.70	3.27	4.90	
REGIONAL TOTALS	4.46	5.03	4.45	3.94	3.90	4.38	4.49	4.22	4.98	3.44	4.82	4.33
Southern Region												
Beaver	--	5.44	--	5.00	3.83	4.31	3.64	3.90	4.95	3.57	4.29	
Garfield	4.10	3.86	3.67	3.73	3.25	3.50	5.41	4.18	3.50	4.00	4.00	
Iron	--	--	3.67	4.33	3.71	5.33	6.33	--	--	3.00	5.50	
Kane	--	5.00	3.00	--	4.00	4.50	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	5.67	1.00	--	--	--	
Sevier	4.62	4.14	--	--	--	5.00	4.00	--	5.33	--	6.25	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	4.91	3.89	3.55	4.02	3.36	5.17	4.70	5.45	3.95	4.40	4.56	
REGIONAL TOTALS	4.42	4.07	3.60	4.10	3.53	4.72	4.54	4.27	4.18	4.00	4.55	4.14
Northeastern Region												
Daggett	6.00	4.93	4.37	4.00	3.80	4.65	4.93	3.25	4.55	4.80	5.05	
Duchesne	4.09	5.00	5.00	5.17	5.40	--	3.82	3.60	4.11	3.56	5.00	
Uintah	6.13	4.91	4.44	5.19	4.60	4.60	5.06	4.69	5.21	4.48	4.87	
REGIONAL TOTALS	5.54	4.92	4.46	5.04	4.60	4.61	4.82	4.24	4.70	4.30	4.94	4.72
Southeastern Region												
Carbon	5.86	2.50	5.00	4.67	4.14	3.50	3.92	2.67	5.05	4.14	5.17	
Emery	3.00	9.33	1.00	--	--	--	--	4.00	3.00	--	--	
Grand	--	--	--	--	--	--	6.65	3.50	--	3.29	--	
San Juan	5.00	4.20	4.29	5.10	3.93	5.67	5.47	3.17	4.77	3.71	5.17	
REGIONAL TOTALS	5.36	4.92	4.00	5.00	4.05	4.43	4.57	3.17	4.77	3.99	4.97	4.49
STATE TOTALS	4.50	4.82	4.28	4.62	4.16	4.58	4.57	4.15	4.89	3.99	4.97	4.46

Table 5. Trend of sage grouse observed per 100 hours, 1968-78.

Region and County	Year												Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978		
Northern Region													
Box Elder	273	563	365	253	467	166	459	187	457	670	452		
Cache	100	90	431	229	183	150	250	261	410	29	--		
Davis	--	--	--	--	--	--	--	--	--	--	--		
Morgan	--	59	333	176	111	345	514	140	433	218	160		
Rich	436	678	987	228	348	298	428	452	724	580	838		
Summit	522	236	161	420	349	119	188	109	268	361	369		
Weber	--	800	--	155	92	40	--	--	12	--	--		
REGIONAL TOTALS	358	468	387	288	319	188	398	204	429	461	400	350	
Central Region													
Juab	467	200	217	0	181	30	--	0	0	580	255		
Salt Lake	--	--	--	--	--	--	--	--	--	--	--		
Sanpete	80	135	123	107	106	135	85	86	263	255	594		
Tooele	426	407	194	342	786	161	665	257	781	311	265		
Utah	--	--	0	--	--	--	--	--	--	--	--		
Wasatch	735	690	321	377	364	666	529	520	1,353	1,253	767		
REGIONAL TOTALS	475	427	208	230	341	244	402	329	740	618	556	401	
Southern Region													
Beaver	--	1,186	--	420	486	277	460	188	555	428	242		
Garfield	941	646	409	604	358	258	603	112	226	211	545		
Iron	--	118	346	426	1,133	200	241	--	--	771	220		
Kane	--	924	80	--	253	550	--	--	233	0	--		
Millard	--	--	--	--	--	--	--	--	--	--	--		
Piute	0	--	--	--	--	--	833	62	100	--	--		
Sevier	283	581	--	--	--	--	500	0	950	83	207		
Washington	--	--	--	--	--	--	--	--	--	--	--		
Wayne	691	1,363	447	2,061	555	742	335	209	491	240	444		
REGIONAL TOTALS	601	714	388	911	494	393	413	134	348	265	380	466	
Northeastern Region													
Daggett	388	626	414	835	346	308	381	132	352	575	637		
Duchesne	117	122	100	159	118	0	196	84	347	446	392		
Uintah	671	487	474	735	594	310	459	386	716	513	397		
REGIONAL TOTALS	313	361	319	523	349	233	358	217	473	509	427	366	
Southeastern Region													
Carbon	63	26	59	45	309	500	146	49	147	283	295		
Emery	22	152	33	0	--	--	11	0	--	0	0		
Grand	--	--	0	133	25	25	--	500	1,125	550	71		
San Juan	157	2,875	653	560	775	300	856	321	304	341	194		
REGIONAL TOTALS	68	179	451	218	432	215	360	128	220	332	237	260	
STATE TOTALS	374	443	346	383	373	237	387	196	428	445	407	361	

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	95	3,262	3,643	1.12	10.92	14.04
Cache	66	2,862	1,221	0.43	9.58	4.71
Davis	7	300	160	0.53	1.01	0.62
Morgan	26	901	620	0.69	3.02	2.39
Rich.	76	2,202	1,921	0.87	7.37	7.41
Summit	53	1,601	1,281	0.80	5.36	4.94
Weber	37	1,401	1,181	0.84	4.69	4.55
REGIONAL TOTALS	360	12,529	10,027	0.80	41.96	38.66
Central Region						
Juab	6	280	240	0.86	0.94	0.93
Salt Lake	5	160	60	0.38	0.54	0.23
Sanpete	12	660	360	0.55	2.21	1.39
Tooele	15	480	260	0.54	1.61	1.00
Utah	47	1,921	1,421	0.74	6.43	5.48
Wasatch	111	3,162	2,242	0.71	10.59	8.64
REGIONAL TOTALS	196	6,665	4,583	0.69	22.32	17.67
Southern Region						
Beaver	10	320	360	1.12	1.07	1.39
Garfield	31	1,281	1,401	1.09	4.29	5.40
Iron	10	420	300	0.71	1.41	1.16
Kane	1	20	60	3.00	0.07	0.23
Millard	3	80	40	0.50	0.27	0.15
Piute	8	260	120	0.46	0.87	0.46
Sevier	16	540	580	1.07	1.81	2.24
Washington	1	100	200	2.00	0.34	0.77
Wayne	31	981	921	0.94	3.28	3.55
REGIONAL TOTALS	111	4,003	3,983	0.99	13.40	15.35
Northeastern Region						
Daggett	17	540	620	1.15	1.81	2.39
Duchesne	38	1,261	1,441	1.14	4.22	5.56
Uintah	61	2,302	2,782	1.21	7.71	10.73
REGIONAL TOTALS	116	4,103	4,843	1.18	13.74	18.67
Southeastern Region						
Carbon	34	1,221	1,141	0.93	4.09	4.40
Emery	8	440	500	1.14	1.47	1.93
Grand	2	60	80	1.33	0.20	0.31
San Juan	5	160	220	1.37	0.54	0.85
REGIONAL TOTALS	49	1,881	1,941	1.03	6.30	7.48
Unknown counties	18	580	320	0.55	1.94	1.23
Mixed counties	3	100	240	2.40	0.34	0.93
STATE TOTALS	853	29,861	25,938	0.87	100	100

*Total hunter-trips from questionnaire returns.

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	0.59	0.68	0.85	1.02	0.70	1.12
Cache	0.64	0.52	0.78	0.78	0.51	0.43
Davis	--	0.25	0.60	0.43	0.45	0.53
Morgan	0.67	0.34	0.63	0.50	0.57	0.69
Rich	0.74	0.52	0.47	0.77	0.59	0.87
Summit	0.49	0.63	0.63	0.80	0.61	0.80
Weber	0.42	0.70	0.75	0.79	0.79	0.84
REGIONAL TOTALS	0.62	0.56	0.70	0.77	0.61	0.80
Central Region						
Juab	0.63	0.73	0.50	1.11	0.64	0.86*
Salt Lake	*	*	*	*	*	0.38*
Sanpete	0.85	0.50	*	1.37	0.61	0.55
Tooele	0.55	0.72	0.45	0.54	0.60	0.54*
Utah	0.74	0.53	0.56	0.47	1.19	0.74
Wasatch	1.00	0.91	0.91	0.80	0.71	0.71
REGIONAL TOTALS	0.72	0.55	0.66	0.71	0.73	0.69
Southern Region						
Beaver	0.68	0.58	0.37	0.98	0.83	1.12
Garfield	1.12	0.81	1.16	0.90	0.71	1.09
Iron	0.50	1.89	0.57	1.20	0.84	0.71
Kane	1.00	0.67	0.00	0.00	2.00	3.00
Millard	--	2.50	0.00	0.33	0.50	0.50
Piute	0.82	0.55	0.94	1.50	0.57	0.46
Sevier	0.67	0.92	0.74	0.77	0.48	1.07
Washington	*	*	*	*	*	2.00*
Wayne	0.68	1.00	0.91	1.26	0.69	0.94
REGIONAL TOTALS	0.79	0.92	0.85	0.96	0.69	0.99
Northeastern Region						
Daggett	1.27	1.07	0.68	1.19	1.50	1.15
Duchesne	1.18	0.64	0.94	1.05	0.84	1.14
Uintah	1.28	1.12	0.95	1.36	1.22	1.21
REGIONAL TOTALS	1.24	0.92	0.90	1.29	1.14	1.18
Southeastern Region						
Carbon	0.46	0.76	0.95	1.26	0.85	0.93
Emery	0.50	1.00	0.18	0.50	0.33	1.14
Grand	*	*	--	2.00	0.00	1.33
San Juan	0.64	0.75	0.67	0.00	2.00	1.37
REGIONAL TOTALS	0.53	0.77	0.82	1.24	0.79	1.03
Unknown counties	0.56	0.36	0.43	0.87	0.46	0.55
Mixed counties	--	--	--	3.00	2.00	2.40
Illegal areas	0.00	1.50	1.68	0.36	0.51	0.75
STATE TOTALS	0.73	0.65	0.74	0.87	0.72	0.87

*Closed season.

Table 8. Percentage distribution of sage grouse harvest by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	8.99	6.74	8.58	8.32	7.04	14.04
Cache	9.40	9.99	10.73	11.53	5.75	4.71
Davis	--	0.25	0.77	1.89	0.81	0.62
Morgan	3.95	2.00	2.06	1.57	2.19	2.39
Rich	9.13	6.87	4.03	10.21	6.56	7.41
Summit	4.50	6.37	7.04	4.28	7.85	4.94
Weber	1.50	5.37	6.18	4.45	3.89	4.55
REGIONAL TOTALS	37.47	37.58	39.40	42.26	34.09	38.66
Central Region						
Juab	0.68	1.00	0.26	1.73	1.46	0.93*
Salt Lake	*	*	*	*	*	0.23*
Sanpete	3.13	0.62	*	3.95	2.02	1.39
Tooele	3.95	5.24	1.89	3.54	5.59	1.00*
Utah	7.22	5.74	8.93	2.64	7.21	5.48
Wasatch	2.18	3.62	6.09	3.95	8.26	8.64
REGIONAL TOTALS	18.12	17.85	21.46	16.47	25.75	17.67
Southern Region						
Beaver	1.77	1.37	0.60	3.79	1.54	1.39
Garfield	7.77	4.87	6.87	3.79	3.32	5.40
Iron	0.95	2.12	1.12	0.49	1.30	1.16
Kane	0.41	0.25	0.00	0.00	0.16	0.23
Millard	--	0.62	0.00	0.25	0.40	0.15
Piute	1.23	0.75	1.29	0.49	0.32	0.46
Sevier	2.18	2.75	3.86	1.98	1.21	2.24
Washington	*	*	*	*	*	0.77*
Wayne	5.18	6.99	7.47	5.52	3.97	3.55
REGIONAL TOTALS	19.48	19.98	21.37	16.31	12.39	15.35
Northeastern Region						
Daggett	1.91	1.87	1.29	1.57	2.67	2.39
Duchesne	7.90	4.00	2.75	1.89	3.97	5.56
Uintah	9.26	8.36	6.44	9.88	12.63	10.73
REGIONAL TOTALS	19.07	14.23	10.47	13.34	19.27	18.67
Southeastern Region						
Carbon	1.63	3.12	5.32	4.04	4.86	4.40
Emery	0.68	0.37	0.17	0.08	0.32	1.93
Grand	*	*	--	0.16	0.00	0.31
San Juan	1.23	0.75	0.69	0.00	0.32	0.85
REGIONAL TOTALS	3.81	4.24	6.18	4.28	5.51	7.48
Unknown counties	2.04	4.24	1.12	5.60	2.51	1.23
Mixed counties	--	1.87	--	1.73	0.49	0.93
Illegal areas	1.22	1.87	4.46	0.66	1.37	2.93
STATE TOTALS	100	100	100	100	100	100

*Closed season.

Table 9. Percentage distribution of sage grouse hunting pressure by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	11.06	6.38	7.45	7.06	7.31	10.92
Cache	10.66	12.44	10.16	12.77	8.13	9.58
Davis	—	0.65	0.95	3.78	1.29	1.01
Morgan	4.28	3.80	2.40	2.71	2.75	3.02
Rich	9.06	8.48	6.25	11.41	8.02	7.37
Summit	6.67	6.54	8.27	4.64	9.25	5.36
Weber	2.59	4.93	6.06	4.85	3.57	4.69
REGIONAL TOTALS	44.32	43.21	41.54	47.22	40.32	41.96
Central Region						
Juab	0.80	0.89	0.38	1.36	1.64	0.94*
Salt Lake	*	*	*	*	*	0.54*
Sanpete	2.69	0.81	*	2.50	2.40	2.21
Tooele	5.28	4.68	3.09	5.71	6.73	1.61*
Utah	7.17	6.95	11.81	4.85	4.39	6.43
Wasatch	1.59	2.58	4.92	4.28	8.43	10.59
REGIONAL TOTALS	18.43	20.84	23.99	19.97	25.34	22.32
Southern Region						
Beaver	1.89	1.53	1.20	3.35	1.35	1.07
Garfield	5.08	3.88	4.36	3.64	3.39	4.29
Iron	1.39	0.73	1.45	0.36	1.11	1.41
Kane	0.30	0.24	0.25	0.21	0.06	0.07
Millard	—	0.16	0.25	0.64	0.59	0.27
Piute	1.10	0.89	1.01	0.29	0.41	0.87
Sevier	2.39	1.94	3.85	2.21	1.81	1.81
Washington	*	*	*	*	*	0.34*
Wayne	5.58	4.52	6.06	3.78	4.15	3.28
REGIONAL TOTALS	17.93	13.97	18.50	14.76	13.05	13.40
Northeastern Region						
Daggett	1.10	1.13	1.39	1.14	1.29	1.81
Duchesne	4.88	4.04	2.15	1.57	3.39	4.22
Uintah	5.28	4.85	4.99	6.28	7.49	7.71
REGIONAL TOTALS	11.25	10.02	8.52	8.99	12.17	13.74
Southeastern Region						
Carbon	2.59	2.67	4.10	2.78	4.15	4.09
Emery	1.00	0.24	0.69	0.14	0.70	1.47
Grand	*	*	0.00	0.07	0.06	0.20
San Juan	1.39	0.65	0.76	0.00	0.12	0.54
REGIONAL TOTALS	5.28	3.55	5.56	3.00	5.03	6.30
Unknown counties	2.69	7.59	1.89	5.56	3.92	1.94
Mixed counties	—	0.81	—	0.50	0.18	0.34
Illegal areas	1.40	5.01	3.85	1.57	1.94	3.42
STATE TOTALS	100	100	100	100	100	100

*Closed season.

Table 10. Statewide summary of sage grouse harvest statistics, 1951-78.

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
1974	12,214	15,215	23,516	0.65	1.25
1975	13,996	18,916	25,720	0.74	1.35
1976	15,283	24,541	28,342	0.87	1.61
1977	14,078	18,615	25,759	0.72	1.32
1978	16,231	25,938	29,861	0.87	1.60
<hr/>					
TOTALS					
(1963-78)	169,716	235,967	286,471	0.82	1.39
<hr/>					
AVERAGES					
(1963-77)	10,232	14,002	17,107	0.82	1.37

*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, 1978.

Region and County	ALL HUNTS				COMPLETE HUNTS							
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Total Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Birds/Hunter	
Northern Region												
Box Elder	243	615	2,721	832	31	241	613	2,716	831	31	31	1.36
Cache	57	127	504	55	11	51	114	465	51	11	11	0.45
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	144	361	1,534	211	14	143	358	1,522	209	14	14	0.58
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	15	33	121	8	7	15	33	121	8	7	7	0.24
REGIONAL TOTALS	459	1,136	4,880	1,106	23	450	1,118	4,824	1,099	23	23	0.98
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	116	326	703	191	27	65	189	440	154	35	35	0.81
REGIONAL TOTALS	116	326	703	191	27	65	189	440	154	35	35	0.81
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	33	93	345	90	26	14	32	133	35	26	26	1.09
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	2	4	8	3	38	0	0	0	0	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	140	350	1,631	337	21	117	292	1,431	290	21	21	0.99
REGIONAL TOTALS	175	447	1,984	430	22	131	324	1,564	325	21	21	1.00
Northeastern Region												
Daggett	31	87	279	66	24	24	72	222	59	27	27	0.82
Duchesne	12	46	143	44	31	3	4	5	7	40	40	1.75
Uintah	48	209	778	170	22	37	119	652	136	21	21	1.14
REGIONAL TOTALS	91	342	1,200	280	23	64	195	879	202	23	23	1.03
Southeastern Region												
Carbon	23	75	261	77	29	14	52	181	57	31	31	1.10
Emery	3	11	36	2	5	0	0	0	0	0	0	0.00
Grand	4	7	30	8	27	4	7	30	8	27	27	1.14
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	30	93	297	87	29	18	59	211	65	31	31	1.10
STATE TOTALS	871	2,344	9,064	2,094	23	728	1,885	7,918	1,845	23	23	0.98

Table 12. Sage grouse hunter success trend determined by field bag checks, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter
Northern Region												
Box Elder	19	0.75	12	0.57	24	0.74	20	0.90	20	0.96	31	1.36
Cache	13	0.52	9	0.42	10	0.38	14	0.49	7	0.26	11	0.45
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	41	0.92	--	--	27	0.36	28	0.64	32	0.59	--	--
Rich	9	0.36	12	0.58	10	0.45	13	0.63	4	0.22	14	0.58
Summit	8	--	27	0.41*	15	0.61	--	--	45	0.93	--	--
Weber	3	0.15	5	0.18	6	0.45	6	0.29	0	0.00	7	0.24
REGIONAL TOTALS	13	0.55	11	0.51	12	0.51	15	0.64	12	0.56	23	0.98
Central Region												
Juab	--	--	--	--	--	--	109	1.00	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	20	1.27	22	0.83	16	0.95	28	0.85	24	0.73	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	16	0.65	34	0.98	33	0.79	35	0.81
REGIONAL TOTALS	20	1.27	22	0.83	16	0.79	33	0.92	31	0.77	35	0.81
Southern Region												
Beaver	0	0.00	27	0.61	35	0.78	--	--	--	--	--	--
Garfield	23	0.74	21	0.88	25	0.26	17	1.54	18	0.71	26	1.09
Iron	133	1.33	--	--	30	1.74	67	1.04*	74	1.56	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	18	0.75	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	18	0.50	31	0.57*	80	2.00	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	19	1.09	20	0.98	16	0.91	24	1.38	14	0.74	21	0.99
REGIONAL TOTALS	20	0.92	21	0.92	19	0.86	23	1.40	15	0.76	21	1.00
Northeastern Region												
Daggett	20	0.25	30	0.73	20	0.81	46	2.64	60	0.71	27	0.82
Duchesne	31	1.29	14	0.31	26	1.06	34	1.59	26	0.60	140	1.75
Uintah	20	1.27	23	0.71	32	1.21	46	1.33	21	0.78	21	1.14
REGIONAL TOTALS	22	1.17	23	0.68	30	1.13	42	1.44	24	0.75	23	1.03
Southeastern Region												
Carbon	14	1.00	--	--	17	0.31	59	1.00	36	1.14	31	1.10
Emery	0	0.00	--	--	--	--	0	0.00	--	--	0	0.00
Grand	--	--	--	--	--	--	--	--	--	--	27	1.14
San Juan	59	0.71	34	1.03	21	0.67	--	--	15	0.80	--	--
REGIONAL TOTALS	28	0.61	34	1.03	19	0.45	58	0.97	29	1.05	31	1.10
STATE TOTALS	17	0.73	15	0.64	17	0.67	22	0.90	15	0.65	23	0.98

*Sage grouse per hunter index based on all hunts.

Table 13. Sex and age composition of harvested sage grouse, 1978.

Region and County	Sex Composition (%)														
	Males		Females		Total Sample	Male		Female		Young/100 Hens	Young/100 Adults				
Ad. Yng. Tot.	Ad. Yng. Tot.	Ad. Yng. Tot.	Ad. Yng. Tot.	Ad. Yng. Tot.		Ad. Yng. Tot.	Ad. Yng. Tot.	Ad. Yng. Tot.							
Northern Region															
Box Elder	77	113	190	79	119	198	388	20	29	49	20	31	51	294	149
Cache	11	18	29	15	22	37	66	17	27	44	23	33	56	267	154
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	1	4	5	6	2	8	13	8	31	39	46	15	61	100	86
Rich	24	48	72	38	78	116	188	13	26	39	20	41	61	332	203
Summit	1	0	1	2	3	5	6	17	0	17	33	50	83	150	100
Weber	0	2	2	4	3	7	9	0	22	22	44	33	78	175	125
REGIONAL TOTALS	114	185	299	144	227	371	670	17	28	45	21	34	55	179	160
Central Region															
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	33	59	92	35	51	86	178	19	33	52	20	28	48	314	162
REGIONAL TOTALS	33	59	92	35	51	86	178	19	33	52	20	28	48	314	162
Southern Region															
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	4	22	26	19	26	45	71	5	31	36	27	37	64	253	209
Iron	2	6	8	1	4	5	13	16	45	61	8	31	39	1,000	333
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	11	78	89	76	87	163	252	4	31	35	30	35	65	217	190
REGIONAL TOTALS	17	106	123	96	117	213	336	5	32	37	28	35	63	232	197
Northeastern Region															
Daggett	4	23*	27	17	23*	40	67	6	34*	40	25	34*	60	271	219
Duchesne	14	34*	48	21	35*	56	104	13	33*	46	20	34*	54	329	197
Uintah	43	131*	174	80	132*	212	386	11	34*	45	21	34*	55	329	214
REGIONAL TOTALS	61	188*	249	118	190*	308	557	11	34*	45	21	34*	55	320	211
Southeastern Region															
Carbon	11	14	25	2	17	19	44	25	32	57	5	39	43	1,550	238
Emery	0	1	1	0	1	1	2	0	50	50	0	50	50	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	11	15	26	2	18	20	46	24	33	57	4	39	43	1,650	254
STATE TOTALS	236	553	789	395	603	998	1,787	13	31	44	22	34	56	293	183

*Juvenile wings were not sexed, but assumed to be 50% males and 50% females.

Table 14. Sex and age composition of harvested sage grouse from 1975-78.

Region and County	1975				1976				1977				1978				Averages 1973-77				
	Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/		Sex Ratio % Young**/				
	n	Male	Female	100H 100A	n	Male	Female	100H 100A	n	Male	Female	100H 100A	n	Male	Female	100H 100A	n	Male	Female	100H 100A	
Northern Region																					
Box Elder	84	51	49	169	110	117	45	55	262	185	287	49	51	106	54	388	49	51	294	149	162
Cache	109	43	57	206	153	118	51	49	381	211	34	62	38	150	54	66	44	56	267	154	87
Davis																					
Morgan	33	39	61	191	175	3	67	33			40	48	53	325	186	13	39	61	100	86	25
Rich	158	44	56	241	168	295	49	51	402	299	37	46	54	155	85	188	39	61	332	203	137
Summit						6	33	67								6	17	83	150	100	
Weber						3	33	67								9	22	78	175	125	
REGIONAL TOTALS	384	45	55	209	149	542	48	52	357	247	398	49	51	128	64	670	45	55	179	160	412
Central Region																					
Juab											174	44	55	141	90						174
Salt Lake																					
Sanpete																					
Tooele	69	51	49	269	165	109	37	63	377	319	68	51	49	100	45						64
Utah																					
Wasatch	38	29	71	146	100	76	63	37	327	181						178	52	48	314	162	57
REGIONAL TOTALS	107	43	57	215	138	185	48	52	357	249	242	46	54	138	75	178	52	48	314	162	121
Southern Region																					
Beaver						9	11	89			11	18	82	175	175						11
Garfield	120	32	68	162	131	63	46	54	308	174	38	42	58	220	138	71	36	64	253	209	92
Iron											9	44	56	600	200	13	61	39	1000	333	9
Kane																					
Millard																					
Piute																					
Sevier																					
Washington																					
Wayne	204	39	61	168	140	357	36	64	247	161	192	34	66	72	49	252	35	65	217	190	240
REGIONAL TOTALS	324	36	64	165	136	429	37	63	260	166	250	35	65	95	64	336	37	63	232	197	339
Northeastern Region																					
Daggett	162	18	82	232	142	28	46	54	300	180	52	52	48	167	93	67	40*	60*	271	219	63
Duchesne	32	22	78	262	191	82	54	46	158	86	53	47	53	318	139	104	46*	54*	329	197	50
Uintah	157	45	55	438	265	247	47	53	320	184	200	40	61	150	100	386	45*	55*	329	214	178
REGIONAL TOTALS	351	30	70	307	190	357	49	51	270	153	305	43	57	172	110	557	45*	55*	320	211	291
Southeastern Region																					
Carbon																	44	57	43	1550	238
Emery																	2	50	50		
Grand																					
San Juan																					
REGIONAL TOTALS	1166	38	62	217	155	1513	45	55	305	196	1195	44	56	133	78	1787	44	56	293	183	1109
STATE TOTALS																					
REGIONAL TOTALS																					
STATE TOTALS																					

*Includes estimated percentage of juveniles.

**Young per 100 hens (adult females) and young per 100 adults.

n = Wing sample size.

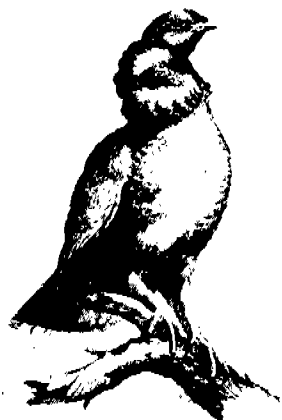
FOREST GROUSE

SUMMARY

Judging from harvest statistics for 1977, the 1978 breeding populations of both ruffed and blue grouse were down from 1977. Production of ruffed grouse indicated by a small brood sample was up from 1977 to near average. Blue grouse production was above average during 1977. The number of grouse of both species observed during brood surveys and the apparent density (grouse per 100 hours) suggested a markedly increased abundance in 1978 compared to 1977, with figures up 26 percent and 104 percent for ruffed and blue grouse, respectively. A total of 125 forest grouse broods were observed during 1978 compared to only 93 during 1977.

Harvest statistics indicated a high density of forest grouse. Total harvest increased from 42,476 during 1977 to 81,558 in 1978, a near 100 percent increase in harvest. Total hunters increased from 19,188 in 1977 to 25,318 in 1978, and days afield increased from 48,746 to 72,732--32 percent and 49 percent increases, respectively.

Field bag check data confirmed the increased success shown by the questionnaire. However, field bag check data did vary slightly from questionnaire results.



Brood Counts

Ruffed Grouse

Results of the annual random brood survey for 1978 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 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total ruffed grouse observed	178	- 7	-36
Young per 100 adults	345	+16	+15
Mean brood size	4.46	+ 5	- 2
Ruffed grouse observed per 100 hours	29	+26	-22
Total hours effort (forest grouse)	908	+ 8	+11

Harvest statistics for 1977 indicated a decreased breeding population for 1978.

Effort on brood surveys increased in comparison to 1976 but remained near average.

Total ruffed grouse observed decreased from 1977 and was well below average. The density index (grouse observed per 100 hours) was above 1977 but below average.

Mean brood size, based on a small sample of 26 broods, increased somewhat.

Blue Grouse

Results of the annual random brood survey for 1978 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 Table 6-8. Survey results for 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total blue grouse observed	643	+ 46	+11
Young per 100 adults	278	+ 54	+ 4
Mean brood size	4.44	+ 11	0
Blue grouse observed per 100 hours	106	+104	+41
Total hours effort (forest grouse)	908	+ 8	+11

Harvest statistics for 1977 indicated a decreased breeding population for 1978.

All indications from the 1978 summer surveys on blue grouse were that production was good. Despite the indicated decrease in breeding population, the total number of grouse observed increased by nearly 50 percent. The young per 100 adult ratio and the number of grouse observed per 100 hours effort both increased by 54 and 104 percent, respectively.

Casual observations from the field and the summer inventory both indicated a substantially increased fall blue grouse population. Wing samples collected at checking stations confirmed the good production.

Harvest

Hunter Questionnaire

Results of the 1978 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 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Forest grouse hunters	25,318	+32	+ 86
Forest grouse harvested	81,558	+92	+154
Hunter-days afield	72,732	+49	+135
Forest grouse per hunter-day	1.12	+29	+ 9
Forest grouse per hunter	3.22	+46	+ 37
Percent ruffed grouse	37.2	0	- 8
Percent blue grouse	57.2	+ 4	+ 10
Percent unidentified	5.6	-27	- 23

Results from the harvest questionnaire confirmed the good population level indicated by summer surveys. Although the total number of forest grouse hunters afield increased by 32 percent, the total statewide harvest almost doubled to a record 81,558 forest grouse. A significant increase in harvest was evident for both species of forest grouse.

Field Bag Checks

A summary of field bag check data for 1978 is found in Table 15. Hunter success trends determined via this method are shown in Table 16. Results of the 1978 survey compared to 1977 and the average are as follows:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	1,832	- 5	+28
Total hours hunted	4,983	- 31	-13
Forest grouse per hunter (complete hunts)	0.64	+129	- 7
Forest grouse bagged per 100 hours	22	+214	+22
Average hours per hunter-day (complete hunts)	2.8	- 28	-32
Hours hunted per grouse bagged	4.5	- 67	-31

Field bag checks varied somewhat from the results of the harvest questionnaire; however, harvest and success were all up markedly.

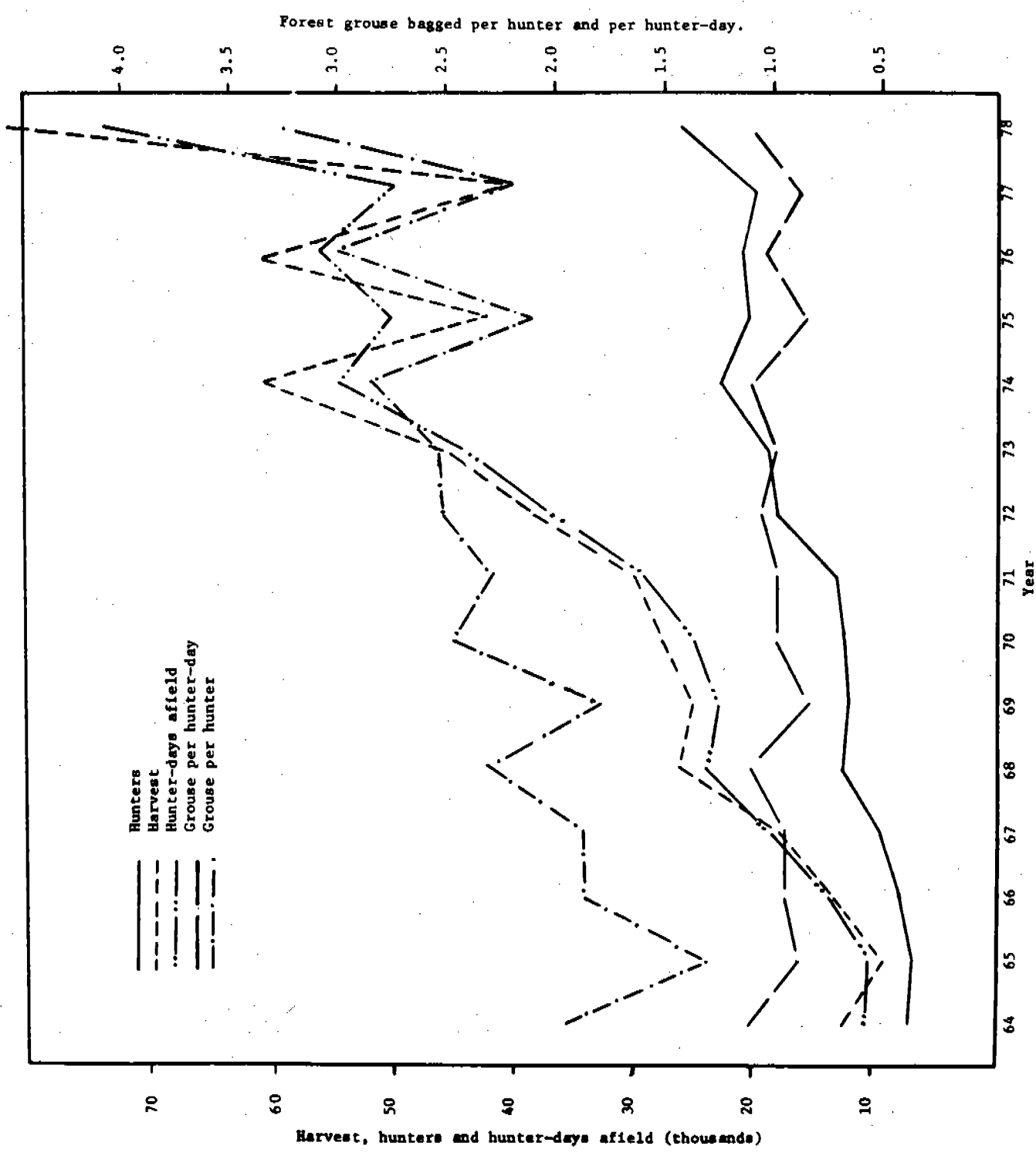


Figure 1. Statewide trends of forest grouse harvest statistics.

Table 1. Ruffed grouse summer inventory, 1978.

Region and County	No. Adult	Distinct Broods Yng.	Mean Brood	Mixed Yng. & Ad. Young	Adults w/o Yng.	Total Adults	Total Young	Young/100 Ad.	Grouse/100 Hrs.
<u>Northern Region</u>									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	6	26	4.33	2	8	13	34	262	25
Davis	--	--	--	--	--	--	--	--	--
Morgan	1	1	1.00	0	0	1	1	100	8
Rich	--	--	--	--	--	--	--	--	--
Summit	1	4	4.00	0	0	1	4	400	61
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	8	31	3.88	2	8	15	39	260	18
<u>Central Region</u>									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	9	46	5.11	4	14	13	60	462	203
Tooele	--	--	--	--	--	--	--	--	--
Utah	3	12	4.00	0	0	4	12	300	30
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	12	58	4.83	4	14	17	72	424	99
<u>Southern Region</u>									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	1	3	3.00	--	--	1	3	300	2
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1	3	3.00	--	--	1	3	300	2
<u>Northeastern Region</u>									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	4	18	4.50	--	--	6	18	300	46
Uintah	1	6	6.00	--	--	1	6	600	11
REGIONAL TOTALS	5	24	4.80	--	--	7	24	343	21
<u>Southeastern Region</u>									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	26	116	4.46	6	22	40	138	345	29

Table 2. Trend of ruffed grouse young per 100 adults, 1968-78.

Region and County	Year											Average 1963-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	0	--	--	--	--	--	0	250	250	--	--	--
Cache	225	321	468	383	900	--	300	329	300	300	262	--
Davis	400	0	--	--	388	--	--	--	--	--	--	--
Morgan	--	200	400	540	--	--	400	--	500	--	100	--
Rich	150	--	--	--	375	600	--	317	300	--	--	--
Summit	500	333	500	514	650	333	500	217	250	475	400	--
Weber	450	143	--	340	--	450	--	--	--	400	--	--
REGIONAL TOTALS	292	260	471	426	453	417	369	286	245	364	260	359
<u>Central Region</u>												
Juab	275	333	470	325	--	300	400	500	100	--	--	--
Salt Lake	150	133	470	100	--	--	125	--	167	0	--	--
Sanpete	259	171	300	240	329	264	195	233	387	289	462	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	433	267	256	300	475	125	313	57	56	150	300	--
Wasatch	--	--	--	--	300	--	--	--	--	--	--	--
REGIONAL TOTALS	236	214	331	242	358	231	221	164	273	246	424	262
<u>Southern Region</u>												
Beaver	--	97	--	200	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	200	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	225	183	280	--	--	--	--	--	--	--	--
Piute	--	--	--	300	--	--	--	--	--	--	--	--
Sevier	425	400	533	221	333	311	500	233	--	575	300	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	200	--	--	--	367	--	--	--	--	--	--
REGIONAL TOTALS	425	139	300	235	333	325	147	233	--	575	300	305
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	500	--	--	--
Duchesne	450	800	225	--	367	--	333	600	124	67	300	--
Uintah	0	700	250	375	--	--	600	--	500	--	600	--
REGIONAL TOTALS	386	766	233	375	367	--	400	600	195	67	343	385
<u>Southeastern Region</u>												
Carbon	40	--	0	--	--	--	480	200	350	300	--	--
Emery	350	400	700	500	--	300	400	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	128	400	489	500	--	300	467	200	350	300	--	350
STATE TOTALS	268	219	372	308	385	297	267	241	244	298	345	300

Table 3. Trend of ruffed grouse mean brood size, 1968-78.

Region and County	Year											Average 1962-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	2.00	4.09	4.78	5.55	9.00	--	--	--	2.50	4.00	--	--
Davis	4.00	--	--	--	4.80	--	5.00	3.83	3.00	4.00	4.33	--
Morgan	--	4.67	4.00	6.75	--	--	4.00	--	--	--	--	--
Rich	3.00	--	--	--	--	--	4.00	--	5.00	--	1.00	--
Summit	5.00	6.00	5.00	6.00	3.75	6.00	--	4.75	3.00	--	--	--
Weber	4.50	2.50	--	8.00	6.50	5.00	5.00	3.00	4.00	4.75	4.00	--
REGIONAL TOTALS	4.00	4.30	4.79	6.09	5.08	5.00	4.54	4.00	3.08	4.25	3.88	4.68
Central Region												
Juab	5.33	4.00	4.67	4.33	--	3.00	4.00	5.00	2.00	--	--	--
Salt Lake	--	4.00	4.67	4.00	--	--	4.00	--	5.00	--	--	--
Sanpete	3.54	4.67	4.64	5.50	4.67	4.60	3.00	4.50	5.36	4.44	5.11	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	4.33	3.80	7.00	3.75	4.75	5.00	4.25	4.00	2.00	3.00	4.00	--
Wasatch	--	--	--	--	3.00	--	--	--	--	--	--	--
REGIONAL TOTALS	4.00	4.17	4.78	4.75	4.55	4.43	3.44	4.50	4.94	4.08	4.83	4.44
Southern Region												
Beaver	--	6.00	--	5.00	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	2.00	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	2.25	--	4.67	--	--	--	--	--	--	--	--
Piute	--	--	--	3.00	--	--	--	--	--	--	--	--
Sevier	4.25	4.00	--	3.83	4.29	4.00	5.00	2.33	--	5.75	3.00	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	2.00	--	--	--	5.50	--	--	--	--	--	--
REGIONAL TOTALS	4.25	3.30	--	4.08	4.29	4.33	4.40	2.33	--	5.75	3.00	3.99
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	5.00	--	--	--
Duchesne	4.50	8.00	3.00	--	3.67	--	3.33	6.00	3.50	2.00	4.50	--
Uintah	--	7.00	2.50	5.00	--	--	6.00	--	5.00	--	6.00	--
REGIONAL TOTALS	4.50	7.67	2.80	5.00	3.67	--	4.00	6.00	4.10	2.00	4.80	4.46
Southeastern Region												
Carbon	2.00	--	--	--	--	--	4.80	2.00	3.50	3.00	--	--
Emery	3.50	3.00	7.00	5.00	--	5.00	4.00	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.00	3.00	7.00	5.00	--	5.00	4.67	2.00	3.50	3.00	--	4.32
STATE TOTALS	4.05	4.24	4.66	5.16	4.61	4.58	4.09	3.87	4.12	4.26	4.46	4.55

Table 4. Trend of ruffed grouse observed per 100 hours, 1968-78.

Region and County	Year											Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	2	--	--	--	--	--	2	54	50	--	--	50
Cache	54	83	270	67	14	--	34	45	13	50	25	13
Davis	31	3	--	--	244	--	0	0	10	--	--	10
Morgan	--	58	62	128	--	--	136	0	33	--	8	33
Rich	62	--	--	--	61	140	--	--	27	--	--	27
Summit	40	63	42	108	100	62	185	46	100	144	61	100
Weber	92	44	--	73	--	--	--	--	0	111	--	0
REGIONAL TOTALS	33	50	80	77	39	24	49	41	20	49	18	46
Central Region												
Juab	500	158	179	142	--	33	250	27	40	--	--	40
Salt Lake	111	20	47	16	--	0	30	0	20	4	--	20
Sanpete	316	158	143	167	240	129	124	69	181	125	203	125
Tooele	--	--	--	--	--	0	0	0	0	0	--	0
Utah	61	63	32	40	37	23	73	32	19	25	30	19
Wasatch	--	--	--	0	50	--	--	0	0	--	--	0
REGIONAL TOTALS	395	78	81	85	84	50	71	23	64	56	99	99
Southern Region												
Beaver	--	314	--	250	--	--	0	--	--	--	--	--
Garfield	--	--	--	--	--	0	38	0	--	0	--	0
Iron	--	--	--	--	--	--	0	0	--	0	--	0
Kane	--	--	--	--	--	0	--	0	--	0	--	0
Millard	--	--	213	317	--	0	0	--	--	0	--	0
Piute	--	--	--	267	--	--	--	0	--	0	--	0
Sevier	--	--	--	28	22	10	8	2	--	12	2	12
Washington	--	--	--	--	--	--	0	0	--	0	--	0
Wayne	--	--	--	--	--	117	0	--	--	0	--	0
REGIONAL TOTALS	--	314	62	35	15	12	8	2	--	9	2	57
Northeastern Region												
Daggett	--	--	--	0	--	0	0	0	20	0	--	0
Duchesne	157	58	29	0	28	0	30	11	47	9	46	47
Uintah	20	88	18	83	--	0	16	0	62	0	11	62
REGIONAL TOTALS	119	65	23	83	10	0	20	5	44	4	21	41
Southeastern Region												
Carbon	61	--	5	0	--	0	53	33	12	7	--	12
Emery	16	30	16	46	--	67	42	0	--	0	--	--
Grand	--	--	--	--	--	0	--	0	--	--	--	--
San Juan	--	--	--	--	--	0	0	0	--	--	--	--
REGIONAL TOTALS	17	30	12	46	--	28	26	11	7	3	--	20
STATE TOTALS	70	59	55	54	28	18	28	12	25	23	29	37

Table 5. Blue grouse summer inventory summary, 1978

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					
<u>Northern Region</u>										
Box Elder	1	4	4.00	0	0	0	1	4	400	39
Cache	13	58	4.46	0	0	5	18	58	322	41
Davis	4	20	5.00	0	0	0	4	20	500	188
Morgan	6	23	3.83	0	0	4	10	23	230	127
Rich	--	--	--	--	--	--	--	--	--	--
Summit	5	28	5.60	0	0	0	5	28	560	400
Weber	4	17	4.25	0	0	0	4	17	425	42
REGIONAL TOTALS	33	150	4.55	0	0	9	42	150	357	65
<u>Central Region</u>										
Juab	1	4	4.00	0	0	1	2	4	200	86
Salt Lake	6	16	2.67	0	0	4	10	16	160	111
Sanpete	2	8	4.00	0	0	7	9	8	89	65
Tooele	5	22	4.40	2	6	19	26	28	108	1080
Utah	8	25	3.13	2	9	5	15	34	266	96
Wasatch	1	8	8.00	0	0	0	1	8	800	46
REGIONAL TOTALS	23	83	3.61	4	15	36	63	98	156	113
<u>Southern Region</u>										
Beaver	--	--	--	--	--	--	--	--	--	--
Garfield	4	19	4.75	0	0	1	5	19	380	86
Iron	1	2	2.00	0	0	0	1	2	200	150
Kane	1	4	4.00	0	0	0	1	4	400	250
Millard	3	17	5.67	0	0	0	3	17	567	250
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	10	45	4.50	0	2	12	22	47	214	38
Washington	1	6	6.00	0	0	0	1	6	600	--
Wayne	0	0	--	0	0	0	0	0	--	0
REGIONAL TOTALS	20	93	4.65	0	2	13	33	95	288	56
<u>Northeastern Region</u>										
Daggett	6	24	4.00	0	0	1	7	24	343	100
Duchesne	10	53	5.30	2	15	0	12	68	567	148
Uintah	2	10	5.00	0	0	0	2	10	500	19
REGIONAL TOTALS	18	87	4.83	2	15	1	21	102	486	83
<u>Southeastern Region</u>										
Carbon	2	9	4.50	0	0	2	4	9	225	46
Emery	--	--	--	--	--	--	--	--	--	--
Grand	0	0	--	0	0	2	2	0	--	6
San Juan	3	18	6.00	2	1	0	5	19	380	99
REGIONAL TOTALS	5	27	5.40	2	1	4	11	28	255	46
STATE TOTALS	99	440	4.44	8	33	63	70	473	278	106

Table 6. Trend of blue grouse young per 100 adults, 1968-78.

Region and County	Year											Average 1963-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	382	222	389	--	500	--	236	100	429	--	400	
Cache	318	154	316	245	288	192	357	356	331	100	322	
Davis	138	250	--	520	82	--	300	0	150	320	500	
Morgan	--	500	600	533	250	375	300	130	341	117	230	
Rich	--	--	300	--	300	--	--	167	500	--	--	
Summit	--	400	433	600	533	314	--	143	333	333	560	
Weber	500	325	--	557	68	700	625	0	400	400	425	
REGIONAL TOTALS	289	248	361	305	191	222	305	194	333	167	357	292
<u>Central Region</u>												
Juab	--	383	--	--	--	50	--	500	--	--	200	
Salt Lake	--	175	900	67	--	0	300	25	333	238	160	
Sanpete	467	--	283	425	156	300	--	--	325	260	89	
Tooele	400	--	--	--	--	143	179	86	227	82	108	
Utah	267	230	314	422	375	415	222	0	300	27	266	
Wasatch	360	--	550	450	600	--	333	400	400	--	800	
REGIONAL TOTALS	337	231	389	324	321	285	218	192	277	120	156	319
<u>Southern Region</u>												
Beaver	238	--	--	--	--	--	500	--	--	--	--	
Garfield	140	--	100	600	133	--	--	400	100	300	380	
Iron	400	8	--	267	--	--	150	--	--	--	200	
Kane	--	--	150	200	240	211	--	--	--	--	400	
Millard	--	--	--	280	67	--	450	--	--	700	567	
Piute	200	--	--	--	--	--	--	200	--	--	--	
Sevier	--	--	140	136	100	100	320	233	106	86	214	
Washington	--	38	170	--	271	533	350	--	500	--	600	
Wayne	--	182	--	--	--	--	400	--	275	567	--	
REGIONAL TOTALS	224	75	135	213	149	192	313	246	142	146	288	167
<u>Northeastern Region</u>												
Daggett	150	350	--	--	286	286	567	--	487	367	343	
Duchesne	257	433	--	400	275	600	300	350	431	380	567	
Uintah	--	480	400	167	557	500	250	300	525	350	500	
REGIONAL TOTALS	186	414	400	225	339	344	311	320	461	372	486	375
<u>Southeastern Region</u>												
Carbon	138	--	0	167	92	--	243	167	321	500	225	
Emery	250	--	450	300	--	667	--	--	--	300	--	
Grand	--	--	--	--	114	0	43	200	110	300	--	
San Juan	400	456	153	386	375	--	242	200	155	100	380	
REGIONAL TOTALS	288	456	139	310	216	333	188	189	209	269	255	272
STATE TOTALS	268	235	253	292	224	237	284	195	281	181	278	267

Table 7. Trend of blue grouse mean brood size, 1968-78.

Region and County	Year											Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	4.43	5.54	3.83	--	5.00	--	5.06	3.00	5.75	--	4.00	
Cache	4.38	3.35	4.28	5.18	5.50	4.66	4.95	5.30	4.48	3.40	4.46	
Davis	4.50	7.00	--	6.25	2.67	--	--	--	4.00	3.67	5.00	
Morgan	--	5.00	6.00	5.33	5.33	5.50	4.62	3.25	4.45	2.80	3.83	
Rich	--	--	3.00	--	4.50	--	--	5.00	5.00	--	--	
Summit	--	8.00	4.33	6.00	5.33	4.40	--	2.75	5.00	5.00	5.60	
Weber	5.00	4.75	--	6.50	4.75	7.00	6.25	--	6.00	4.00	4.25	
REGIONAL TOTALS	4.50	4.51	4.21	5.54	4.96	4.79	5.00	4.25	4.67	3.56	4.55	4.60
Central Region												
Juab	--	4.60	--	--	--	1.00	--	5.00	--	--	4.00	
Salt Lake	--	4.40	9.00	2.00	--	--	6.00	1.00	5.00	4.75	2.67	
Sanpete	4.67	--	2.83	4.25	2.80	3.00	--	--	3.25	4.33	4.00	
Tooele	4.00	--	--	--	--	6.00	4.40	3.50	3.45	2.50	4.40	
Utah	3.40	4.67	5.50	4.22	4.22	5.38	5.00	--	4.29	1.50	3.13	
Wasatch	3.60	--	5.50	4.50	6.00	--	5.00	4.00	4.00	--	8.00	
REGIONAL TOTALS	3.80	4.54	4.67	4.00	4.12	4.54	4.83	3.40	3.97	3.64	3.61	4.15
Southern Region												
Beaver	3.75	--	--	--	--	--	5.00	--	--	--	--	
Garfield	2.00	--	3.00	6.00	4.00	--	--	6.00	--	6.00	4.75	
Iron	4.00	--	--	8.00	--	--	3.00	--	--	--	2.00	
Kane	--	--	3.00	6.00	3.33	6.33	--	--	--	--	4.00	
Millard	--	--	--	4.67	2.00	--	4.50	--	--	7.00	5.67	
Piute	2.00	--	--	--	--	--	--	--	2.00	--	--	
Sevier	--	1.50	--	3.00	2.62	3.00	5.89	3.82	3.17	4.29	4.50	
Washington	--	4.00	3.40	--	4.00	5.33	3.50	--	5.00	--	6.00	
Wayne	--	--	--	--	--	--	4.00	--	5.50	6.00	--	
REGIONAL TOTALS	3.22	5.50	3.25	4.45	3.06	4.55	5.31	4.00	3.50	4.90	4.65	4.17
Northeastern Region												
Daggett	--	3.50	--	--	5.00	5.00	5.67	--	4.88	3.67	4.00	
Duchesne	9.00	4.33	--	4.00	4.71	6.00	4.22	7.00	4.60	4.22	5.30	
Uintah	--	6.00	5.50	2.50	6.50	5.00	5.00	4.50	5.25	3.50	5.00	
REGIONAL TOTALS	9.00	4.46	5.50	3.00	5.21	5.20	4.71	5.33	4.78	3.94	4.83	5.11
Southeastern Region												
Carbon	4.00	--	--	5.00	6.00	--	3.40	3.33	4.25	4.75	4.50	
Emery	5.00	--	4.50	3.00	--	6.67	--	--	--	3.00	--	
Grand	--	--	--	--	2.67	--	1.50	4.00	3.67	6.00	--	
San Juan	4.33	5.20	4.00	5.25	6.17	--	4.83	3.50	3.40	4.00	6.00	
REGIONAL TOTALS	4.33	5.20	4.20	4.82	5.50	6.67	3.77	3.57	3.88	4.57	5.40	4.65
STATE TOTALS	4.24	4.46	4.28	4.86	4.64	4.81	4.88	4.05	4.29	4.00	4.44	4.45

Table 8. Trend of blue grouse observed per 100 hours, 1968-78.

Region and County	Year										Average 1968-77	
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977		1978
Northern Region												
Box Elder	129	412	99	--	35	0	273	46	132	--	39	
Cache	192	146	198	171	133	409	271	124	75	62	41	
Davis	194	170	--	194	125	--	80	10	52	84	188	
Morgan	--	50	88	76	125	173	400	35	417	173	127	
Rich	--	--	33	--	39	0	--	--	40	--	--	
Summit	--	32	56	18	127	138	8	83	93	81	400	
Weber	150	364	--	153	147	--	--	125	62	167	42	
REGIONAL TOTALS	103	127	97	135	111	266	274	80	94	87	65	167
Central Region												
Juab	--	175	--	0	--	25	0	27	0	--	86	
Salt Lake	--	64	28	20	--	20	27	14	98	112	111	
Sanpete	68	--	43	34	92	39	0	0	27	31	65	
Tooele	500	--	--	--	--	94	144	108	354	172	1,080	
Utah	106	38	63	94	92	172	64	118	54	23	96	
Wasatch	87	--	260	1,100	262	--	433	36	250	--	46	
REGIONAL TOTALS	97	52	57	51	98	95	57	29	91	56	113	68
Southern Region												
Beaver	88	--	86	--	10	--	300	--	16	--	--	
Garfield	240	--	15	42	--	0	25	56	16	53	86	
Iron	143	140	111	51	--	76	167	--	--	0	150	
Kane	--	--	--	317	83	0	122	0	--	133	250	
Millard	--	--	--	--	--	--	--	0	75	0	--	
Piute	54	--	--	--	23	7	40	21	34	28	38	
Sevier	--	38	--	16	260	--	129	0	55	0	--	
Washington	--	86	174	--	--	8	--	--	375	2,000	0	
Wayne	--	--	--	--	--	--	--	--	40	35	56	
REGIONAL TOTALS	102	56	162	29	37	18	47	21	40	35	55	
Northeastern Region												
Daggett	1,400	193	--	0	146	45	182	0	157	88	100	
Duchesne	119	33	--	13	90	13	130	14	105	84	148	
Uintah	--	156	41	35	87	19	78	27	86	20	19	
REGIONAL TOTALS	210	150	41	18	104	27	112	15	112	63	83	85
Southeastern Region												
Carbon	543	9	32	80	258	0	44	35	77	44	46	
Emery	12	--	12	31	--	77	0	0	--	40	--	
Grand	--	--	--	13	103	19	25	33	68	62	6	
San Juan	158	196	211	178	238	0	158	53	108	24	99	
REGIONAL TOTALS	67	98	40	97	216	36	56	39	81	38	46	
STATE TOTALS	101	84	71	71	95	66	91	33	81	52	106	75

Table 9. Summary of effort expended on forest grouse brood counts, 1978.

Region and County	Vehicle Miles Traveled	Hours Effort Expended			
		Vehicle	Horseback	Walking	Total
Northern Region					
Box Elder	12	1	12	0	13
Cache	454	26	157	5	188
Davis	175	12	0	1	13
Morgan	104	18	0	8	26
Rich	--	--	--	--	--
Summit	15	5	0	4	9
Weber	540	39	0	11	50
REGIONAL TOTALS	1,300	101	169	29	299
Central Region					
Juab	110	7	0	0	7
Salt Lake	113	8	0	16	24
Sanpete	282	24	7	5	36
Tooele	75	5	0	0	5
Utah	555	54	0	0	54
Wasatch	186	20	0	0	20
REGIONAL TOTALS	1,196	118	7	21	146
Southern Region					
Beaver	--	--	--	--	--
Garfield	265	25	0	3	28
Iron	0	2	0	0	2
Kane	35	2	0	0	2
Millard	105	8	0	0	8
Piute	--	--	--	--	--
Sevier	35	0	180	0	180
Washington	60	4	0	5	9
Wayne	--	--	--	--	--
REGIONAL TOTALS	500	41	180	8	229
Northeastern Region					
Daggett	232	11	4	16	31
Duchesne	472	47	2	5	54
Uintah	391	50	12	2	64
REGIONAL TOTALS	1,095	108	18	23	149
Southeastern Region					
Carbon	281	28	0	0	28
Emery	--	--	--	--	--
Grand	0	0	32	0	32
San Juan	115	16	0	9	25
REGIONAL TOTALS	396	44	32	9	85
STATE TOTALS	4,487	412	406	90	908

Table 10. Summary of forest grouse hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days		Birds Bagged			Birds/Day	% of Pressure	% of Harvest
		Afield	Ruffed	Blue	Unident.	Total			
Northern Region									
Box Elder	60	2,502	620	1,781	40	2,442	0.98	3.44	2.99
Cache	229	12,209	6,064	10,948	60	17,072	1.40	16.79	20.93
Davis	46	2,162	1,041	1,401	460	2,902	1.34	2.97	3.56
Morgan	36	1,981	1,061	1,821	40	2,922	1.47	2.72	3.58
Rich	56	2,702	1,681	1,261	40	2,982	1.10	3.71	3.66
Summit	79	4,083	2,422	2,662	540	5,624	1.38	5.61	6.90
Weber	118	6,124	2,322	4,043	100	6,465	1.06	8.42	7.93
REGIONAL TOTALS	624	31,763	15,211	23,917	1,281	40,409	1.27	43.67	49.55
Central Region									
Juab	23	801	120	300	80	500	0.63	1.10	0.61
Salt Lake	32	1,521	640	1,681	100	2,422	1.59	2.09	2.97
Sanpete	74	4,143	1,341	1,901	160	3,402	0.82	5.70	4.17
Tooele	37	2,182	300	1,521	120	1,941	0.89	3.00	2.38
Utah	218	12,089	5,664	7,205	801	13,670	1.13	16.62	16.76
Wasatch	89	4,083	2,122	1,541	140	3,803	0.93	5.61	4.66
REGIONAL TOTALS	473	24,818	10,187	14,150	1,401	25,738	1.04	34.12	31.56
Southern Region									
Beaver	11	340	0	140	420	560	1.65	0.47	0.69
Garfield	14	600	40	280	20	340	0.57	0.83	0.42
Iron	16	881	220	520	120	861	0.98	1.21	1.06
Kane	6	280	0	160	0	160	0.57	0.39	0.20
Millard	13	480	160	420	0	580	1.21	0.66	0.71
Piute	6	300	120	460	0	580	1.93	0.41	0.71
Sevier	57	2,862	701	1,841	380	2,922	1.02	3.94	3.58
Washington	8	360	120	320	0	440	1.22	0.50	0.54
Wayne	2	80	80	0	0	80	1.00	0.11	0.10
REGIONAL TOTALS	133	6,184	1,441	4,143	941	6,525	1.06	8.50	8.00
Northeastern Region									
Daggett	18	781	260	360	0	620	0.79	1.07	0.76
Duchesne	39	2,001	861	1,021	40	1,921	0.96	2.75	2.36
Uintah	41	2,162	560	1,161	60	1,781	0.82	2.97	2.18
REGIONAL TOTALS	98	4,944	1,681	2,542	100	4,323	0.87	6.80	5.30
Southeastern Region									
Carbon	31	1,461	821	420	680	1,921	1.32	2.01	2.36
Emery	19	1,521	560	761	40	1,361	0.89	2.09	1.67
Grand	6	180	20	60	40	120	0.67	0.25	0.15
San Juan	11	701	40	200	60	300	0.43	0.96	0.37
REGIONAL TOTALS	67	3,863	1,441	1,441	820	3,703	0.96	5.31	4.54
Unknown counties	24	1,161	340	480	40	861	0.74	1.60	1.06
Mixed counties	0	0	0	0	0	0	0.00	0.00	0.00
STATE TOTALS	1,419	72,732	30,302	46,674	4,583	81,558	1.12	100	100

*Total hunter-trips from questionnaire returns.

Table 11. Summary of forest grouse bagged per hunter-day by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
<u>Northern Region</u>						
Box Elder	0.79	0.92	1.12	0.84	1.23	0.98
Cache	1.04	1.39	1.13	1.25	0.92	1.40
Davis	1.31	0.69	0.73	0.84	0.90	1.34
Morgan	1.25	1.29	0.85	0.88	1.24	1.47
Rich	1.18	0.89	0.82	0.75	0.58	1.10
Summit	1.04	1.03	0.80	1.26	0.87	1.38
Weber	0.99	1.14	0.87	1.56	1.01	1.06
REGIONAL TOTALS	1.04	1.19	0.96	1.17	0.94	1.27
<u>Central Region</u>						
Juab	0.69	1.25	0.86	1.09	0.97	0.63
Salt Lake	1.35	1.08	0.70	1.08	0.64	1.59
Sanpete	0.88	1.12	0.65	0.98	0.73	0.82
Tooele	0.70	0.66	0.89	1.02	0.86	0.89
Utah	1.03	1.03	0.71	1.22	0.85	1.13
Wasatch	0.95	0.89	1.00	1.06	0.75	0.93
REGIONAL TOTALS	0.98	1.03	0.76	1.13	0.81	1.04
<u>Southern Region</u>						
Beaver	0.93	0.25	0.53	0.88	0.40	1.65
Garfield	0.27	0.17	0.73	0.68	0.25	0.57
Iron	0.96	0.86	0.68	1.48	0.91	0.98
Kane	0.64	2.00	0.50	0.50	0.50	0.57
Millard	1.42	1.66	0.65	1.55	1.35	1.21
Piute	1.10	0.71	0.33	1.17	0.65	1.93
Sevier	1.18	1.39	0.73	0.66	1.18	1.02
Washington	2.00	--	0.79	1.00	1.50	1.22
Wayne	0.00	0.63	1.00	1.50	1.00	1.00
REGIONAL TOTALS	1.05	1.14	0.68	0.98	1.01	1.06
<u>Northeastern Region</u>						
Daggett	0.30	1.11	0.50	1.12	0.41	0.79
Duchesne	1.06	0.76	0.72	1.02	1.03	0.96
Uintah	0.85	1.49	0.97	0.87	0.75	0.82
REGIONAL TOTALS	0.83	1.14	0.76	0.96	0.70	0.87
<u>Southeastern Region</u>						
Carbon	1.11	0.79	0.57	1.20	0.64	1.32
Emery	0.50	0.87	0.42	1.50	0.79	0.89
Grand	0.13	0.50	0.83	0.00	0.67	0.67
San Juan	1.20	1.00	0.44	0.00	0.40	0.43
REGIONAL TOTALS	0.90	0.81	0.53	1.18	0.67	0.96
Unknown counties	1.06	1.35	0.89	1.06	1.74	0.74
Mixed counties	0.00	--	0.00	0.00	0.00	0.00
STATE TOTALS	1.01	1.13	0.84	1.12	0.87	1.12

Table 12. Percentage distribution of forest grouse harvest by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
<u>Northern Region</u>						
Box Elder	3.15	3.01	2.75	2.17	4.22	2.99
Cache	27.39	29.84	26.81	26.39	20.01	20.93
Davis	2.47	1.55	3.52	2.93	3.51	3.56
Morgan	3.61	3.29	5.43	2.71	3.48	3.58
Rich	3.27	4.05	3.25	3.03	2.13	3.66
Summit	5.91	4.65	4.82	4.72	7.10	6.90
Weber	6.54	7.85	8.37	9.66	10.57	7.93
REGIONAL TOTALS	52.35	54.24	54.95	51.59	51.03	49.55
<u>Central Region</u>						
Juab	1.01	3.38	1.41	1.53	1.21	0.61
Salt Lake	2.89	2.92	2.37	2.52	1.91	2.97
Sanpete	4.24	4.78	4.05	5.39	3.58	4.17
Tooele	0.80	0.70	1.84	1.40	2.48	2.38
Utah	14.35	12.32	11.24	16.76	13.63	16.76
Wasatch	4.24	4.05	6.08	3.38	4.44	4.66
REGIONAL TOTALS	27.52	28.14	27.00	30.98	27.25	31.56
<u>Southern Region</u>						
Beaver	0.55	0.21	0.69	1.37	0.14	0.69
Garfield	0.13	0.06	0.42	0.41	0.07	0.42
Iron	1.97	0.58	1.80	1.27	2.06	1.06
Kane	0.38	0.06	0.15	0.06	0.07	0.20
Millard	1.55	2.92	1.07	1.63	0.82	0.71
Piute	0.92	0.15	0.23	0.45	0.53	0.71
Sevier	3.61	3.01	4.55	1.59	5.71	3.58
Washington	0.08	--	0.42	0.19	0.11	0.54
Wayne	0.00	0.15	0.38	0.29	0.11	0.10
REGIONAL TOTALS	9.19	7.15	9.71	7.27	9.62	8.00
<u>Northeastern Region</u>						
Daggett	0.29	0.61	0.80	0.57	1.17	0.76
Duchesne	2.10	1.25	1.26	1.56	2.13	2.36
Uintah	1.17	2.68	2.18	1.69	1.67	2.18
REGIONAL TOTALS	3.56	4.53	4.24	3.82	4.97	5.30
<u>Southeastern Region</u>						
Carbon	3.52	1.34	1.72	1.53	2.41	2.36
Emery	0.59	0.79	0.61	0.38	1.10	1.67
Grand	0.04	0.03	0.19	0.00	0.14	0.15
San Juan	0.25	0.03	0.27	0.00	0.07	0.37
REGIONAL TOTALS	4.40	2.19	2.79	1.91	3.73	4.54
Unknown counties	2.98	3.74	1.30	4.43	3.41	1.06
Mixed counties	0.00	--	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 13. Percent distribution of forest grouse hunting pressure by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
<u>Northern Region</u>						
Box Elder	4.03	3.71	2.05	2.90	3.00	3.44
Cache	26.68	24.24	19.97	23.79	18.99	16.79
Davis	1.91	2.54	4.04	3.91	3.40	2.97
Morgan	2.93	2.89	5.36	3.48	2.44	2.72
Rich	2.80	5.12	3.34	4.55	3.18	3.71
Summit	5.73	5.12	5.07	4.19	7.08	5.61
Weber	6.66	7.77	8.12	6.95	9.09	8.42
REGIONAL TOTALS	50.72	51.39	47.96	49.77	47.19	43.67
<u>Central Region</u>						
Juab	1.48	3.06	1.38	1.58	1.08	1.10
Salt Lake	2.16	3.06	2.83	2.62	2.60	2.09
Sanpete	4.88	4.81	5.23	6.20	4.27	5.70
Tooele	1.15	1.20	1.73	1.54	2.50	3.00
Utah	14.12	13.51	13.39	15.41	13.91	16.62
Wasatch	4.50	5.16	5.10	3.58	5.13	5.61
REGIONAL TOTALS	28.29	30.80	29.66	30.92	29.50	34.12
<u>Southern Region</u>						
Beaver	0.59	0.96	1.09	1.76	0.31	0.47
Garfield	0.47	0.41	0.48	0.68	0.25	0.83
Iron	2.08	0.76	2.22	0.97	1.98	1.21
Kane	0.59	0.03	0.26	0.14	0.12	0.39
Millard	1.10	1.99	1.38	1.18	0.53	0.66
Piute	0.85	0.24	0.58	0.43	0.71	0.41
Sevier	3.10	2.44	5.20	2.72	4.21	3.94
Washington	0.04	--	0.45	0.21	0.06	0.50
Wayne	0.00	0.28	0.32	0.21	0.09	0.11
REGIONAL TOTALS	8.82	7.12	11.97	8.31	8.26	8.50
<u>Northeastern Region</u>						
Daggett	0.98	0.62	1.35	0.57	2.47	1.07
Duchesne	1.99	1.86	1.48	1.72	1.79	2.75
Uintah	1.40	2.03	1.89	2.19	1.95	2.97
REGIONAL TOTALS	4.37	4.50	4.72	4.48	6.22	6.80
<u>Southeastern Region</u>						
Carbon	3.22	1.93	2.54	1.43	3.28	2.01
Emery	1.19	1.03	1.22	0.29	1.21	2.09
Grand	0.34	0.07	0.19	0.00	0.19	0.25
San Juan	0.21	0.03	0.51	0.11	0.15	0.96
REGIONAL TOTALS	4.96	3.06	4.46	1.83	4.82	5.31
Unknown counties	2.84	3.13	1.22	4.69	4.02	1.60
Mixed counties	0.00	--	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 14. Statewide summary of forest grouse harvest statistics, 1961-78.

Year	Total Hunters		Total Harvest		Hunter-days		Grouse/Hunter-day		Grouse Per Season			
	Hunters	%	Ruffed	Blue	%	Unknown	%	Total	Afield	Ruffed	Blue	Total
1961*	256	(36.3)	128	220	(62.3)	5	(1.4)	353	--	0.50	0.86	1.38
1962**	2,386	(56.3)	1,885	1,464	(43.7)	0	(0.0)	3,349	4,276	--	--	--
1963	7,425	(40.2)	5,470	7,372	(54.2)	766	(5.6)	13,608	12,313	0.44	0.66	1.11
1964	6,487	(42.2)	5,354	6,685	(57.7)	652	(5.1)	12,691	10,566	0.51	0.63	1.20
1965	6,005	(37.2)	3,225	4,924	(56.8)	520	(6.0)	8,669	10,504	0.31	0.47	0.83
1966	6,683	(56.6)	6,966	4,659	(37.8)	696	(5.7)	12,321	12,387	0.56	0.38	0.99
1967	9,420	(48.4)	8,476	6,773	(38.6)	2,277	(13.0)	17,526	17,773	0.48	0.38	0.99
1968	13,061	(52.6)	17,048	12,604	(38.9)	2,762	(8.5)	32,414	26,537	0.64	0.47	1.22
1969	12,523	(44.1)	9,490	10,419	(48.5)	1,589	(7.4)	21,498	24,572	0.38	0.42	0.87
1970	12,775	(48.9)	15,590	13,515	(42.4)	2,793	(8.7)	31,898	26,619	0.59	0.51	1.20
1971	13,363	(49.4)	15,759	13,749	(43.1)	2,393	(7.5)	31,901	29,100	0.54	0.47	1.10
1972	16,640	(48.6)	20,648	19,221	(45.2)	2,649	(6.2)	42,518	38,940	0.53	0.49	1.09
1973	17,588	(15.8)	7,153	36,846	(81.4)	1,233	(2.7)	45,232	44,738	0.16	0.82	1.01
1974	21,920	(39.3)	24,561	32,236	(51.6)	5,642	(9.0)	62,439	55,258	0.44	0.58	1.13
1975	20,102	(37.1)	15,750	23,138	(54.5)	3,573	(8.4)	42,461	50,579	0.31	0.45	0.84
1976	21,186	(37.1)	23,551	35,660	(56.2)	4,225	(6.7)	63,436	56,422	0.42	0.63	1.12
1977	19,188	(37.1)	15,766	23,455	(55.2)	3,256	(7.7)	42,476	48,746	0.37	0.48	0.87
1978	25,318	(37.2)	30,340	46,651	(57.2)	4,567	(5.6)	81,558	72,732	0.42	0.64	1.12
TOTALS (1963-78)	229,684	(40.0)	225,147	297,907	(52.9)	39,593	(7.0)	562,647	537,786	0.42	0.55	1.05
AVERAGES 1963-77	13,624	(40.5)	12,987	16,750	(52.2)	2,335	(7.3)	32,073	31,004	0.42	0.54	1.03
										0.95	1.23	2.35

*Estimated.

**Totals and indexes based on indiscreet data.

Table 15. Forest grouse field bag check summary, 1978.

Region and County	ALL HUNTS				COMPLETE HUNTS						
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Birds/Hunter
Northern Region											
Box Elder	2	6	34	14	41	2	6	34	14	41	2.33
Cache	292	771	1,397	439	31	269	723	1,300	429	33	0.59
Davis	4	7	17	0	--	3	5	12	0	--	0.00
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	44	90	368	56	15	44	90	368	56	15	0.62
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	61	143	547	107	20	57	134	515	106	21	0.79
REGIONAL TOTALS	403	1,017	2,363	616	26	375	958	2,229	605	27	0.63
Central Region											
Juab	8	24	60	20	33	2	5	11	4	36	0.80
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	6	20	46	10	22	2	5	7	2	29	0.40
Utah	242	534	1,997	330	17	186	399	1,561	261	17	0.65
Wasatch	3	6	14	1	7	1	2	8	0	0	0.00
REGIONAL TOTALS	259	584	2,117	361	17	191	411	1,587	267	17	0.65
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	15	18	26	23	88	10	10	17	16	94	1.60
Iron	5	13	42	15	35	2	6	22	10	45	1.66
Kane	2	3	6	1	16	2	3	6	1	16	0.33
Millard	13	35	110	30	27	10	21	77	22	28	1.04
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	35	69	184	69	37	24	40	122	49	40	1.22
Northeastern Region											
Daggett	14	26	35	20	57	13	25	34	20	59	0.80
Duchesne	4	11	35	7	20	1	2	4	1	25	0.50
Uintah	49	125	249	35	14	21	52	155	15	10	0.29
REGIONAL TOTALS	67	162	319	62	19	35	79	193	36	19	0.46
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	764	1,832	4,983	1,108	22	625	1,488	4,131	957	23	0.64

Table 16. Forest grouse hunter success trend determined by field bag checks, 1973-1978.

Region and County	1973		1974		1975		1976		1977		1978	
	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter	Birds/ 100 hr. Hunter	Birds/ Hunter
<u>Northern Region</u>												
Box Elder	33	1.00	24	0.96	18	0.79	17	1.36	0	0.00	41	2.33
Cache	18	0.80	12	0.62	12	0.58	18	0.72	7	0.30	31	0.59
Davis	--	--	--	--	2	0.05	--	--	0	0.00	--	0.00
Morgan	50	0.50	--	--	6	0.32	19	1.25	--	--	--	--
Rich	11	0.52	10	0.46	4	0.22	7	0.29	4	0.16	15	0.62
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	15	0.60	12	0.57	7	0.40	17	0.77	8	0.23	20	0.79
REGIONAL TOTALS	17	0.74	12	0.59	10	0.48	17	0.69	6	0.27	26	0.63
<u>Central Region</u>												
Juab	26	1.29	--	--	11	0.21*	22	0.88	3	0.10	33	0.80
Salt Lake	75	1.12	--	--	--	--	--	--	13	0.33	--	--
Sanpete	23	0.50	38	1.08*	16	0.28*	14	0.14	--	--	--	--
Tooele	9	0.40	31	1.00	--	--	34	1.00	--	--	22	0.40
Utah	26	1.08	27	1.80	12	0.35	14	0.53	8	0.25	17	0.65
Wasatch	89	2.67	56	1.52	71	1.17	20	0.33	--	--	7	0.00
REGIONAL TOTALS	27	1.11	35	1.24	15	0.38	15	0.56	8	0.24	17	0.65
<u>Southern Region</u>												
Beaver	0	0.00	--	--	--	--	--	--	--	--	--	--
Garfield	38	1.00	--	--	50	0.33	80	0.57	78	1.00	88	1.60
Iron	--	--	--	--	36	1.00	--	--	--	--	35	1.66
Kane	73	2.83	--	--	20	--	--	--	36	0.71	16	0.33
Millard	--	--	--	--	24	0.80	--	--	13	0.72	27	1.04
Piute	47	1.50	--	--	100	2.00	--	--	--	--	--	--
Sevier	400	3.00	--	--	31	2.00	18	0.78	17	1.00	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	4	0.33	--	--	--	--
REGIONAL TOTALS	63	1.91	--	--	26	1.13	18	0.68	20	0.81	37	1.22
<u>Northeastern Region</u>												
Daggett	--	--	33	0.44	90	2.25	41	4.00	11	0.33	57	0.80
Duchesne	28	1.44	25	0.50	0	--	11	1.22	10	0.39	20	0.50
Uintah	--	--	15	0.54	28	1.32	60	1.31	8	0.27	14	0.29
REGIONAL TOTALS	28	1.44	16	0.53	30	1.48	33	1.50	9	0.29	19	0.46
<u>Southeastern Region</u>												
Carbon	100	--	--	--	--	--	46	1.00	100	1.00	--	--
Emery	33	1.00	5	0.17	4	0.10*	--	--	--	--	--	--
Grand	75	3.00	17	0.50*	150	3.00	25	1.33	--	--	--	--
San Juan	--	--	17	0.30	67	0.80	--	--	--	--	--	--
REGIONAL TOTALS	55	1.67	11	0.25	11	0.30	39	1.08	100	1.00	--	--
STATE TOTALS	19	0.80	13	0.59	11	0.50	17	0.67	7	0.28	22	0.64

*Forest grouse per hunter index based on all hunts.

QUAIL

SUMMARY

The 1978 breeding populations of California and Gambel quail were estimated to be comparable to or slightly lower than 1977.

Production of both Gambel and California quail increased from 1977 to slightly above average. Population densities were lower than average in most areas of the state.

Harvest statistics showed increased hunter success. Total hunters, total harvest and success were slightly below average, but increased considerably over 1977 for both species of quail.



Brood Count

Results of the annual random brood survey for 1978 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 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total quail observed	752	+ 1	-27
Young per 100 adults	272	+143	+20
Mean brood size	7.55	+ 21	+ 7
Quail observed per 100 hours	530	- 10	-19
Total hours effort	142	+ 12	-10

Harvest statistics for 1977 indicated slightly decreased breeding populations of California quail statewide except in northern Utah and slightly decreased numbers of Gambel quail in Washington County.

Gambel quail call counts on the west slope of Beaver Dam Mountains showed a significant increase from 1976 and 1977.

Production of both California and Gambel quail increased from 1977 and was above average.

Harvest

Results of the annual hunter questionnaire for 1978 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.

Comparison of the 1978 season to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Quail hunters	5,924	+33	-18
Quail harvested	15,491	+63	-25
Hunter-days afield	13,649	+41	-25
Quail per hunter-day	1.13	- 2	- 2
Quail per hunter	2.61	+22	- 9

Total hunters, total harvest and days afield all increased during 1978 but were still considerably below average.

Hunter success for Washington County (Gambel quail) was up 48 percent from 1977, but hunting pressure declined 46 percent. About 18 percent of the statewide harvest of quail was taken in Washington County during 1978 compared to 25 percent in 1977 and nearly 40 percent in 1976.

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

Gambel Quail Studies

Annual call-count surveys and long-period waterhole counts have been conducted on the west slopes of the Beaver Dam Mountains since 1962.

Call counts showed significant increases over 1977 and were about average.

Waterhole counts totaled 86 birds during 1978 compared to 17 during 1977 and 114 during 1976.

Vegetative studies were discontinued in 1977.

Quail bagged per hunter and per hunter-day.

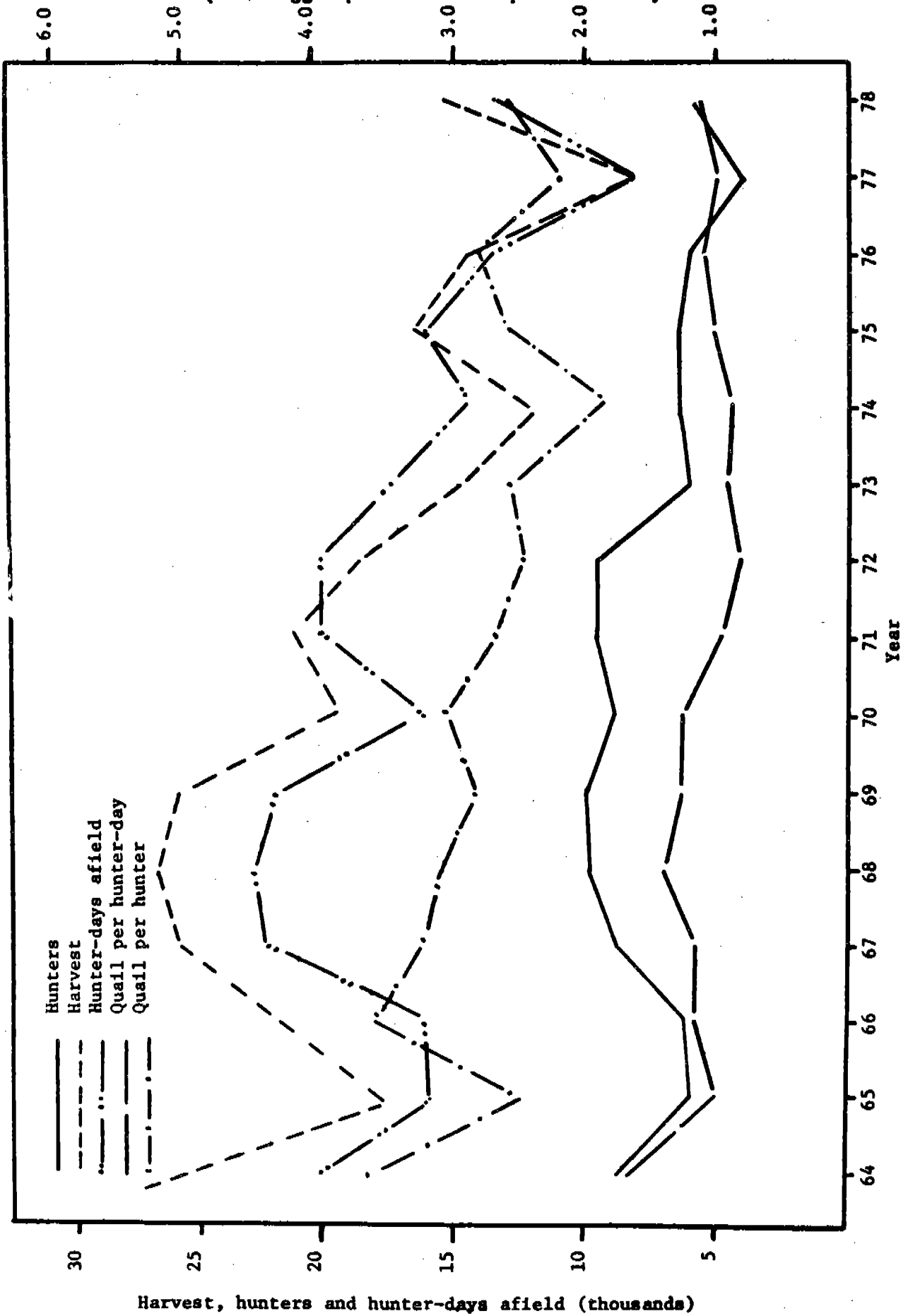


Figure 1. Statewide trend of quail harvest statistics.

Harvest, hunters and hunter-days afield (thousands)

Table 1. Quail summer inventory summary, 1978.

Region and County	Distinct Broods		Mean Brood	Mixed Yng. & Adults		Total Adults w/o Yng.	Total Adults	Total Yng.	Young/100 Ad. Miles	Vehicle Miles	Hours Effort		Birds/100 hrs.
	No. Ad. Yng.	Ad. Yng.		Ad. Yng.	Adults						Yng.	100 Ad. Miles	
<u>Northern Region</u>													
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>													
<u>Central Region</u>													
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	4	4	8	2	2	7	13	10	77	60	4	--	4 575
Sanpete	4	4	19	2	5	2	8	24	300	110	5	3	8 400
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	1	1	4	0	0	8	9	4	44	69	6	--	6 217
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>													
<u>Southern Region</u>													
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	4	5	25	--	--	48	53	25	47	115	9	--	9 867
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	0	0	0	0	0	2	2	0	--	48	4	--	4 50
Washington	10	18	118	22	187	15	55	305	555	400	24	24	48 750
Wayne	0	0	0	2	25	0	2	25	1,250	28	2	7	9 333
<u>REGIONAL TOTALS</u>													
<u>Northeastern Region</u>													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	7	7	48	4	13	21	32	61	190	400	29	1	30 310
Uintah	10	10	80	0	0	0	10	80	800	141	16	--	16 563
<u>REGIONAL TOTALS</u>													
<u>Southeastern Region</u>													
Carbon	0	0	0	2	13	0	2	13	650	10	1	--	1 1,500
Emery	0	0	0	4	3	12	16	3	19	20	1	1	2 950
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	0	0	0	0	0	0	0	0	--	30	2	3	5 0
<u>REGIONAL TOTALS</u>													
<u>STATE TOTALS</u>													
	40	49	302	7.55	38	248	202	550	272	1,431	103	39	142 530

Table 2. Trend of quail young per 100 adults, 1968-78.

Region and County	Year											Average 1964-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	250	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	1,500	400	--	314	--	--	--	--	--	--	--	--
Morgan	153	94	329	300	575	400	640	--	300	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	450	--	--	--	--	--	--	--	--	--	--
Weber	600	125	0	255	111	50	--	217	0	133	--	--
REGIONAL TOTALS	273	183	230	290	254	230	640	217	180	133	--	237
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	230	360	173	240	114	222	175	154	97	86	77	--
Sanpete	625	327	476	440	500	174	175	300	580	230	300	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	319	300	228	220	275	241	250	229	64	80	44	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	306	337	198	267	143	222	200	188	108	95	127	235
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	1,075	160	--	--	--	--	--	--	--	--
Millard	--	122	--	233	117	0	113	50	146	98	47	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
*Washington	323	138	48	320	57	--	273	580	199	149	555	--
*Wayne	400	--	--	0	--	--	86	--	244	238	1,250	--
REGIONAL TOTALS	324	260	98	270	75	0	171	429	190	146	317	209
<u>Northeastern Region</u>												
Daggett	--	--	524	267	--	0	525	450	600	0	--	--
Duchesne	183	54	0	--	--	--	333	314	0	129	190	--
Uintah	200	138	218	217	165	700	438	475	323	383	800	--
REGIONAL TOTALS	194	123	301	243	165	350	431	411	265	122	336	238
<u>Southeastern Region</u>												
Carbon	200	114	283	125	--	533	--	--	450	--	650	--
Emery	0	--	--	50	438	--	109	0	--	0	19	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	41	--	--
REGIONAL TOTALS	150	114	283	100	438	533	109	0	450	38	89	255
STATE TOTALS	302	229	200	255	171	216	248	360	163	112	272	226

*Washington, Kane and Wayne counties, Gabel quail. All others, California quail.

Table 3. Trend of quail mean brood size from 1968-78.

Region and County	Year											Average 1959-77 (n)
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	5.00	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	15.00	8.20	--	11.00	--	--	--	--	--	--	--	--
Morgan	--	4.80	7.67	12.00	11.50	8.00	9.00	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	7.00	--	--	--	--	--	--	--	--	--	--
Weber	12.00	4.00	--	9.33	10.00	--	--	--	--	--	--	--
REGIONAL TOTALS	14.25	5.94	7.67	10.50	11.00	7.00	9.00	--	--	--	--	7.86 (16)
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	6.67	11.42	8.61	7.00	8.00	7.50	5.00	6.80	7.00	6.40	2.00	--
Sanpete	7.50	6.00	5.67	5.70	5.40	5.60	4.00	6.00	5.80	4.33	4.75	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	8.24	8.75	7.85	7.43	7.17	7.36	6.67	7.00	2.50	4.00	4.00	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	7.91	9.67	7.98	6.50	7.18	6.95	5.29	6.56	5.64	5.78	3.44	7.20 (18)
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	8.00	--	--	--	--	--	--	--	--
Millard	--	4.00	--	8.00	7.00	--	7.00	8.00	10.20	6.67	6.25	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
*Washington	7.92	2.90	4.00	6.62	2.67	--	5.17	10.84	6.08	7.83	11.80	--
*Wayne	--	--	--	--	--	--	9.00	--	9.00	13.00	--	--
REGIONAL TOTALS	7.92	3.50	4.00	7.21	3.75	--	6.30	10.63	7.40	8.07	10.21	6.86 (17)
<u>Northeastern Region</u>												
Daggett	--	--	5.29	5.45	--	--	5.25	4.50	6.00	--	--	--
Duchesne	3.67	3.00	--	--	--	--	5.00	--	--	3.43	6.86	--
Uintah	4.80	6.00	5.43	5.33	5.92	7.00	11.00	10.00	3.55	7.67	8.00	--
REGIONAL TOTALS	4.38	5.50	5.32	5.41	5.92	7.00	6.73	6.86	3.67	4.70	7.53	6.17 (19)
<u>Southeastern Region</u>												
Carbon	3.00	4.67	--	--	--	8.00	--	--	9.00	--	--	--
Emery	--	--	--	2.00	9.86	--	5.00	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	4.50	--	--
REGIONAL TOTALS	3.00	4.67	--	2.00	9.86	8.00	5.00	--	9.00	4.50	--	7.27 (10)
STATE TOTALS	7.76	6.95	6.97	6.58	7.21	7.04	6.20	9.16	5.58	6.25	7.55	7.04 (19)

*Washington, Kane and Wayne counties, Gabel quail. All others, California quail.
 (n) = number of means recorded during the period 1959-77, used for calculating averages.

Table 4. Trend of quail observed per 100 hours, 1968-78.

Region and County	Year											Average 1967-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	--	--	--	--	--	175	--	--	--	--	--	--
Cache	0	--	--	--	--	--	--	--	--	--	--	--
Davis	1,200	1,625	0	829	--	--	--	--	--	--	--	--
Morgan	--	631	1,200	400	1,350	--	925	--	1,200	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	1,100	--	--	--	--	--	--	--	--	--	--
Weber	65	100	86	300	271	100	--	238	22	350	--	--
REGIONAL TOTALS	577	657	550	471	511	330	925	238	140	350	--	445
Central Region												
Juab	--	--	--	--	--	--	--	--	0	--	--	--
Salt Lake	248	3,684	2,637	1,133	2,706	414	550	592	2,838	2,092	575	--
Sanpete	483	427	817	982	771	525	138	480	262	236	400	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	1,351	2,086	959	988	1,071	1,194	400	383	512	90	217	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1,330	2,083	1,704	1,030	1,873	808	267	513	1,041	805	378	1,170
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	0	2,350	578	--	--	--	--	--	--	--	--
Millard	--	1,800	--	3,000	118	125	1,067	1,600	2,867	1,088	867	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	50	--
*Washington	1,600	322	316	600	122	--	194	1,143	632	596	750	--
*Wayne	--	--	--	33	--	--	300	14	517	645	333	--
REGIONAL TOTALS	1,600	2,122	420	708	90	125	254	917	729	702	667	776
Northeastern Region												
Daggett	--	--	3,017	1,900	--	18	208	157	41	--	--	--
Duchesne	45	170	29	0	--	0	325	153	43	240	310	--
Uintah	514	1,575	894	1,120	1,005	533	1,950	460	715	483	563	--
REGIONAL TOTALS	118	794	628	769	303	47	739	226	241	350	398	396
Southeastern Region												
Carbon	300	377	271	300	--	--	0	--	220	--	1,500	--
Emery	--	--	--	83	1,950	0	343	17	--	67	950	--
Grand	--	--	--	--	--	--	0	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	0	238	0	--
REGIONAL TOTALS	300	377	271	181	1,950	112	343	17	110	206	425	420
STATE TOTALS	887	1,049	939	728	664	336	364	549	571	588	530	655

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

Table 5. Summary of quail hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	12	500	440	0.88	3.67	2.84
Cache	4	340	80	0.24	2.49	0.52
Davis	33	1,481	1,721	1.16	10.85	11.11
Morgan	8	300	240	0.80	2.20	1.55
Rich	0	0	0	0.00	0.00	0.00
Summit	2	60	100	1.67	0.44	0.65
Weber	23	921	721	0.78	6.74	4.65
REGIONAL TOTALS	82	3,602	3,302	0.92	26.39	21.32
Central Region						
Juab	2	40	120	3.00	0.29	0.78
Salt Lake	25	821	741	0.90	6.01	4.78
Sanpete	0	0	0	0.00	0.00	0.00
Tooele	2	80	0	0.00	0.59	0.00
Utah	88	4,023	3,643	0.91	29.47	23.51
Wasatch	1	40	160	4.00	0.29	1.03
REGIONAL TOTALS	118	5,003	4,663	0.93	36.66	30.10
Southern Region						
Beaver	0	0	0	0.00	0.00	0.00
Garfield	0	0	0	0.00	0.00	0.00
Iron	2	60	0	0.00	0.44	0.00
Kane	1	40	0	0.00	0.29	0.00
Millard	4	180	80	0.44	1.32	0.52
Piute	1	20	0	0.00	0.15	0.00
Sevier	2	60	0	0.00	0.44	0.00
Washington	29	1,181	2,862	2.42	8.65	18.48
Wayne	2	140	120	0.86	1.03	.78
REGIONAL TOTALS	41	1,681	3,062	1.82	12.32	19.77
Northeastern Region						
Daggett	1	20	20	1.00	0.15	0.13
Duchesne	18	700	961	1.37	5.13	6.20
Uintah	31	2,041	2,842	1.39	14.96	18.35
REGIONAL TOTALS	50	2,762	3,823	1.38	20.23	24.68
Southeastern Region						
Carbon	8	320	200	0.63	2.35	1.29
Emery	4	120	140	1.17	0.88	0.90
Grand	0	0	0	0.00	0.00	0.00
San Juan	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	12	440	340	0.77	3.23	2.20
Unknown counties	3	160	300	1.88	1.17	1.94
Mixed counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	306	13,649	15,491	1.13	100	100

*Total hunter-trips from questionnaire returns.

Table 6. Summary of quail bagged per hunter-day by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	0.65	0.83	0.43	0.18	1.15	0.88
Cache	1.00	0.60	0.33	0.67	1.00	0.24
Davis	0.62	0.70	0.73	0.70	0.80	1.16
Morgan	0.67	0.31	0.70	0.80	1.20	0.80
Rich	--	0.00	0.00	0.00	0.00	0.00
Summit	0.80	0.79	1.75	0.17	1.00	1.67
Weber	0.32	0.62	0.64	0.52	0.63	0.78
REGIONAL TOTALS	0.57	0.62	0.68	0.62	0.77	0.92
Central Region						
Juab	0.00	--	0.00	0.00	0.00	3.00
Salt Lake	0.71	0.94	1.30	0.86	1.11	0.90
Sanpete	0.50	0.89	0.50	0.13	1.50	0.00
Tooele	0.33	0.75	1.25	0.00	1.50	0.00
Utah	0.77	0.75	0.66	0.88	0.84	0.91
Wasatch	2.50	--	1.25	0.00	0.00	4.00
REGIONAL TOTALS	0.76	0.79	0.78	0.82	0.95	0.93
Southern Region						
Beaver	--	--	0.00	0.43	0.00	0.00
Garfield	--	--	0.00	0.00	0.00	0.00
Iron	2.00	1.00	0.23	1.40	0.00	0.00
Kane	2.69	--	0.00	0.00	0.00	0.00
Millard	0.50	0.50	0.36	1.53	0.13	0.44
Piute	2.00	0.00	0.00	0.00	4.00	0.00
Sevier	0.50	0.00	0.11	0.33	0.00	0.00
Washington	1.47	1.39	2.09	2.22	1.63	2.42
Wayne	0.00	2.50	3.00	2.00	0.86	0.86
REGIONAL TOTALS	1.55	1.22	1.73	2.01	1.43	1.82
Northeastern Region						
Daggett	0.00	1.00	0.00	0.00	0.00	1.00
Duchesne	1.39	0.20	0.55	1.94	1.09	1.37
Uintah	0.78	0.88	0.79	0.70	0.76	1.39
REGIONAL TOTALS	0.93	0.79	0.73	1.07	0.89	1.38
Southeastern Region						
Carbon	0.81	0.43	0.48	0.80	0.78	0.63
Emery	0.58	0.33	0.96	0.33	0.52	1.17
Grand	0.00	--	0.25	0.00	0.00	0.00
San Juan	--	--	0.00	0.00	2.00	0.00
REGIONAL TOTALS	0.76	0.42	0.57	0.72	0.73	0.77
Unknown counties	0.27	0.67	0.29	0.89	1.47	1.88
Mixed counties	--	2.37	0.00	0.00	0.00	0.00
STATE TOTALS	0.81	0.82	1.01	1.09	0.98	1.13

Table 7. Percentage distribution of quail harvest by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	1.46	2.37	0.29	0.28	2.38	2.84
Cache	0.79	0.95	0.19	0.84	0.63	0.52
Davis	7.55	6.65	7.30	9.93	8.10	11.11
Morgan	3.84	1.42	2.02	1.68	0.95	1.55
Rich	--	0.00	0.00	0.00	0.00	0.00
Summit	2.12	1.74	0.67	0.14	0.32	0.65
Weber	3.05	4.59	4.42	3.22	6.67	4.65
REGIONAL TOTALS	18.81	17.72	14.89	16.08	19.05	21.32
Central Region						
Juab	0.00	--	0.00	0.00	0.00	0.78
Salt Lake	6.36	9.81	7.49	3.36	10.00	4.78
Sanpete	0.40	1.27	0.10	0.14	0.48	0.00
Tooele	0.40	0.47	0.48	0.00	0.48	0.00
Utah	29.01	28.96	16.43	12.73	13.81	23.51
Wasatch	1.32	--	0.48	0.00	0.00	1.03
REGIONAL TOTALS	37.48	40.51	24.98	16.22	24.76	30.10
Southern Region						
Beaver	--	--	0.00	0.42	0.00	0.00
Garfield	--	--	0.00	0.00	0.00	0.00
Iron	1.59	0.16	0.58	0.98	0.00	0.00
Kane	4.64	--	0.00	0.00	0.00	0.00
Millard	0.13	1.42	0.48	3.64	0.16	0.52
Piute	0.26	0.00	0.00	0.00	1.27	0.00
Sevier	0.40	0.00	0.19	0.14	0.00	0.00
Washington	19.34	23.58	48.41	40.14	26.67	18.48
Wayne	0.06	0.79	0.29	1.68	0.95	0.78
REGIONAL TOTALS	26.36	25.95	49.95	46.99	29.05	19.77
Northeastern Region						
Daggett	0.00	0.32	0.00	0.00	0.00	0.13
Duchesne	3.31	0.32	0.58	4.90	7.94	6.20
Uintah	5.30	8.39	2.88	4.20	8.10	18.35
REGIONAL TOTALS	8.61	9.02	3.46	9.09	16.03	24.68
Southeastern Region						
Carbon	6.23	3.01	3.65	3.36	4.60	1.29
Emery	0.93	0.47	2.59	0.28	1.90	0.90
Grand	0.00	--	0.29	0.00	0.00	0.00
San Juan	--	--	0.00	0.00	0.63	0.00
REGIONAL TOTALS	7.15	3.48	6.53	3.64	7.14	2.20
Unknown counties	1.59	0.32	0.19	7.97	3.97	1.94
Mixed counties	--	3.01	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 8. Percentage distribution of quail hunting pressure by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	1.81	2.33	0.68	1.68	2.03	3.67
Cache	0.64	1.29	0.58	1.37	0.62	2.49
Davis	9.82	7.75	10.05	15.40	10.00	10.85
Morgan	4.59	3.75	2.90	2.29	0.78	2.20
Rich	--	0.26	0.48	0.00	0.00	0.00
Summit	2.13	1.81	0.39	0.91	0.31	0.44
Weber	7.68	6.07	6.96	6.71	10.47	6.74
REGIONAL TOTALS	26.68	23.26	22.03	28.35	24.22	26.39
Central Region						
Juab	0.32	--	0.19	0.15	0.16	0.29
Salt Lake	7.26	8.53	5.80	4.27	8.91	6.01
Sanpete	0.64	1.16	0.19	1.22	0.31	0.00
Tooele	0.96	0.52	0.39	0.15	0.31	0.59
Utah	30.20	31.65	25.12	15.85	16.09	29.47
Wasatch	0.43	--	0.39	0.00	0.00	0.29
REGIONAL TOTALS	39.81	41.86	32.08	21.65	25.78	36.66
Southern Region						
Beaver	--	--	0.00	1.07	0.00	0.00
Garfield	--	--	0.00	0.00	0.00	0.00
Iron	0.64	0.13	2.51	0.76	0.16	0.44
Kane	1.39	--	0.00	0.00	0.00	0.29
Millard	0.21	2.33	1.35	2.59	1.25	1.32
Piute	0.11	0.26	0.00	0.00	0.31	0.15
Sevier	0.64	0.52	1.74	0.46	1.09	0.44
Washington	10.57	13.82	23.29	19.66	16.09	8.65
Wayne	0.11	0.26	0.10	0.91	1.09	1.03
REGIONAL TOTALS	13.66	17.31	28.99	25.46	20.00	12.32
Northeastern Region						
Daggett	0.11	0.26	0.00	0.00	0.00	0.15
Duchesne	1.92	1.29	1.06	2.74	7.19	5.13
Uintah	5.44	7.75	3.67	6.55	10.47	14.96
REGIONAL TOTALS	7.47	9.30	4.73	9.30	17.66	20.23
Southeastern Region						
Carbon	6.19	5.68	7.63	4.57	5.78	2.35
Emery	1.28	1.16	2.71	0.91	3.59	0.88
Grand	0.11	--	1.16	0.00	0.00	0.00
San Juan	--	--	0.00	0.00	0.31	0.00
REGIONAL TOTALS	7.58	6.85	11.50	5.49	9.69	3.23
Unknown counties	4.80	0.39	0.68	9.76	2.66	1.17
Mixed counties	--	1.03	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 9. Statewide summary of quail harvest statistics, 1951-1978.

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
1974	6,097	12,005	14,702	0.82	1.97
1975	6,397	16,903	16,805	1.01	2.64
1976	5,215	14,454	13,261	1.09	2.77
1977	4,446	9,496	9,646	0.98	2.14
1978	5,924	15,491	13,649	1.13	2.61
<hr/>					
TOTALS (1959-78)	143,961	409,708	357,825	1.14	2.85
<hr/>					
AVERAGES (1959-77)	7,265	20,748	18,115	1.15	2.86

Table 10. Gambel quail call-count trend on the west slope of the Beaver Dam Mountains, Washington County, 1971-78.

Index	1971	1972	1973	1974	1975	1976	1977	1978
Mean calls per station	1.57	0.36	0.06	0.00	2.55	0.76	0.25	0.97
Mean quail calling per station	0.37	0.11	0.03	0.00	0.40	0.13	0.03	0.19
Mean total calls-route	23.50	5.30	1.00	0.00	38.20	11.40	3.75	14.60
Mean total quail calling-route	5.50	1.70	0.40	0.00	6.00	2.00	3.50	2.80

Table 11. Gambel quail long-period waterhole count trend on the west slope of the Beaver Dam Mountains, Washington County, 1971-78.

Area	1971	1972	1973	1974	1975	1976	1977	1978
Total young	33	0	0	24	145	61	--	67
Total adults	8	0	0	6	20	53	--	19
Total quail	41	0	0	30	165	114	17	86
Young per 100 adults	412	--	--	400	725	115	--	353

HUNGARIAN PARTRIDGE

SUMMARY

Harvest data for 1977 indicated that breeding population densities were similar in 1977 and 1978. Limited brood data indicated increased production during 1978.

The 1978 hunt was the best in several years. Hunters increased to nearly 5,000 and harvest more than doubled from 1977. Success increased markedly and all indices were above average.



Brood Counts

Results of the annual random brood counts for 1978 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 the survey for 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total Huns observed	136	-36	-55
Young per 100 adults	580	+57	+22
Mean brood size	11.60	+ 8	+19
Huns observed per 100 hours	151	+15	-36
Total hours effort	107	-34	-19

Harvest data for 1977 indicated a slightly decreased breeding population for 1978.

The only broods observed during 1978 were in Box Elder County. The young per 100 adult ratio and mean brood size indicated increased production compared to 1977 and the 12-year average.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1978 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 statewide harvest statistics in Table 9. The 1978 season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Hungarian partridge hunters	4,743	+ 33	+13
Hungarian partridge harvest	12,969	+104	+42
Hunter-days afield	12,328	+ 36	+18
Huns per hunter-day	1.05	+ 50	+21
Huns per hunter	2.73	+ 53	+25

The 1978 hunt was significantly improved compared to 1977. Total hunters, harvest, days afield, Huns per day and per season all were markedly above average.

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

Field Bag Checks

Results of the survey for 1978 are shown in Table 10. Hunter success trends determined via this method are shown in Table 11. Indexes obtained for 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	15	-50	-89
Total hours hunted	74	-19	-88
Huns per hunter (complete hunts)	0.80	0	+ 4
Huns bagged per 100 hours	16	-38	- 6
Average hours per hunter-day (complete hunts)	4.9	+63	+ 9
Hours hunted per Hun bagged	6.2	+63	+ 7

All the field bag check data was from Box Elder County. The sample was too small to be meaningful but indicated success was down from 1977, contrary to harvest questionnaire. Huns bagged per hunter was near average but the average hunter spent more time afield and bagged less birds per hour effort. The small sample size is the most probable cause of the differences between the field bag checks and the questionnaire data.

Hungarian partridge bagged per hunter and per hunter-day.

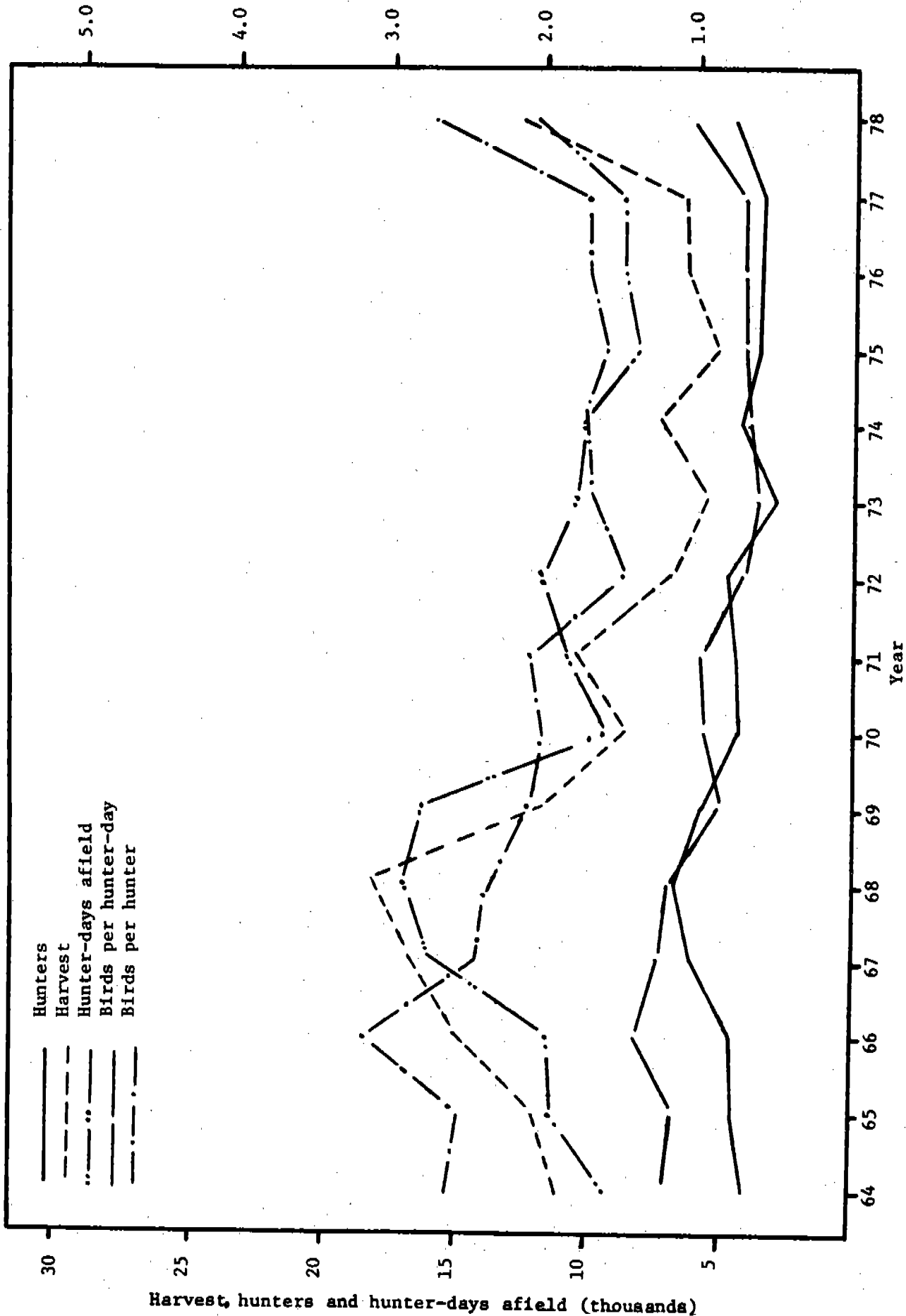


Figure 1. Statewide trend of Hungarian partridge harvest statistics.

Table 1. Hungarian partridge summer inventory summary, 1978.

Region and County	Distinct Broods		Mean Brood	Mixed Yng. & Adults		Total Yng. w/o Yng.	Total Adults	Total Yng.	Young/ 100 Ad. Miles	Vehicle Miles	Hours Effort		Birds/ 100 hrs.	
	No. Ad.	Yng.		Ad.	Yng.						Veh.	Horse		Walk
<u>Northern Region</u>														
Box Elder	10	18	116	11.60	0	0	2	116	580	835	39	0	28	67
Cache	0	0	0	--	0	0	0	0	--	230	15	8	--	23
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	10	18	116	11.60	0	0	2	116	580	1,065	54	8	28	90
<u>Central Region</u>														
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0	0	0	--	0	0	0	0	--	177	12	--	--	12
Wasatch	--	--	--	--	--	--	--	--	--	20	2	--	3	5
REGIONAL TOTALS	0	0	0	--	0	0	0	0	0	197	14	--	3	17
<u>Southern Region</u>														
Beaver														
Garfield														
Iron														
Kane														
Millard														
Piute														
Sevier														
Washington														
Wayne														
REGIONAL TOTALS														
<u>Northeastern Region</u>														
Daggett														
Duchesne														
Uintah														
REGIONAL TOTALS														
<u>Southeastern Region</u>														
Carbon														
Emery														
Grand														
San Juan														
REGIONAL TOTALS														
STATE TOTALS	10	18	116	11.60	0	0	2	116	580	1,262	68	8	31	107

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 2. Trend of Hungarian partridge young per 100 adults, 1968-78

Region and County	Year										Average 1963-77	
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977		1978
<u>Northern Region</u>												
Box Elder	400	325	306	524	379	575	775	600	421	467	580	
Cache	450	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	1,400	--	400	675	--	533	--	--	
Rich	900	0	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	421	319	306	553	379	560	755	600	431	467	580	496
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	233	173	--	
Tooele	--	--	--	--	--	--	--	--	550	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	442	497	414	350	800	450	800	--	20	--	--	
REGIONAL TOTALS	442	497	414	350	800	450	800	--	200	173	--	437
<u>Southern Region</u>												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
<u>Northeastern Region</u>												
Daggett												
Duchesne												
Uintah												
REGIONAL TOTALS												
<u>Southeastern Region</u>												
Carbon												
Emery												
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	430	325	319	495	424	552	757	600	328	369	580	476

Table 3. Trend of Hungarian partridge mean brood size from 1968-78.

Region and County	Year											Average 1963-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
<u>Northern Region</u>												
Box Elder	7.00	5.75	11.82	7.82	11.50	11.86	11.22	13.44	10.22	10.77	11.60	
Cache	9.00	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	14.00	--	8.33	13.50	--	--	--	--	
Rich	9.00	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
<u>REGIONAL TOTALS</u>	7.24	5.75	11.58	8.16	11.50	10.80	11.64	13.44	10.22	10.77	11.60	10.02
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	9.00	9.94	7.25	--	8.00	4.50	8.00	--	2.00	--	--	
<u>REGIONAL TOTALS</u>	9.00	9.94	7.25	--	8.00	4.50	8.00	--	2.00	--	--	7.34
<u>Southern Region</u>												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
<u>REGIONAL TOTALS</u>												
<u>Northeastern Region</u>												
Daggett												
Duchesne												
Uintah												
<u>REGIONAL TOTALS</u>												
<u>Southeastern Region</u>												
Carbon												
Emery												
Grand												
San Juan												
<u>REGIONAL TOTALS</u>												
<u>STATE TOTALS</u>	7.93	6.87	10.50	8.16	10.33	9.75	11.33	13.44	9.40	10.77	11.60	9.76

Table 4. Trend of Hungarian partridge observed per 100 hours, 1968-78.

Region and County	Year											Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Northern Region												
Box Elder	261	416	210	213	133	91	80	262	184	109	203	
Cache	209	0	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	428	--	--	--	--	--	
Rich	333	--	--	--	--	--	--	1,900	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	261	385	210	213	133	106	97	262	205	109	151	198
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	400	820	--	
Tooele	--	--	--	--	--	--	--	2,600	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	1,193	1,415	720	300	450	275	450	--	120	--	--	
REGIONAL TOTALS	1,193	1,415	720	300	171	275	450	--	371	820	--	635
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	383	508	249	243	139	110	101	262	238	131	151	236

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds Per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	154	8,546	10,167	1.19	69.32	78.40
Cache	35	1,621	1,081	0.67	13.15	8.33
Davis	1	20	40	2.00	0.16	0.31
Morgan	10	660	180	0.27	5.36	1.39
Rich	4	100	280	2.80	0.81	2.16
Summit	1	40	80	2.00	0.32	0.62
Weber	8	220	200	0.91	1.79	1.54
REGIONAL TOTALS	213	11,207	12,028	1.07	90.91	92.75
<u>Central Region</u>						
Juab	2	60	40	0.67	0.49	0.31
Salt Lake	1	80	120	1.50	0.65	0.93
Sanpete	3	140	0	0.00	1.14	0.00
Tooele	1	20	0	0.00	0.16	0.00
Utah	7	180	60	0.33	1.46	0.46
Wasatch	7	220	360	1.64	1.79	2.78
REGIONAL TOTALS	21	700	580	0.83	5.68	4.48
<u>Southern Region</u>						
Beaver	0	0	0	0.00	0.00	0.00
Garfield	0	0	0	0.00	0.00	0.00
Iron	0	0	0	0.00	0.00	0.00
Kane	0	0	0	0.00	0.00	0.00
Millard	0	0	0	0.00	0.00	0.00
Piute	1	20	0	0.00	0.16	0.00
Sevier	0	0	0	0.00	0.00	0.00
Washington	0	0	0	0.00	0.00	0.00
Wayne	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	1	20	0	0.00	0.16	0.00
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	0	0	0	0.00	0.00	0.00
Uintah	1	40	20	0.50	0.32	0.15
REGIONAL TOTALS	1	40	20	0.50	0.32	0.15
<u>Southeastern Region</u>						
Carbon	0	0	0	0.00	0.00	0.00
Emery	0	0	0	0.00	0.00	0.00
Grand	1	20	0	0.00	0.16	0.00
San Juan	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	1	20	0	0.00	0.16	0.00
Unknown counties	9	340	340	1.00	2.76	2.62
Mixed counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	246	12,328	12,969	1.05	100	100

*Total hunter-trips from questionnaire returns.

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	0.54	0.84	0.69	0.90	0.74	1.19
Cache	0.91	0.68	0.66	0.68	0.92	0.67
Davis	0.12	2.00	0.40	0.64	0.00	2.00
Morgan	0.58	0.50	0.88	0.29	0.44	0.27
Rich	1.25	0.33	0.43	0.09	0.22	2.80
Summit	0.34	1.25	0.20	0.00	0.88	2.00
Weber	0.33	0.25	0.22	0.46	0.97	0.91
REGIONAL TOTALS	0.57	0.76	0.68	0.75	0.76	1.07
Central Region						
Juab	1.40	1.00	0.33	0.00	0.33	0.67
Salt Lake	0.19	0.60	1.67	2.00	0.75	1.50
Sanpete	2.00	0.67	0.00	0.50	0.00	0.00
Tooele	0.06	0.00	0.50	0.00	0.21	0.00
Utah	0.38	0.35	0.88	0.50	0.27	0.33
Wasatch	0.79	0.42	0.44	0.00	0.55	1.64
REGIONAL TOTALS	0.57	0.36	0.71	0.31	0.36	0.83
Southern Region						
Beaver	0.00	0.00	0.00	0.50	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.50	0.00
Iron	0.00	0.00	0.60	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.40	0.00	0.00	0.00	0.00
Piute	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	1.00	0.00	0.00	0.33	1.00	0.00
Washington	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.06	0.40	0.21	0.40	0.50	0.00
Northeastern Region						
Daggett	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	1.00	0.00	1.00	0.00	0.00	0.00
Uintah	0.00	0.33	0.00	0.00	0.00	0.50
REGIONAL TOTALS	0.20	0.33	0.56	0.00	0.00	0.50
Southeastern Region						
Carbon	0.00	0.00	0.00	0.00	0.00	0.00
Emery	0.00	0.00	0.00	0.00	0.00	0.00
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.00	0.00	0.00	0.00	0.00	0.00
Unknown counties	0.00	0.84	0.40	1.17	0.64	1.00
Mixed counties	0.00	2.00	0.00	0.00	0.00	0.00
STATE TOTALS	0.52	0.68	0.65	0.72	0.70	1.05

Table 7. Percentage distribution of Hungarian partridge harvest by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	37.22	54.50	46.97	68.49	66.35	78.40
Cache	19.24	13.11	15.45	12.54	14.45	8.33
Davis	0.63	1.54	0.61	2.25	0.00	0.31
Morgan	11.99	4.11	11.52	3.54	1.66	1.39
Rich	1.58	0.51	3.03	0.32	0.47	2.16
Summit	4.42	3.86	0.30	0.00	1.66	0.62
Weber	0.95	1.80	1.52	1.93	6.87	1.54
REGIONAL TOTALS	76.03	79.43	79.39	89.07	91.47	92.75
Central Region						
Juab	2.21	0.26	1.52	0.00	0.47	0.31
Salt Lake	2.52	3.86	3.03	0.64	0.71	0.93
Sanpete	0.63	1.03	0.00	0.64	0.00	0.00
Tooele	1.89	0.00	0.91	0.00	0.71	0.00
Utah	1.58	2.31	9.09	2.25	1.42	0.46
Wasatch	14.51	2.83	2.42	0.00	2.61	2.78
REGIONAL TOTALS	23.34	10.28	16.97	3.54	5.92	4.48
Southern Region						
Beaver	0.00	0.00	0.00	0.32	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.24	0.00
Iron	0.00	0.00	0.91	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.51	0.00	0.00	0.00	0.00
Piute	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.32	0.00	0.00	0.32	0.24	0.00
Washington	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.32	0.51	0.91	0.64	0.47	0.00
Northeastern Region						
Daggett	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	0.32	0.00	1.52	0.00	0.00	0.00
Uintah	0.00	0.26	0.00	0.00	0.00	0.15
REGIONAL TOTALS	0.32	0.26	1.52	0.00	0.00	0.15
Southeastern Region						
Carbon	0.00	0.00	0.00	0.00	0.00	0.00
Emery	0.00	0.00	0.00	0.00	0.00	0.00
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.00	0.00	0.00	0.00	0.00	0.00
Unknown counties	0.00	7.97	1.21	6.75	2.13	2.62
Mixed counties	0.00	1.54	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 8. Percentage distribution of Hungarian partridge hunting pressure by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	36.24	44.54	44.66	54.50	62.56	69.32
Cache	11.04	13.20	15.22	13.16	10.98	13.15
Davis	2.80	0.53	0.99	2.54	0.33	0.16
Morgan	10.71	5.63	8.50	8.78	2.66	5.36
Rich	0.66	1.06	1.38	2.54	1.50	0.81
Summit	6.75	2.11	0.99	0.46	1.33	0.32
Weber	1.48	4.93	4.55	3.00	4.99	1.79
REGIONAL TOTALS	69.69	72.01	76.28	84.99	84.36	90.91
Central Region						
Juab	0.82	0.18	2.96	0.00	1.00	0.49
Salt Lake	7.08	4.40	1.19	0.23	0.67	0.65
Sanpete	0.16	1.06	0.00	0.92	0.50	1.14
Tooele	1.65	4.58	1.19	2.31	2.33	0.16
Utah	2.14	4.58	6.72	3.23	3.66	1.46
Wasatch	9.56	4.58	3.56	1.62	3.33	1.79
REGIONAL TOTALS	21.42	19.37	15.61	8.31	11.48	5.68
Southern Region						
Beaver	0.00	0.00	0.00	0.46	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.33	0.00
Iron	0.00	0.00	0.99	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	2.80	0.88	0.00	0.00	0.00	0.00
Piute	0.00	0.00	0.00	0.00	0.00	0.16
Sevier	0.16	0.00	1.78	0.69	0.17	0.00
Washington	0.00	0.00	0.00	0.00	0.17	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	2.97	0.88	2.77	1.15	0.67	0.16
Northeastern Region						
Daggett	0.16	0.00	0.40	0.00	0.00	0.00
Duchesne	0.16	0.00	0.99	0.00	0.00	0.00
Uintah	0.49	0.53	0.40	0.69	1.00	0.32
REGIONAL TOTALS	0.82	0.53	1.78	0.69	1.00	0.32
Southeastern Region						
Carbon	0.99	0.18	0.99	0.69	0.00	0.00
Emery	0.16	0.00	0.59	0.00	0.17	0.00
Grand	0.16	0.00	0.00	0.00	0.00	0.16
San Juan	0.16	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	1.48	0.18	1.58	0.69	0.17	0.16
Unknown counties	3.46	6.51	1.98	4.16	2.33	2.76
Mixed counties	0.16	0.53	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 9. Statewide summary of Hungarian partridge harvest statistics, 1955-78.

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
1974	4,103	7,389	10,789	0.68	1.80
1975	3,409	5,358	8,216	0.65	1.57
1976	3,517	6,287	8,753	0.72	1.79
1977	3,557	6,360	9,058	0.70	1.79
1978	4,743	12,969	12,328	1.05	2.73
TOTALS (1959-78)	84,210	186,460	211,249	0.88	2.21
AVERAGES (1959-77)	4,182	9,131	10,470	0.87	2.18

Table 10. Hungarian partridge field bag check summary, 1978.

Region and County	ALL HUNTS				COMPLETE HUNTS							
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hrs.	Birds/Hunter	
<u>Northern Region</u>												
Box Elder	5	13	70	12	17	5	13	70	12	17	0.92	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	1	2	4	0	--	1	2	4	0	--	0.00	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6	15	74	12	16	6	15	74	12	16	0.80	
<u>Central Region</u>												
Juab	NO DATA											
Salt Lake	NO DATA											
Sanpete	NO DATA											
Tooele	NO DATA											
Utah	NO DATA											
Wasatch	NO DATA											
REGIONAL TOTALS	NO DATA											
<u>Southern Region</u>												
Beaver	NOT APPLICABLE											
Garfield	NOT APPLICABLE											
Iron	NOT APPLICABLE											
Kane	NOT APPLICABLE											
Millard	NOT APPLICABLE											
Piute	NOT APPLICABLE											
Sevier	NOT APPLICABLE											
Washington	NOT APPLICABLE											
Wayne	NOT APPLICABLE											
REGIONAL TOTALS	NOT APPLICABLE											
<u>Northeastern Region</u>												
Daggett	NOT APPLICABLE											
Duchesne	NOT APPLICABLE											
Uintah	NOT APPLICABLE											
REGIONAL TOTALS	NOT APPLICABLE											
<u>Southeastern Region</u>												
Carbon	NOT APPLICABLE											
Emery	NOT APPLICABLE											
Grand	NOT APPLICABLE											
San Juan	NOT APPLICABLE											
REGIONAL TOTALS	6	15	74	12	16	6	15	74	12	16	0.80	
STATE TOTALS	6	15	74	12	16	6	15	74	12	16	0.80	

Table 11. Hungarian partridge hunter success trend determined by field bag checks, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter	Birds/ 100 hr. Hunter
<u>Northern Region</u>												
Box Elder	12	0.78	23	1.36	12	0.60	8	0.24	36	0.92	17	0.92
Cache	--	--	--	--	10	0.40	6	0.33	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	6	0.33	12	0.86	19	0.54	--	--	--	--	--	0.00
Summit	--	--	--	--	17	0.50	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	12	0.76	21	1.28	13	0.57	7	0.24	36	0.92	16	0.80
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	0	0.00	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0.00	--	--	--	--	--	--	7	0.33	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	7	0.33	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	12	0.74	21	1.28	13	0.57	7	0.24	26	0.80	16	0.80

NOT APPLICABLE

NOT APPLICABLE

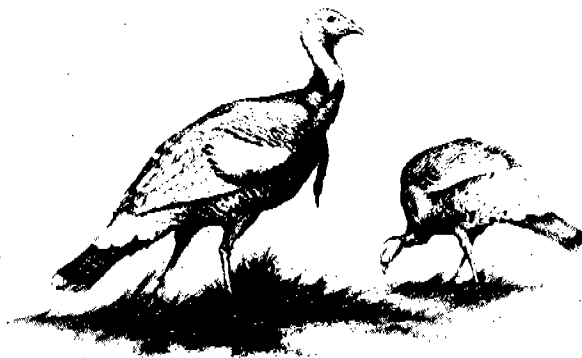
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WILD TURKEY

SUMMARY

Hunter success and turkey observational data for the 1978 spring season indicated a statewide turkey population level slightly higher than 1977 and approaching average.

Fall hunting pressure statewide was up from 1977 with the total harvest for 1978 being the same as 1977. Both hunter success and total harvest for 1978 were considerably below the long-term average.



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. Harvest data for 1977 indicated an increased breeding population for 1978. No turkey brood observations were reported in 1978.

Harvest

Spring Gobbler Season

Results of the 1978 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 1978 spring season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Permits sold	116	+ 7	-32
Hunters afield	101	+ 2	-37
Turkeys harvested	9	-25	-40
Hunter-days afield	246	- 1	-39
Percent hunter success	10	-17	+ 1
Turkeys bagged per hunter-day	0.04	-20	0
Percent of hunters who observed turkeys	42	+ 8	+ 1

Permit sales and consequently hunters afield increased from 1977 but remained well below average. The total harvest decreased from 12 in 1977 to nine in 1978. The proportion of hunters who reported having observed turkeys increased to an above average level. The East Zion, Blue Mtn.-Elk Ridge and LaSal units accounted for 80 percent of the hunting pressure and 89 percent of the harvest.

The trend of spring turkey harvest statistics is shown in Figure 1.

Fall Season

Results of the 1978 fall season are shown in Table 3 of this section. The trend of these data since 1966 are shown in Tables 4-9. The 1978 fall season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Permits sold	102	+ 70	-40
Hunters afield	88	+ 66	-44
Turkeys harvested	7	0	-85
Hunter-days afield	223	+ 68	-38
Percent hunter success	9	- 40	-61
Turkeys bagged per hunter-day	0.03	- 50	-73
Percent of hunters who observed turkeys	38	+100	+ 9

Permit sales, hunters afield and hunter-days afield all increased considerably from 1977 but remained well below average. Harvest remained the same and was far below average. The percent of hunters observing turkeys increased by 100 percent and was slightly above average.

The trend of fall harvest statistics is shown in Figure 2.

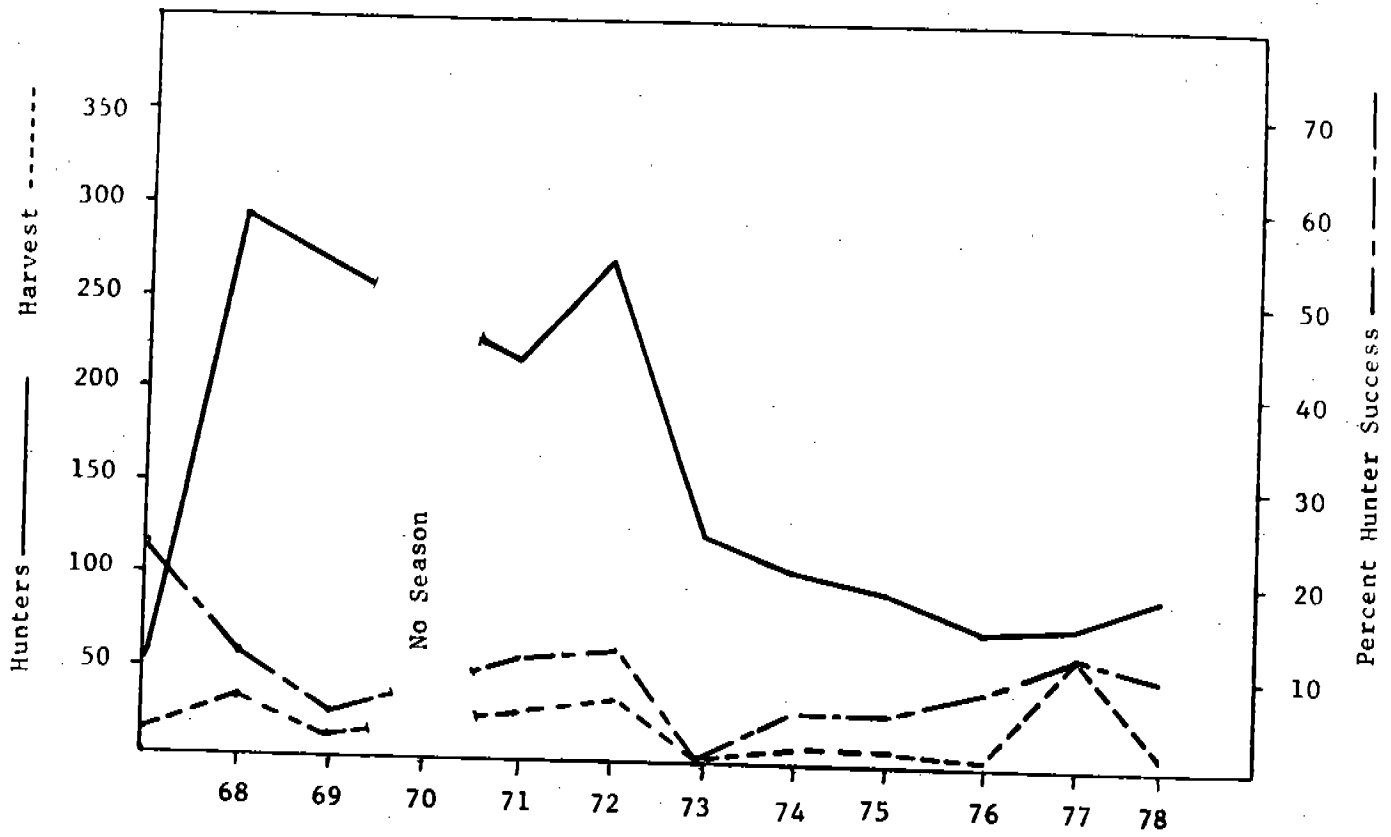


Figure 1. Wild turkey gobbler harvest trends for spring seasons.

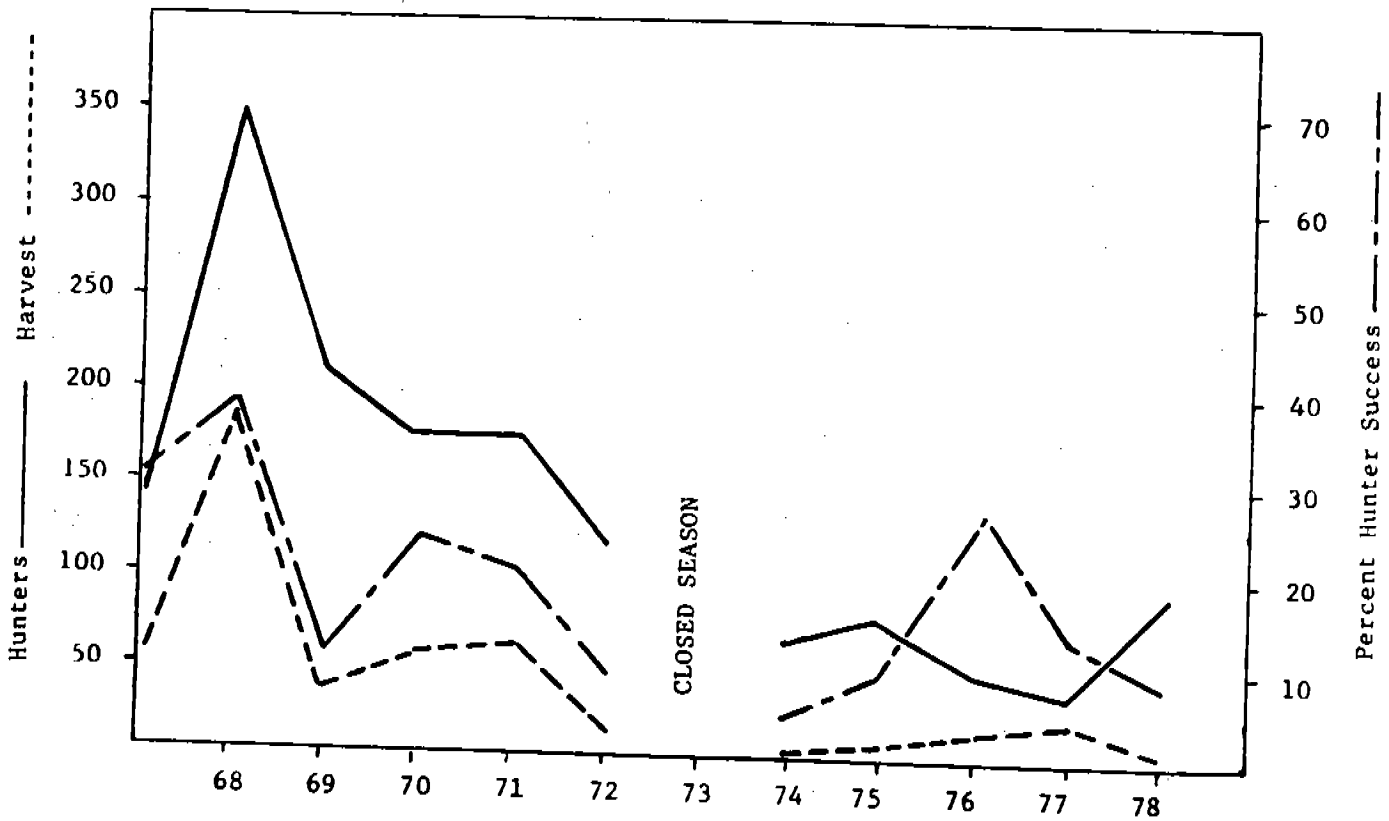


Figure 2. Wild turkey harvest trends for fall seasons.

Table 1. Summary of the 1978 spring turkey season.

Data	Blue Mtn.-		Elk Ridge		East Zion		Boulder		Lasal		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	Rep't	Calc	Rep't	Calc
Permits sold																	116	--
No hunts																	13	15
Hunters afield	11	12			32	36	14	16	29	32	2	2	0	0	3	3	91	101
Hunter days	35	39			72	80	28	31	70	78	6	7	0	0	10	11	221	246
Turkeys bagged	2	2			4	4	1	1	2	2	0	0	0	0	0	0	9	9
Percent success	18	--			13	--	7	--	7	--	0	--	0	--	0	--	10	--
Turkeys bagged per hunter-day	0.06	--			0.06	--	0.04	0.00	0.03	--	0	--	--	--	0.00	--	0.04	--
Reported crippling loss (loss/100 bagged)	50	--			0	--	0	--	100	--	0	--	0	--	0	--	33	--
Turkeys observed	12	--			50	--	20	--	65	--	1	--	0	--	2	--	150	--
Gobblers	5	--			22	--	7	--	18	--	0	--	0	--	1	--	53	--
Hens	3	--			23	--	13	--	40	--	0	--	0	--	1	--	80	--
Unidentified	4	--			5	--	0	--	7	--	1	--	0	--	0	--	17	--
Number of hunters who saw turkeys	4	--			18	--	2	--	11	--	1	--	0	--	2	--	38	--
Percent of hunters who saw turkeys	36	--			56	--	14	--	38	--	50	--	0	--	67	--	42	--

Projection factor 1.1154

Note: Weather conditions restricted hunter access for most of legal 1978 season.

Table 2. Summary of turkey harvest statistics for spring gobbler seasons, 1967-78.

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-day			
East Zion	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				
	1974	34	2	73	7	0.03	23				
	1975	29	3	42	8	0.06	33				
	1976	31	5	74	16	0.05	38				
1977	47	6	117	13	0.05	48					
1978	36	4	80	13	0.06	56					
Boulder Mountains	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				
	1974	23	0	56	0	0.00	25				
	1975	16	1	34	7	0.04	8				
	1976	12	0	25	0	0.00	10				
1977	6	0	13	0	0.00	40					
1978	16	1	31	0	0.00	14					
LaSal Mountains	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				
	1974	20	0	66	0	0.00	11				
	1975	11	0	30	0	0.00	33				
	1976	8	0	25	0	0.00	14				
1977	24	4	53	15	0.07	45					
1978	32	2	78	7	0.03	38					

Table 2. Continued.

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-day			
Beaver Mountains	1971	27		2	54	8	0.04	39			
	1972	17		2	53	13	0.04	20			
	1973	17		0	34	0	0.00	7			
	1974	1		0	1	0	0.00	0			
	1975	5		0	7	0	0.00	0			
	1976	2		0	8	0	0.00	0			
	1977	4		0	14	0	0.00	0			
	1978	2		0	7	0	0.00	50			
Pine Valley Mountains	1971	23		4	92	15	0.04	70			
	1972	22		1	52	5	0.02	42			
	1973	17		0	38	0	0.00	7			
	1974	8		1	23	14	0.05	43			
	1975	6		0	12	0	0.00	0			
	1976			0	13	0	0.00	40			
	1977	2		0	7	0	0.00	0			
	1978	0		0	0	0	0.00	0			
Blue Mountain-Elk Ridge	1974	17		2	34	13	0.07	27			
	1975	19		1	62	6	0.02	56			
	1976	11		0	23	0	0.00	33			
	1977	7		1	14	17	0.08	17			
	1978	12		2	39	18	0.06	36			
Mixed Units	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			
	1974	9		0	36	0	0.00	12			
	1975	11		0	32	0	0.00	22			
	1976	4		1	17	25	0.07	100			
	1977	9		1	29	13	0.04	50			
1978	3		0	11	0	0.00	67				

Table 2. Continued.

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-day	Hunter-day		
	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							
	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	
	1974	112		6	289		5	0.02	22	121	
	1975	97		5	219		5	0.03	29	103	
	1976	74		6	185		8	0.03	32	81	
	1977	99		12	248		12	0.05	39	108	
	1978	101		9	246		10	0.04	42	116	
STATE AVERAGES (1967-77)		161		15	406		9	0.04	33	171	

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

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

Table 3. Summary of the 1978 fall turkey season.

Data	Pine Valley		Blue Mtn.- Elk Ridge		Boulder Mtns.		East Zion		LaSal		STATE TOTALS**	
	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc
Permits sold											102	5
No hunts											12	88
Hunters afield*	5	6	5	6	0	0	37	47	20	26	69+	
Hunter-days	6	8	9	11	0	0	84	107	73	93	175	223
Turkeys bagged	0	0	0	0	0	0	5	6	1	1	6	7
Percent success**	0	--	0	--	0	--	14	--	5	--	9	--
Turkeys bagged per hunter-day	0	--	0	--	0	--	0.06	--	0.01	--	0.03	--
Reported crippling loss (Loss/100 bagged)	0	--	0	--	0	--	40	--	0	--	33	--
Turkeys observed	4	--	0	--	0	--	130	--	201	--	335	--
Number of hunters who saw turkeys	4	--	0	--	0	--	12	--	10	--	26	--
Percent of hunters who saw turkeys	80	--	0	--	0	--	32	--	50	--	38	--

Projection factor = $102 \div 80 = 1.275$

*One hunter hunted two units; therefore, the state total will not equal the unit totals.

**The season limit was one bird.

+Two hunters reported three hunter-days within area not listed on table; hunter-days were included in calculating state totals.

Table 4. Summary of Boulder Mountain wild turkey harvest data for fall hunts from 1967-78.

Harvest Data	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Hunters afield	22	77	45	24	20	7	C	C	13	4	2	0
Hunter-days	71	195	103	77	46	17	L	L	36	10	5	0
Turkeys bagged	4	37	0	2	0	0	O	O	0	0	0	0
Percent success*	20	32	0	8	0	0	S	S	0	0	0	0
Percent bagging two turkeys	--	13	0	0	0	0	E	E	--	--	--	--
Birds bagged/day	0.06	0.19	0.00	0.03	0.00	0.00	D	D	0.00	0.00	0.00	0.00
Reported crippling loss (loss/100 bagged)	25	18	--	0	0	0	S	S	0	0	0	0
Turkeys observed	55	436	0	16	0	0	E	E	0	0	0	0
No. hunters who observed turkeys	8	27	0	2	0	0	A	A	0	0	0	0
Percent of hunters who observed turkeys	40	38	0	10	0	0	S	S	0	0	0	0
							O	O	0	0	0	0
							N	N	0	0	0	0

*Season bag limit from 1968-72 was two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 5. Summary of East Zion wild turkey harvest data for fall hunts from 1967-78.

Harvest Data	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Hunters afield	113	218	137	87	90	59	C	C	13	31	22	47
Hunter-days	334	569	374	203	229	154	L	L	18	57	34	107
Turkeys bagged	36	127	35	43	39	10	O	O	6	13	5	6
Percent success*	32	40	16	32	27	12	S	S	46	42	25	14
Percent bagging two turkeys	--	19	10	16	16	4	E	E	--	--	--	--
Birds bagged/day	0.11	0.22	0.9	0.21	0.17	0.06	D	D	0.33	0.23	0.16	0.06
Reported crippling loss (loss/100 bagged)	15	15	19	5	6	12	S	S	0	8	0	40
Turkeys observed	693	1661	426	469	264	96	E	E	36	137	33	130
No. hunters who observed turkeys	51	122	30	30	23	11	A	A	4	13	5	12
Percent of hunters who observed turkeys	50	60	25	40	31	22	S	S	44	50	26	32

*Season bag limit from 1968-72 was two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 6. Summary of LaSal Mountain wild turkey harvest data for fall hunts from 1968-78.

Harvest Data	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Hunters afield	45	17	18	13	31	C	20	9	15	24	26
Hunter-days	119	51	30	27	70	L	61	33	49	78	93
Turkeys bagged	19	1	3	5	2	O	2	1	2	1	1
Percent success*	43	7	11	18	4	S	10	11	13	6	5
Percent bagging two turkeys	0	0	6	18	4	E	--	--	--	--	--
Birds bagged/day	0.16	0.02	0.10	0.18	0.02	D	0.03	0.03	0.04	0.02	0.01
Reported crippling loss (loss/100 bagged)	11	0	0	0	0	S	100	0	0	0	0
Turkeys observed	214	40	15	25	63	E	61	21	45	13	201
No. hunters who observed turkeys	21	1	3	3	7	A	6	4	2	2	10
Percent of hunters who observed turkeys	50	7	20	27	27	O	38	67	15	10	50

*Season bag limit from 1969-72 was two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 7. Summary of Beaver Mountain wild turkey harvest data for fall hunts from 1970-78.

Harvest Data	1970*	1971	1972	1973	1974	1975	1976	1977	1978
Hunters afield	30	13	6			5	5	--	
Hunter-days	87	24	12			13	18	--	
Turkeys bagged	7	5	0			0	0	--	
Percent success**	15	18	0	C	C	0	0	--	C
Percent bagging two turkeys**	8	18	0	L	L	--	--	--	L
Birds bagged/day	0.08	0.20	0	O	O	0	0	--	O
Reported crippling loss (loss/100 bagged)	0	0	0	S	S	0	0	--	S
Turkeys observed	48	64	11	E	E	0	0	--	E
No. hunters who observed turkeys	8	5	2	A	A	0	0	--	A
Percent of hunters who observed turkeys	31	46	40	S	S	0	0	--	S
				O	O				O
				N	N				N

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

**Season bag limit from 1969-72 was two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 8. Summary of Pine Valley Mountain wild turkey harvest data for fall hunts from 1970-78.

Harvest Data	1970*	1971	1972	1973	1974	1975	1976	1977	1978
Hunters afield	6	32	11			0	0	1	6
Hunter-days	21	87	19			0	0	2	8
Turkeys bagged	3	11	0			0	0	0	0
Percent success**	50	23	0	C L O S E D	C L O S E D	0	0	0	0
Percent bagging two turkeys**	0	12	0			0	0	0	0
Birds bagged/day	0.14	0.13	0			0	0	0	0
Reported crippling loss (loss/100 bagged)	33	22	0	S E A S O N	S E A S O N	0	0	0	0
Turkeys observed	16	98	0			0	0	0	4
No. hunters who observed turkeys	4	9	0			0	0	0	4
Percent of hunters who observed turkeys	80	35	0			0	0	0	80

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

**Season bag limit from 1969-72 was two turkeys. Percent success was based on successful hunters rather than total turkeys bagged.

Table 9. Summary of Blue Mountain-Elk Ridge wild turkey harvest data for the fall hunt, 1974-78.

Harvest Data	1974*	1975	1976	1977	1978
Hunters afield	5	6	1	5	6
Hunter-days	9	15	2	14	11
Turkeys bagged	1	0	0	1	0
Percent success	20	0	0	29	0
Birds bagged/day	0.11	0.00	0.00	0.09	0.00
Reported crippling loss (loss/100 bagged)	0	0	0	0	0
Turkeys observed	20	0	0	2	0
No. hunters who observed turkeys	1	0	0	1	0
Percent of hunters who observed turkeys	20	0	0	25	0

*Wild turkeys were initially transplanted onto the Blue Mountains in 1957 and on Elk Ridge in 1959. Those releases failed. Additional releases were made beginning in 1970 on Blue Mountain and 1972 on Elk Ridge with successful results, particularly on Blue Mountain.

Table 10. Statewide summary of wild turkey harvest for fall hunts from 1967 through 1978.

Harvest Data	Year											Average 1963-77	
	1967	1968*	1969	1970	1971	1972	1973	1974	1975	1976	1977		1978
Permits sold	146	368	223	197	184	124		29	58	68	60	102	171
Hunters afield	135	344	210	174	174	118	C	26	46	56	53	88	156
Hunter-days	405	883	549	418	444	303	L	79	115	136	133	223	362
Turkeys bagged	40	183	36	58	60	12	O	3	7	15	7	7	48
Percent success**	30	38	11	24	21	7	S	12	15	27	15	9	23
Percent bagging two turkeys	--	15	6	10	13	3	E	--	--	--	--	--	9
Birds bagged/day	0.10	0.21	0.06	0.14	0.14	0.04	D	0.04	0.06	0.11	0.06	0.03	0.11
Reported crippling loss (loss/100 bagged)	16	15	19	6	8	10	S	33	0	7	0	33	11
Turkeys observed	748	2,321	466	564	451	173	A	83	57	182	48	335	595
No. hunters who observed turkeys	59	171	31	47	40	21	S	8	8	15	8	26	56
Percent of hunters who observed turkeys	48	54	17	31	28	21	N	38	26	32	18	38	35

*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; from 1969 through 1972, all areas had a two-bird limit. Hunter success was based on the number of successful hunters rather than total turkeys bagged.

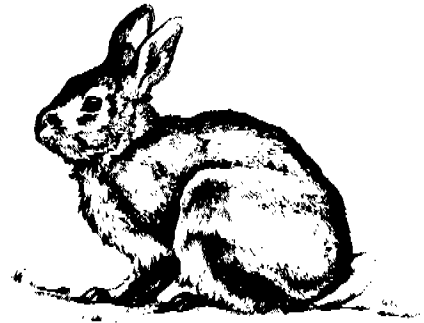
RABBITS AND HARES

SUMMARY

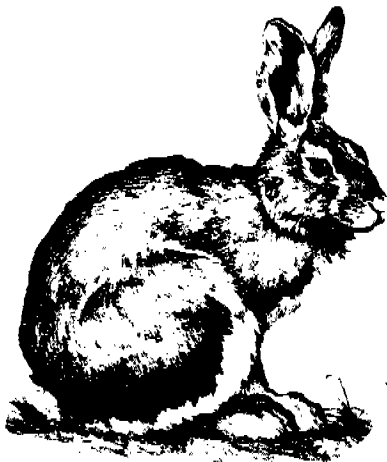
Cottontail Rabbits

An excellent breeding population level for 1978 was indicated by the 1977 harvest statistics.

Summer roadside counts indicated an increased population density throughout the state except the Northern Region. Harvest statistics indicated a record harvest (401,071) and near record number of hunters afield (35,590).



Snowshoe Hares



The 1978 snowshoe hare hunting season was the fourth held since the Legislature provided protected status to this species in 1975.

Harvest statistics reflected increased hunter participation, hunter success and total harvest. However, results shown are biased upward by an unknown quantity because of hunters confusing snowshoe hare with the whitetail jackrabbit. Species descriptions were mailed with questionnaires in 1978, and hopefully the data are more reliable this year as a result.

COTTONTAIL RABBIT

Roadside Counts

Results of the annual roadside counts for 1978 are shown in Table 1 of this section. The trend of cottontails observed per mile and young per 100 adults since 1968 is shown in Table 2 and 3, respectively. Indexes for 1978 compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total miles driven	2,745	- 6	+ 4
Total cottontails counted	1,303	+43	+40
Cottontails observed per mile	0.47	+52	+34
Young observed per 100 adults	112	+26	+ 5

A good breeding population for 1978 was indicated by 1977 harvest statistics.

Indicated production was above 1977 and the average.

The cottontail per mile index was up in all regions, except the Northern Region. The index was above average in all areas except the Northern and Southeastern regions.

Harvest

Hunter Questionnaire

Results of the 1978 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 1973 are found in Tables 5-7. Trends of statewide harvest statistics are found in Table 8 and Figure 2. Results of the 1978 season compared to 1977 and the average follow:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Cottontail hunters	35,590	- 1	+ 35
Cottontail harvest	401,071	+49	+119
Hunter-days afield	163,019	+ 4	+ 45
Cottontails per hunter-day	2.46	+44	+ 52
Cottontails per hunter	11.27	+50	+ 65

Total harvest and total days afield both increased from 1977 to record levels. Total hunters decreases slightly from 1977, but success increased significantly and remained substantially above average.

Field Bag Checks

Results of the survey for 1978 are shown in Table 9. Trends of hunter success as determined by bag checks are shown in Table 10. Following is a comparison of the 1978 field bag check data to 1977 and the average.

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Total hunters checked	531	+ 16	+ 17
Total hours hunted	1,738	+ 26	+ 36
Cottontails per hunter (complete hunts)	3.88	+113	+107
Cottontails bagged per 100 hours	108	+135	+104
Hours per hunter-day (complete hunts)	3.9	+ 3	+ 15
Hours per cottontail bagged	0.9	- 59	- 55

More cottontail hunters were checked in 1978 than in 1977. Field bag check data indicated that success increased dramatically to more than 100 percent above average. Hunters spent more time afield, but the time required to bag a cottontail declined 59 percent. Hunter success was the best since the cottontail became a protected game animal in 1967.

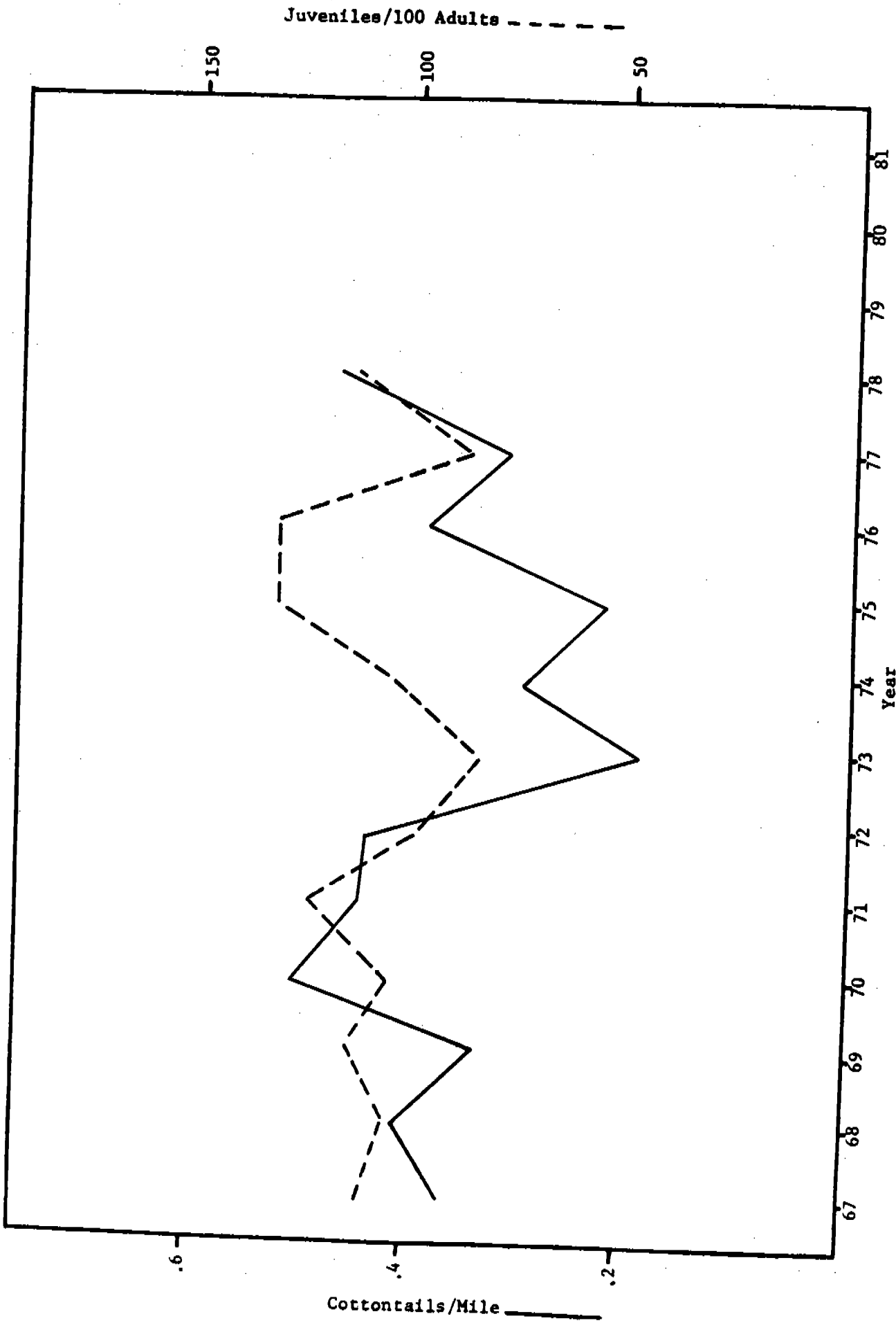


Figure 1. Cottontail Rabbit Population Indexes Trend.

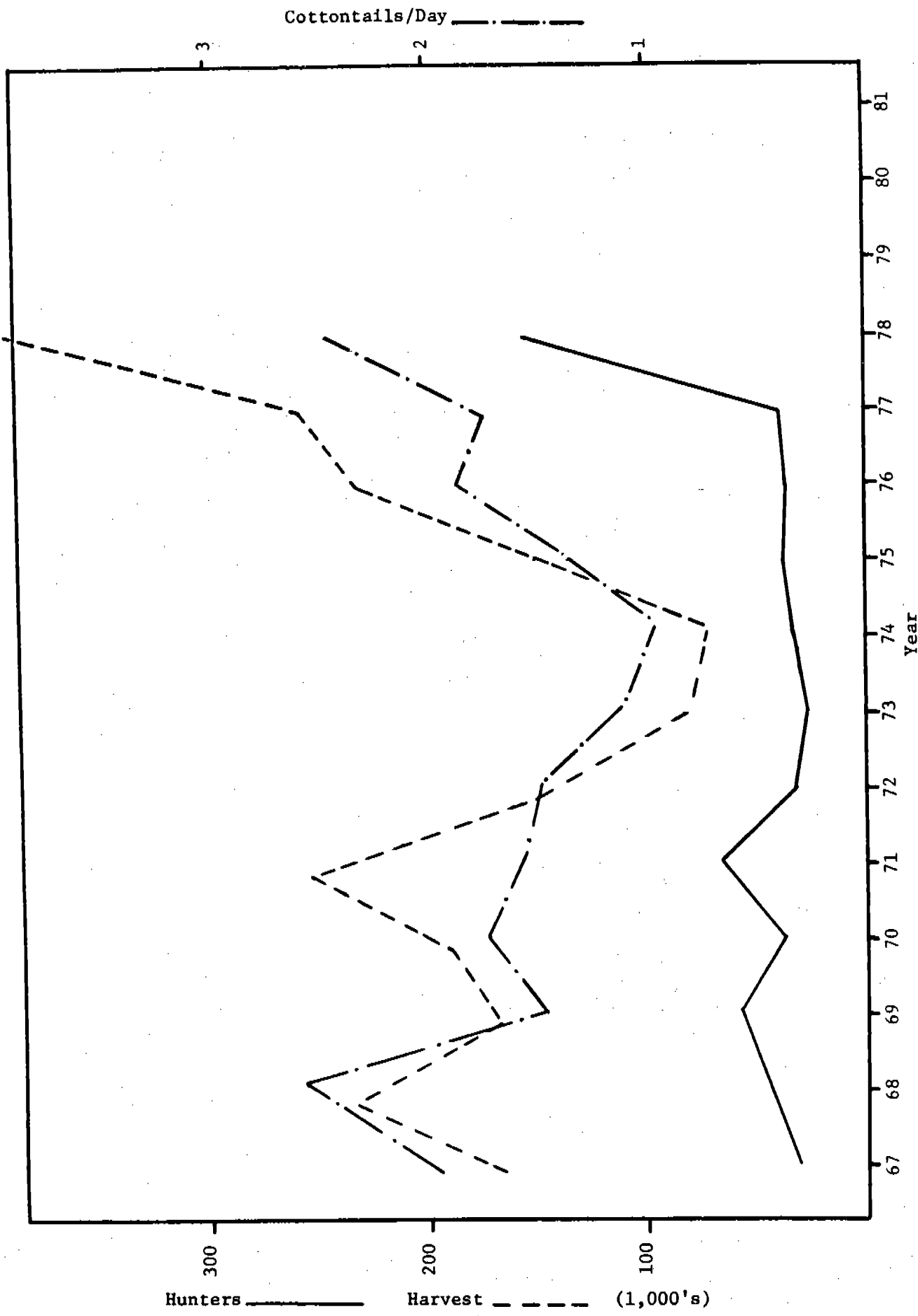


Figure 2. Cottontail Rabbit Harvest Trend

Table 1. Cottontail rabbit summer inventory summary, 1978.

Region and County	Miles Driven	Rabbits Observed				Young Per 100 Adults	Rabbits Per Mile
		Adults	Young	Unclass.	Total		
Northern Region							
Box Elder	180	23	29	1	53	126	0.29
Cache	20	--	--	1	1	--	0.05
Davis	--	--	--	1	--	--	--
Morgan	62	--	4	2	6	--	0.10
Rich	120	23	30	3	56	130	0.47
Summit	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--
REGIONAL TOTALS	382	46	63	7	116	137	0.30
Central Region							
Juab	84	9	4	3	16	44	0.19
Salt Lake	--	--	--	--	--	--	--
Sanpete	90	24	52	2	78	217	0.86
Tooele	90	8	10	1	19	125	0.21
Utah	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--
REGIONAL TOTALS	264	41	66	6	113	161	0.43
Southern Region							
Beaver	90	10	7	3	20	70	0.22
Garfield	150	11	7	2	20	64	0.13
Iron	90	43	14	2	59	33	0.66
Kane	120	18	10	0	28	56	0.23
Millard	180	40	35	0	75	88	0.42
Piute	90	0	1	0	1	--	0.01
Sevier	138	38	56	30	124	147	0.90
Washington	180	1	4	24	29	400	0.16
Wayne	90	11	31	1	43	282	0.48
REGIONAL TOTALS	1,128	172	165	62	399	96	0.35
Northeastern Region							
Daggett	90	125	122	3	250	98	2.77
Duchesne	90	46	77	5	128	167	1.42
Uintah	120	55	84	7	146	153	1.22
REGIONAL TOTALS	300	226	283	15	524	125	1.75
Southeastern Region							
Carbon	212	11	13	2	26	118	0.12
Emery	189	18	20	2	40	111	0.21
Grand	90	13	10	7	30	77	0.33
San Juan	180	37	13	5	55	35	0.31
REGIONAL TOTALS	671	79	56	16	151	71	0.23
STATE TOTALS	2,745	564	633	106	1,303	112	0.47

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1968-78.

Region and County	Year										Average 1968-77	
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977		1978
<u>Northern Region</u>												
Box Elder	0.78	0.50	0.76	0.43	0.37	0.06	1.01	0.32	0.72	0.97	0.29	
Cache	0.02	0.01	--	0.06	0.07	--	--	--	0.00	--	0.05	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	0.17	0.10	--	0.28	--	0.14	0.10	0.02	0.17	0.16	0.10	
Rich	0.50	0.52	0.43	0.22	0.11	0.14	0.04	0.16	0.46	0.26	0.47	
Summit	0.22	0.08	0.39	--	0.13	--	--	--	--	--	--	
Weber	--	0.16	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.44	0.23	0.59	0.31	0.25	0.09	0.36	0.19	0.45	0.59	0.30	0.35
<u>Central Region</u>												
Juab	0.42	0.51	0.72	0.33	0.14	0.13	--	0.07	0.08	0.18	0.19	
Salt Lake	0.00	0.00	--	--	--	--	--	--	--	--	--	
Sanpete	0.36	0.53	0.63	0.77	0.72	0.33	0.23	0.18	0.36	0.37	0.86	
Tooele	0.34	0.28	0.28	0.22	0.14	0.02	0.06	0.04	0.16	0.19	0.21	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.29	0.32	0.54	0.46	0.33	0.18	0.14	0.09	0.20	0.25	0.43	0.28
<u>Southern Region</u>												
Beaver	0.23	0.36	--	0.18	0.36	0.29	0.33	0.04	0.20	0.11	0.22	
Garfield	0.25	0.48	0.48	0.33	0.29	0.12	0.14	0.28	0.39	0.15	0.13	
Iron	0.64	0.40	--	0.38	0.58	0.00	0.06	0.09	0.21	0.36	0.66	
Kane	--	--	0.71	0.17	0.60	0.32	0.26	0.48	0.49	0.32	0.23	
Millard	0.30	0.39	0.28	0.15	0.29	0.11	0.10	0.07	0.17	0.14	0.42	
Piute	0.09	0.00	0.00	0.00	0.00	--	0.02	0.07	0.08	0.00	0.01	
Sevier	0.13	0.47	0.58	0.46	0.41	0.10	0.18	0.11	0.26	0.38	0.90	
Washington	0.55	0.61	0.17	0.46	1.16	0.57	1.30	0.56	0.32	0.21	0.16	
Wayne	0.10	0.12	--	0.08	0.07	0.04	0.06	0.03	0.17	0.09	0.48	
REGIONAL TOTALS	0.32	0.35	0.35	0.25	0.48	0.19	0.32	0.20	0.27	0.19	0.35	0.29
<u>Northeastern Region</u>												
Daggett	0.81	0.60	0.77	0.76	0.73	0.50	0.24	0.24	0.68	0.25	2.77	
Duchesne	0.77	0.68	0.56	0.58	0.24	0.14	0.29	0.67	1.00	1.21	1.42	
Uintah	0.98	0.84	1.56	1.39	0.97	0.14	0.19	0.32	1.36	0.68	1.22	
REGIONAL TOTALS	0.82	0.68	0.93	0.89	0.60	0.26	0.24	0.43	0.98	0.67	1.75	0.65
<u>Southeastern Region</u>												
Carbon	0.64	0.13	0.13	0.24	0.20	0.46	0.15	0.18	0.18	0.10	0.12	
Emery	0.33	0.17	0.20	0.04	0.30	0.06	0.08	0.04	0.27	0.26	0.21	
Grand	0.16	--	0.14	0.53	0.66	0.07	0.14	0.18	0.22	0.19	0.33	
San Juan	0.64	0.50	0.30	0.97	0.48	--	0.58	0.42	0.67	0.31	0.31	
REGIONAL TOTALS	0.42	0.21	0.25	0.53	0.45	0.19	0.28	0.22	0.35	0.21	0.23	0.31
STATE TOTALS	0.41	0.32	0.50	0.44	0.43	0.18	0.29	0.22	0.38	0.31	0.47	0.35

Table 3. Summary of cottontail rabbits young per 100 adults, 1968-78.

Region and County	Year												Average 1968-77
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978		
Northern Region													
Box Elder	106	94	95	129	62	100	173	144	281	103	126		
Cache	--	0	--	0	0	--	--	--	--	--	--		
Davis	--	--	--	--	--	--	--	--	--	--	--		
Morgan	100	900	--	25	--	--	0	--	200	100	--		
Rich	86	186	40	80	100	50	0	56	100	54	130		
Summit	56	33	64	--	14	--	--	--	--	--	--		
Weber	--	75	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	97	115	76	100	56	73	145	120	222	96	137	110	
Central Region													
Juab	257	239	246	171	117	100	--	67	20	100	44		
Salt Lake	--	0	--	--	--	--	--	--	--	--	--		
Sanpete	133	311	123	144	148	142	50	38	256	200	217		
Tooele	113	127	100	100	100	0	67	100	133	129	125		
Utah	--	--	--	--	--	--	--	--	--	--	--		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	179	224	157	145	135	121	53	54	160	154	161	133	
Southern Region													
Beaver	36	56	--	14	61	92	11	0	--	33	70		
Garfield	85	138	103	118	86	57	56	77	103	71	64		
Iron	75	33	--	162	100	0	100	0	70	93	33		
Kane	--	--	28	50	86	44	200	160	87	65	56		
Millard	143	22	41	32	271	32	82	88	63	67	88		
Piute	0	--	--	--	--	--	0	20	75	--	--		
Sevier	22	360	350	390	450	200	183	44	67	126	147		
Washington	71	114	22	71	11	81	98	212	118	57	400		
Wayne	50	300	--	167	50	200	50	0	250	225	282		
REGIONAL TOTALS	75	85	68	93	64	67	92	120	89	86	96	84	
Northeastern Region													
Daggett	62	34	57	81	121	63	87	77	152	48	98		
Duchesne	146	148	131	150	78	160	146	258	177	66	167		
Uintah	117	154	203	191	141	100	114	211	151	134	153		
REGIONAL TOTALS	107	77	126	139	120	87	114	198	159	78	125	121	
Southeastern Region													
Carbon	55	122	100	53	145	250	117	227	85	112	118		
Emery	238	200	183	100	125	16	40	0	58	30	111		
Grand	7	--	160	79	297	33	62	47	54	100	77		
San Juan	--	166	228	215	111	--	140	150	179	120	35		
REGIONAL TOTALS	92	161	115	132	180	142	118	124	112	84	71	126	
STATE TOTALS	96	110	102	123	99	86	105	132	132	89	112	107	

ble 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-Days Afield	Cottontails Bagged	Cottontails/Hunter-day	% of Pressure	% of Harvest
<u>Western Region</u>						
Box Elder	227	18,019	46,117	2.56	11.05	11.50
Cache	31	1,847	2,928	1.59	1.13	0.73
Davis	6	950	369	0.39	0.58	0.09
Morgan	61	6,305	11,002	1.74	3.87	2.74
Rich	71	5,277	19,893	3.77	3.24	4.96
Summit	70	4,986	11,556	2.32	3.06	2.88
Weber	25	1,557	2,691	1.73	0.95	0.67
REGIONAL TOTALS	491	38,941	94,556	2.43	23.89	23.58
<u>Central Region</u>						
Juab	82	7,123	20,684	2.90	4.37	5.16
Salt Lake	50	3,087	4,775	1.55	1.89	1.19
Sanpete	33	2,823	4,248	1.50	1.73	1.06
Tooele	200	17,017	40,788	2.40	10.44	10.17
Utah	175	14,563	27,148	1.86	8.93	6.77
Wasatch	23	2,269	3,219	1.42	1.39	0.80
REGIONAL TOTALS	563	46,882	100,861	2.15	28.76	25.15
<u>Southern Region</u>						
Beaver	13	1,583	3,562	2.25	0.97	0.89
Garfield	10	1,319	1,055	0.80	0.81	0.26
Iron	26	3,087	4,564	1.48	1.89	1.14
Kane	8	1,082	3,034	2.80	0.66	0.76
Millard	41	3,614	6,648	1.84	2.22	1.66
Piute	7	475	976	2.06	0.29	0.24
Sevier	29	2,981	4,617	1.55	1.83	1.15
Washington	27	3,984	3,720	0.93	2.44	0.93
Wayne	11	1,715	2,427	1.42	1.05	0.61
REGIONAL TOTALS	172	19,840	30,604	1.54	12.17	7.63
<u>Northeastern Region</u>						
Daggett	47	5,804	18,890	3.25	3.56	4.71
Duchesne	113	10,870	39,917	3.67	6.67	9.95
Uintah	130	15,381	66,564	4.33	9.44	16.60
REGIONAL TOTALS	290	32,055	125,371	3.91	19.66	31.26
<u>Southwestern Region</u>						
Carbon	66	8,574	19,391	2.26	5.26	4.84
Emery	62	8,337	14,088	1.69	5.11	3.51
Grand	19	2,506	5,303	2.12	1.54	1.32
San Juan	25	3,034	8,522	2.81	1.86	2.13
REGIONAL TOTALS	172	22,452	47,304	2.11	13.77	11.79
known counties	19	2,849	2,374	0.83	1.75	0.59
unvisited counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	1,707	163,019	401,071	2.46	100	100

*Total hunter-trips from questionnaire returns.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	0.90	1.03	1.25	1.63	1.87	2.56
Cache	0.52	1.12	0.31	1.30	1.28	1.59
Davis	0.85	0.66	0.21	2.05	1.83	0.39
Morgan	0.81	0.68	0.65	0.71	1.76	1.74
Rich	0.92	1.14	1.45	1.50	2.28	3.77
Summit	0.39	0.62	0.66	0.96	0.78	2.32
Weber	1.79	0.35	0.74	0.85	0.95	1.73
REGIONAL TOTALS	0.87	0.86	0.96	1.40	1.67	2.43
Central Region						
Juab	0.70	0.90	0.78	1.77	1.54	2.90
Salt Lake	0.24	0.86	0.94	1.35	1.20	1.55
Sanpete	0.88	1.14	0.64	1.27	0.82	1.50
Tooele	0.84	0.79	0.75	1.56	1.75	2.40
Utah	0.69	0.81	1.11	1.26	1.33	1.86
Wasatch	0.68	0.57	1.00	0.89	1.25	1.42
REGIONAL TOTALS	0.73	0.84	0.87	1.41	1.46	2.15
Southern Region						
Beaver	0.84	0.89	1.44	2.09	1.78	2.25
Garfield	2.24	1.45	1.00	1.02	0.50	0.80
Iron	0.55	0.61	0.84	1.19	1.08	1.48
Kane	1.18	1.57	2.31	1.00	2.55	2.80
Millard	1.47	1.15	0.70	1.67	1.78	1.84
Piute	2.50	0.08	1.14	0.60	2.06	2.06
Sevier	1.45	1.12	1.45	1.11	1.52	1.55
Washington	1.61	1.02	1.98	1.05	0.95	0.93
Wayne	0.74	1.08	1.73	2.17	2.88	1.42
REGIONAL TOTALS	1.19	1.03	1.53	1.45	1.79	1.54
Northeastern Region						
Daggett	1.25	1.69	0.73	3.18	2.10	3.25
Duchesne	1.07	1.44	1.86	3.31	2.92	3.67
Uintah	1.10	0.96	1.81	3.02	2.50	4.33
REGIONAL TOTALS	1.11	1.24	1.78	3.17	2.63	3.91
Southeastern Region						
Carbon	1.21	0.95	1.17	1.54	1.19	2.26
Emery	1.46	0.80	1.56	1.59	1.32	1.69
Grand	1.00	1.93	3.55	2.78	1.23	2.12
San Juan	2.26	2.12	1.81	1.42	1.05	2.81
REGIONAL TOTALS	1.43	1.11	1.70	1.74	1.24	2.11
Unknown counties	0.64	2.13	0.33	1.00	1.86	0.83
Mixed counties	--	5.33	0.00	1.49	1.56	0.00
STATE TOTALS	1.02	1.01	1.32	1.86	1.71	2.46

Table 6. Percentage distribution of cottontail rabbit harvest by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	7.48	11.33	8.37	7.22	11.69	11.50
Cache	0.87	1.19	0.35	1.21	0.97	0.73
Davis	0.67	0.42	0.17	0.95	0.25	0.09
Morgan	1.28	0.86	0.58	0.55	2.99	2.74
Rich	0.70	0.55	1.50	1.14	2.41	4.96
Summit	1.28	2.00	1.11	0.77	1.08	2.88
Weber	3.62	0.70	1.17	0.59	0.69	0.67
REGIONAL TOTALS	15.88	17.04	13.25	12.44	20.07	23.58
Central Region						
Juab	3.10	4.35	2.84	3.77	4.22	5.16
Salt Lake	0.41	2.94	1.28	0.72	0.62	1.19
Sanpete	1.94	1.98	1.57	0.97	1.37	1.06
Tooele	8.32	4.19	4.82	7.12	10.38	10.17
Utah	6.81	9.84	7.21	6.12	6.94	6.77
Wasatch	1.45	0.55	0.87	1.05	0.89	0.80
REGIONAL TOTALS	22.03	23.85	18.59	19.75	24.42	25.15
Southern Region						
Beaver	1.04	1.60	0.25	1.68	0.46	0.89
Garfield	1.10	0.70	0.31	0.53	0.10	0.26
Iron	2.20	0.92	1.26	1.37	0.47	1.14
Kane	0.38	0.97	1.61	0.02	1.41	0.76
Millard	4.64	4.63	1.09	2.90	2.44	1.66
Piute	0.14	0.02	0.16	0.03	0.37	0.24
Sevier	2.06	1.05	1.07	0.36	1.02	1.15
Washington	7.01	4.79	8.51	2.47	0.70	0.93
Wayne	1.07	1.25	1.11	2.33	2.40	0.61
REGIONAL TOTALS	19.65	15.94	15.37	11.70	9.37	7.63
Northeastern Region						
Daggett	2.00	1.82	0.47	3.12	1.42	4.71
Duchesne	6.38	8.89	9.56	18.80	11.01	9.95
Uintah	6.72	5.99	14.01	15.38	14.17	16.60
REGIONAL TOTALS	15.10	16.71	24.03	37.30	26.60	13.26
Southeastern Region						
Carbon	9.22	8.37	7.60	6.05	5.41	4.84
Emery	7.65	5.53	9.09	4.74	5.60	3.51
Grand	2.87	2.46	7.58	4.14	0.54	1.32
San Juan	7.33	5.20	4.47	1.40	0.75	2.13
REGIONAL TOTALS	27.07	21.56	28.74	16.33	12.31	11.79
Unknown counties	0.26	4.55	0.02	0.01	2.77	0.59
Mixed counties	--	0.35	0.00	2.08	4.47	0.00
STATE TOTALS	100	100	100	100	100	100

Table 7. Percentage distribution of cottontail rabbit hunting pressure by region and county, 1973-78.

Region and County	1973	1974	1975	1976	1977	1978
Northern Region						
Box Elder	8.44	11.18	8.88	8.27	10.69	11.05
Cache	1.71	1.07	1.51	1.75	1.29	1.13
Davis	0.80	0.64	1.08	0.86	0.23	0.58
Morgan	1.59	1.27	1.18	1.47	2.91	3.87
Rich	0.77	0.49	1.36	1.42	1.81	3.24
Summit	3.30	3.27	2.23	1.51	2.37	3.06
Weber	2.07	2.04	0.08	1.29	1.23	0.95
REGIONAL TOTALS	18.68	19.95	18.33	16.57	20.53	23.89
Central Region						
Juab	4.51	4.91	4.80	3.99	4.70	4.37
Salt Lake	1.74	3.44	1.80	0.99	0.89	1.89
Sanpete	2.24	1.76	3.26	1.42	2.85	1.73
Tooele	10.09	5.40	8.52	8.53	10.13	10.44
Utah	10.12	12.31	8.57	9.07	8.96	8.93
Wasatch	2.18	0.98	1.16	2.20	1.21	1.39
REGIONAL TOTALS	30.89	28.79	28.11	26.20	28.74	28.76
Southern Region						
Beaver	1.27	1.82	0.23	1.51	0.44	0.97
Garfield	0.50	0.49	0.41	0.97	0.35	0.81
Iron	4.10	1.53	1.98	2.15	0.75	1.89
Kane	0.32	0.62	0.92	0.04	0.94	0.66
Millard	3.22	4.09	2.05	3.23	2.35	2.22
Piute	0.06	0.29	0.18	0.11	0.31	0.29
Sevier	1.45	0.96	0.98	0.60	1.16	1.83
Washington	4.43	4.75	5.67	4.40	1.25	2.44
Wayne	1.48	1.18	0.85	2.00	1.43	1.05
REGIONAL TOTALS	16.82	15.73	13.27	15.02	8.98	12.17
Northeastern Region						
Daggett	1.62	1.09	0.85	1.83	1.16	3.56
Duchesne	6.08	6.24	6.78	10.60	6.45	6.67
Uintah	6.20	6.29	10.24	9.50	9.69	9.44
REGIONAL TOTALS	13.90	13.62	17.86	21.93	17.30	19.66
Southeastern Region						
Carbon	7.73	8.93	8.57	7.35	7.76	5.26
Emery	5.34	6.98	7.70	5.55	7.26	5.11
Grand	2.92	1.29	2.82	2.78	0.75	1.54
San Juan	3.30	2.49	3.26	1.83	1.23	1.86
REGIONAL TOTALS	19.30	19.68	22.36	17.54	17.01	13.77
Unknown counties	0.41	2.16	0.08	0.02	2.54	1.75
Mixed counties	--	0.07	0.00	2.61	4.89	.00
STATE TOTALS	100	100	100	100	100	100

Table 8. Statewide summary of cottontail rabbit harvest statistics, 1967-78.

Year	Total Hunters	Total Harvest	Hunter Days Afield	Cottontail Per Hunter-day	Cottontails* Per Hunter
1967	23,249	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	1.86	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
1974	22,737	86,506	85,499	1.01	3.80
1975	24,803	154,182	116,707	1.32	6.22
1976	28,239	235,952	126,737	1.86	8.39
1977	35,831	269,263	157,257	1.71	7.51
1978	35,590	401,071	163,019	2.46	11.27
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TOTALS (1967-78)	325,352	2,416,734	1,396,611	1.73	7.43
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AVERAGES (1967-77)	26,342	183,242	112,145	1.62	6.84
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*Based on county of residence.

Table 9. Cottontail rabbit field bag check summary, 1978.

Region and County	ALL HUNTS				COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Rabbits/ Rabbits 100 Hrs.	Total Complete Hunts	Total Hunters	Total Hours	Total Rabbits/ Rabbits 100 Hrs.	Rabbits/ Hunter
Northern Region									
Box Elder	25	56	241	97	40	24	237	94	1.74
Cache	1	1	2	0	--	1	2	0	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	15	38	205	106	52	15	205	106	2.79
Summit	--	--	--	--	--	--	--	--	--
Weber	1	3	3	5	167	1	3	5	1.67
REGIONAL TOTALS	42	98	451	208	46	41	447	205	46
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	6	51	128	42	33	3	78	23	0.88
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	51	128	42	33	3	78	23	0.88
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Northeastern Region									
Daggett	73	184	649	1,170	180	41	375	678	181
Duchesne	24	63	197	176	89	2	144	113	7.62
Uintah	20	39	75	142	189	12	55	99	3.42
REGIONAL TOTALS	117	286	921	1,488	162	65	574	890	4.13
Southeastern Region									
Carbon	10	20	18	52	289	1	2	9	4.50
Emery	15	42	133	35	26	2	10	7	1.40
Grand	14	28	67	15	22	10	45	12	0.60
San Juan	5	6	20	32	160	--	--	--	--
REGIONAL TOTALS	44	96	238	134	56	13	58	28	1.04
STATE TOTALS	209	531	1,738	1,872	108	122	1,156	1,146	3.88

Table 10. Cottontail hunter success trend determined by field bag checks, 1973-78.

Region and County	1973		1974		1975		1976		1977		1978	
	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter	Bag/ 100 hr. Hunter
Northern Region												
Box Elder	--	10	1.00	0.48	9	0.40	46	1.97	40	1.74		
Cache	--	--	--	--	--	--	17	0.67	--	--		
Davis	--	--	--	--	--	--	--	--	--	--		
Morgan	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	1.33	2.21	58	2.29	33	2.29	52	2.79		
Summit	--	--	--	--	--	--	--	--	--	--		
Weber	--	--	0.50	1.59	37	1.92	41	1.92	46	2.14		
REGIONAL TOTALS	--	10	1.00	0.69	37	1.59	41	1.92	46	2.14		
CENTRAL REGIONS												
Juab	--	--	0.50*	2.00	10	2.00	--	--	--	--		
Salt Lake	--	33	4.00	1.00	11	1.00	13	0.42	33	0.88		
Sanpete	--	--	--	0.57	14	0.57	38	1.65	--	--		
Tooele	14	0.50	0.61*	0.23	7	0.23	--	--	--	--		
Utah	--	--	--	--	--	--	--	--	--	--		
Wasatch	--	--	--	--	--	--	50	2.00	--	--		
REGIONAL TOTALS	14	0.50	0.60*	0.76	14	0.76	30	1.14	33	0.88		
SOUTHERN REGION												
Beaver	--	--	--	--	--	--	--	--	--	--		
Garfield	--	138	6.11	3.14	100	1.00	--	--	--	--		
Iron	--	--	--	--	--	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--		
Millard	--	--	--	--	--	--	57	1.33	--	--		
Piute	--	--	--	--	--	--	--	--	--	--		
Sevier	--	--	--	--	--	--	--	--	--	--		
Washington	--	--	--	--	--	--	--	--	--	--		
Wayne	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	--	138	6.11	3.14	63	1.25	--	--	--	--		
Northeastern Region												
Daggett	--	36	0.40	2.59	54	1.70	180	7.62				
Duchesne	94	4.43	1.05	4.03	66	2.68	89	3.42				
Uintah	55	4.10	1.68	6.24	138	4.83	189	4.13				
REGIONAL TOTALS	78	4.33	1.39	4.60	68	2.49	162	6.10				
Southeastern Region												
Carbon	80	1.47	2.35	2.00	40	2.19	289	4.50				
Emery	127	1.00	0.50	2.19	8	0.30	26	1.40				
Grand	--	--	--	1.39	11	0.29	22	0.60				
San Juan	73	1.95	2.00	2.00	63	0.93	160	--				
REGIONAL TOTALS	77	1.61	1.15	1.86	45	1.44	56	1.04				
STATE TOTALS	77	2.15	1.91	2.85	49	1.82	108	3.88				

*Cottontails per hunter based on all hunts.

SNOWSHOE HARE

Harvest

During 1978, the fourth annual snowshoe hare hunting season was held statewide. Results of the 1978 hunter questionnaire are found in Table 11. Trends of snowshoe hares bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) are found in Tables 12-14. The 1978 season compared to the season in 1977 and the average of the first three hunts as follows:

	<u>1978</u>	<u>Percent change from</u>	
		<u>1977</u>	<u>Average</u>
Snowshoe hare hunters	8,205	-16	+ 2
Snowshoe hares harvested	34,535	+63	+112
Hunter-days afield	30,155	+14	+ 36
Snowshoes per hunter-day	1.15	+44	+ 60
Snowshoes per hunter	4.21	+93	+109

Significant misidentification of whitetail jackrabbits as snowshoe hares was anticipated prior to mailing the harvest questionnaire following the first season in 1975. This proved to be the case as a significant harvest of snowshoe hares was reported for Box Elder and Tooele counties; outside the known range of the species. It was assumed that the problem was statewide, not just confined to those counties.

The 1976 harvest questionnaire was modified in an attempt to better inform respondents concerning the potential for misidentification and aid them in distinguishing between these two varying hares. Comparative reported harvests in Box Elder and Tooele counties between 1975 and 1976 suggest that this was accomplished, at least to a significant degree, but the still relatively large harvest suggests continued substantial confusion. Further refinement was made in the 1977 harvest questionnaire in an effort to more clearly define the snowshoe hare harvest, however, some confusion still existed especially among hunters hunting in Box Elder County.

In 1978, a leaflet containing pictures and descriptions of the different species of hares found in Utah, was mailed with the questionnaire. As a result of the identification leaflet, it is assumed that the data is more accurate. The estimated number of hunters decreased slightly in comparison to 1976 and 1977 but the number of hunter-days afield increased substantially. The indicated total harvest was also the highest recorded. Nevertheless, an unknown, proportion of the indicated harvest were actually whitetail jackrabbits, which were incorrectly identified by the hunters.

Table 11. Summary of snowshoe hare hunter success and distribution of harvest and hunting pressure by region and county, 1978.

Region and County	Sample Size*	Hunter-days Afield	Snowshoes Bagged	Snowshoes/Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	26	2,190	976	0.45	7.26	2.83
Cache	32	2,559	1,662	0.65	8.49	4.81
Davis	2	818	185	0.23	2.71	0.54
Morgan	30	4,327	3,614	0.84	14.35	10.47
Rich	21	1,082	3,271	3.02	3.59	9.47
Summit	59	3,984	6,569	1.65	13.21	19.02
Weber	16	765	580	0.76	2.54	1.68
REGIONAL TOTALS	186	15,724	16,859	1.07	52.14	48.82
<u>Central Region</u>						
Juab	4	106	132	1.25	0.35	0.38
Salt Lake	12	791	4,960	6.27	2.62	14.36
Sanpete	5	132	185	1.40	0.44	0.54
Tooele	6	396	712	1.80	1.31	2.06
Utah	35	2,216	1,108	0.50	7.35	3.21
Wasatch	30	2,190	1,477	0.67	7.26	4.28
REGIONAL TOTALS	92	5,830	8,574	1.47	19.34	24.83
<u>Southern Region</u>						
Beaver	2	79	211	2.67	0.26	0.61
Garfield	2	844	106	0.13	2.80	0.31
Iron	1	26	686	26.00	0.09	1.99
Kane	0	0	0	0.00	0.00	0.00
Millard	2	132	422	3.20	0.44	1.22
Piute	0	0	0	0.00	0.00	0.00
Sevier	20	2,058	1,715	0.83	6.82	4.97
Washington	1	26	26	1.00	0.09	0.08
Wayne	4	976	660	0.68	3.24	1.91
REGIONAL TOTALS	32	4,142	3,826	0.92	13.74	11.08
<u>Northeastern Region</u>						
Daggett	9	1,055	765	0.72	3.50	2.22
Duchesne	11	923	1,161	1.26	3.06	3.36
Uintah	11	660	633	0.96	2.19	1.83
REGIONAL TOTALS	31	2,638	2,559	0.97	8.75	7.41
<u>Southwestern Region</u>						
Carbon	13	950	950	1.00	3.15	2.75
Emery	12	633	1,029	1.62	2.10	2.98
Grand	4	132	660	5.00	0.44	1.91
San Juan	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	29	1,715	2,638	1.54	5.69	7.64
Unknown counties	1	79	53	0.67	0.26	0.15
Fixed counties	1	26	26	1.00	0.09	0.08
STATE TOTALS	372	30,155	34,535	1.15	100	100

*Total hunter-trips from questionnaire returns.

Table 12. Summary of snowshoe hares bagged per hunter-day by region and county, 1975-78.

Region and County	1975	1976	1977	1978
<u>Northern Region</u>				
Box Elder	0.79	0.43	0.78	0.45
Cache	0.49	0.82	0.70	0.65
Davis	0.07	0.40	1.00	0.23
Morgan	0.67	0.72	0.87	0.84
Rich	1.21	0.86	0.62	3.02
Summit	0.34	1.16	1.06	1.65
Weber	0.40	0.88	0.67	0.76
REGIONAL TOTALS	0.57	0.87	0.83	1.07
<u>Central Region</u>				
Juab	0.50	0.50	0.00	1.25
Salt Lake	0.85	1.25	1.69	6.27
Sanpete	0.39	0.29	0.95	1.40
Tooele	0.80	0.40	0.33	1.80
Utah	0.47	0.71	0.67	0.50
Wasatch	0.67	0.62	0.83	0.67
REGIONAL TOTALS	0.60	0.63	0.82	1.47
<u>Southern Region</u>				
Beaver	0.50	0.75	1.00	2.67
Garfield	0.00	0.33	0.00	0.13
Iron	1.00	0.00	0.00	26.00
Kane	0.00	0.00	0.00	0.00
Millard	0.00	0.00	0.50	3.20
Piute	1.00	0.00	1.00	0.00
Sevier	0.47	0.63	0.34	0.83
Washington	0.00	0.00	2.00	1.00
Wayne	1.25	1.27	2.44	0.68
REGIONAL TOTALS	0.47	0.84	0.86	0.92
<u>Northeastern Region</u>				
Daggett	1.37	0.00	2.00	0.72
Duchesne	0.69	0.51	0.74	1.26
Uintah	0.91	0.69	0.59	0.96
REGIONAL TOTALS	0.91	0.56	0.71	0.97
<u>Southeastern Region</u>				
Carbon	0.81	0.94	0.60	1.00
Emery	0.33	0.61	0.44	1.62
Grand	0.00	1.00	0.00	5.00
San Juan	0.00	1.90	0.00	0.00
REGIONAL TOTALS	0.71	1.00	0.53	1.54
Unknown counties	--	1.00	1.17	0.67
Mixed counties	--	0.40	0.76	1.00
STATE TOTALS	0.61	0.76	0.80	1.15

Table 13. Percentage distribution of showshoe hare harvested by region and county, 1975-78.

Region and County	1975	1976	1977	1978
<u>Northern Region</u>				
Box Elder	15.38	2.25	5.14	2.83
Cache	9.18	10.03	5.99	4.81
Davis	0.25	0.35	0.86	0.54
Morgan	2.98	7.44	9.84	10.47
Rich	8.44	4.33	4.42	9.47
Summit	6.70	20.59	15.55	19.02
Weber	3.97	2.60	3.99	1.68
REGIONAL TOTALS	46.90	47.58	45.79	48.82
<u>Central Region</u>				
Juab	0.25	1.21	0.00	0.38
Salt Lake	2.73	1.73	3.85	14.36
Sanpete	2.98	1.04	5.99	0.54
Tooele	8.68	0.35	0.57	2.06
Utah	6.45	10.03	4.14	3.21
Wasatch	4.47	6.92	7.56	4.28
REGIONAL TOTALS	25.56	21.28	22.11	24.83
<u>Southern Region</u>				
Beaver	1.07	1.04	0.14	0.61
Garfield	0.40	0.17	0.00	0.31
Iron	0.27	0.00	0.00	1.99
Kane	0.00	0.00	0.00	0.00
Millard	0.13	0.00	0.14	1.22
Piute	0.00	0.00	0.14	0.00
Sevier	1.07	0.87	1.43	4.97
Washington	0.00	0.00	0.29	0.08
Wayne	2.00	3.29	3.14	1.91
REGIONAL TOTALS	4.93	5.36	5.28	11.08
<u>Northeastern Region</u>				
Daggett	0.67	0.00	0.86	2.22
Duchesne	8.12	5.36	5.71	3.36
Uintah	6.79	6.06	3.71	1.83
REGIONAL TOTALS	15.58	11.42	10.27	7.41
<u>Southeastern Region</u>				
Carbon	4.53	5.54	3.42	2.75
Emery	2.40	1.90	1.00	2.98
Grand	0.27	0.35	0.00	1.91
San Juan	1.33	3.29	0.00	0.00
REGIONAL TOTALS	8.52	11.07	4.42	7.64
Unknown counties	--	0.35	3.99	0.15
Mixed counties	--	1.04	8.13	0.08
STATE TOTALS	100	100	100	100

Table 14. Percentage distribution of snowshoe hare hunting pressure by region and county, 1975-78.

Region and County	1975	1976	1977	1978
Northern Region				
Box Elder	11.82	3.99	5.26	7.26
Cache	11.36	9.45	6.85	8.49
Davis	2.27	0.67	0.68	2.71
Morgan	2.73	7.99	9.02	14.35
Rich	4.24	3.86	5.71	3.59
Summit	11.97	13.72	11.76	13.21
Weber	6.06	2.26	4.79	2.54
REGIONAL TOTALS	50.45	41.94	44.06	52.14
Central Region				
Juab	0.30	1.86	1.03	0.35
Salt Lake	1.97	1.07	1.83	2.62
Sanpete	4.07	2.80	5.02	0.44
Tooele	6.67	0.67	1.37	1.31
Utah	8.33	10.92	4.91	7.35
Wasatch	4.09	8.66	7.31	7.26
REGIONAL TOTALS	26.06	25.97	21.46	19.34
Southern Region				
Beaver	0.30	1.07	0.11	0.26
Garfield	1.21	0.40	0.00	2.80
Iron	0.15	0.27	0.00	0.09
Kane	0.00	0.00	0.00	0.00
Millard	0.13	0.13	0.23	0.44
Piute	0.15	0.00	0.11	0.00
Sevier	2.88	1.07	3.31	6.82
Washington	0.15	0.00	0.11	0.09
Wayne	0.61	2.00	1.03	3.24
REGIONAL TOTALS	5.45	4.93	4.91	13.74
Northeastern Region				
Daggett	1.21	0.67	0.34	3.50
Duchesne	2.42	8.12	6.16	3.06
Uintah	3.48	6.79	5.02	2.19
REGIONAL TOTALS	7.12	15.58	11.53	8.75
Southeastern Region				
Carbon	8.64	4.53	4.57	3.15
Emery	2.27	2.40	1.83	2.10
Grand	0.00	0.27	0.34	0.44
San Juan	0.00	1.33	0.00	0.00
REGIONAL TOTALS	10.91	18.52	6.74	5.69
Unknown counties	--	0.27	2.74	0.26
Mixed counties	--	2.00	8.56	0.09
STATE TOTALS	100	100	100	100

Table 15. Statewide summary of snowshoe hare harvest statistics, 1975-78.

Year	Total Hunters	Total Harvest	Hunter Days Afield	Hares Per Hunter-day	Hares* Per Hunter
1975	5,961	12,072	19,770	0.61	2.03
1976	8,502	15,500	20,367	0.76	1.82
1977	9,752	21,232	26,535	0.80	2.18
1978	8,205	34,535	30,155	1.15	4.21
TOTALS (1975-78)	32,420	83,339	96,827	0.86	2.57
AVERAGES (1975-77)	8,072	16,268	22,224	0.72	2.01

*Based on county of residence.

APPENDIX

Table 1. Comparison of 1978 monthly average temperatures to the normal for each weather division and statewide.

Weather Division	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
No. 1 WESTERN												
Normal	25.9	31.8	38.0	47.2	56.4	64.4	74.0	72.0	62.4	50.6	37.2	28.6
1978	33.4	36.8	45.6	47.6	54.4	65.8	73.9	70.1	60.2	52.9	35.4	23.9
Departure (degrees)	+7.5	+5.0	+7.6	+0.4	-2.0	+1.4	-0.1	-1.9	-2.2	+2.3	-1.8	-4.7
No. 2 DIXIE												
Normal	39.0	44.1	49.2	57.6	66.5	75.2	82.6	80.6	73.7	62.5	48.4	40.2
1978	42.2	45.1	52.8	54.3	63.7	75.8	81.6	79.1	70.1	65.4	46.8	35.1
Departure (degrees)	+3.2	+1.0	+3.6	-3.3	-2.8	+0.6	-1.0	-1.5	-3.6	+2.9	-1.6	-5.1
No. 3 NORTH CENTRAL												
Normal	26.7	31.9	38.5	48.3	57.5	65.0	74.6	72.7	63.5	51.7	38.5	29.7
1978	32.5	35.9	44.9	47.9	54.0	65.8	74.3	70.0	60.4	53.1	34.9	23.7
Departure (degrees)	+5.8	+4.0	+6.4	-0.4	-3.5	+0.8	-0.3	-2.7	-3.1	+1.4	-3.6	-6.0
No. 4 SOUTH CENTRAL												
Normal	26.9	31.3	36.9	45.6	54.4	62.3	70.0	68.1	60.5	50.0	37.6	29.3
1978	29.8	32.3	42.6	45.4	51.6	63.4	70.2	67.0	58.6	52.8	35.9	23.4
Departure (degrees)	+2.9	+1.0	+5.7	-0.2	-2.8	+1.1	+0.2	-1.1	-1.9	+2.8	-1.7	-5.9
No. 5 NORTHERN MOUNTAINS												
Normal	20.9	24.3	30.2	40.8	49.9	56.8	65.1	63.2	55.0	45.0	32.3	24.2
1978	24.3	26.4	36.1	42.2	47.9	58.5	66.1	62.1	54.2	47.5	29.5	17.1
Departure (degrees)	+3.4	+2.1	+5.9	+1.4	-2.0	+1.7	+1.0	-1.1	-0.8	+2.5	-2.8	-7.1
No. 6 UINTAH BASIN												
Normal	16.8	23.9	35.0	46.7	56.4	63.8	71.5	69.2	60.4	48.7	34.1	22.1
1978	21.2	22.6	40.1	47.9	54.0	65.7	72.3	68.7	59.8	50.4	28.7	9.0
Departure (degrees)	+4.4	-1.3	+5.1	+1.2	-2.4	+1.9	+0.8	-0.5	-0.6	+1.7	-5.4	-13.1
No. 7 SOUTHEAST												
Normal	27.3	33.6	40.6	50.6	60.1	68.7	76.1	73.7	65.6	53.7	39.3	29.8
1978	30.3	33.8	46.2	51.8	58.0	71.1	77.2	74.2	65.5	57.2	41.7	21.9
Departure (degrees)	+3.0	+0.2	+5.6	+1.2	-2.1	+2.4	+1.1	+0.5	-0.1	+3.5	+2.4	-7.9
STATE AVERAGES												
Normal	26.2	31.6	38.3	48.1	57.3	65.2	73.4	71.4	63.0	51.7	38.2	29.1
1978	30.5	33.3	44.0	48.2	54.8	66.6	73.7	70.2	61.3	54.2	36.1	22.0
Departure (degrees)	+4.3	+1.7	+5.7	+0.1	-2.5	+1.4	+0.3	-1.2	-1.7	+2.5	-2.1	-7.1

Table 2. Comparison of 1978 monthly average precipitation to the normal for each weather division and statewide.

Weather Division	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
No. 1 WESTERN												
Normal	0.60	0.59	0.75	0.87	0.84	0.82	0.61	0.76	0.50	0.76	0.69	0.70
1978	1.00	1.13	1.69	1.57	0.73	0.07	0.23	0.55	1.35	0.18	1.48	0.46
Departure (inches)	+0.40	+0.54	+0.94	+0.70	-0.11	-0.75	-0.38	-0.21	+0.85	-0.58	+0.79	-0.24
No. 2 DIXIE												
Normal	1.15	1.21	1.30	0.91	0.53	0.38	0.89	0.95	0.67	0.88	0.91	1.17
1978	3.66	2.38	5.66	2.34	0.68	0.00	0.50	0.26	1.04	0.60	2.92	1.75
Departure (inches)	+2.51	+1.17	+4.36	+1.43	+0.15	-0.38	-0.39	-0.69	+0.37	-0.28	+2.01	+0.58
No. 3 NORTH CENTRAL												
Normal	1.47	1.32	1.62	1.96	1.67	1.50	0.59	0.94	0.85	1.36	1.49	1.56
1978	2.27	2.31	3.32	3.33	1.13	0.11	0.11	1.18	2.45	0.03	2.37	1.39
Departure (inches)	+0.80	+0.99	+1.70	+1.37	-0.54	-1.39	-0.48	+0.24	+1.60	-1.33	+0.88	-0.17
No. 4 SOUTH CENTRAL												
Normal	1.03	0.98	1.18	1.13	0.88	0.76	0.96	1.39	0.88	1.03	0.93	1.08
1978	2.10	1.86	2.65	1.57	0.88	0.04	0.36	0.45	1.54	0.68	3.45	1.48
Departure (inches)	+1.07	+0.88	+1.47	+0.44	0.00	-0.72	-0.60	-0.94	+0.66	-0.35	+2.52	+0.40
No. 5 NORTHERN MOUNTAINS												
Normal	2.19	1.89	2.05	1.86	1.52	1.52	0.86	1.34	1.05	1.57	1.82	2.24
1978	2.06	2.15	3.02	3.35	1.01	0.43	0.11	1.29	2.07	0.11	2.61	1.65
Departure (inches)	-0.13	+0.26	+0.97	+1.49	-0.51	-1.09	-0.75	-0.05	+1.02	-1.46	+0.79	-0.59
No. 6 UINTAH BASIN												
Normal	0.51	0.43	0.50	0.68	0.68	0.90	0.62	0.87	0.72	0.94	0.51	0.69
1978	1.27	0.40	1.31	1.36	0.70	0.24	0.19	0.98	0.37	0.30	1.59	0.82
Departure (inches)	+0.76	-0.03	+0.81	+0.68	+0.02	-0.66	-0.43	+0.11	-0.35	-0.64	+1.08	+0.13
No. 7 SOUTHEAST												
Normal	0.61	0.56	0.60	0.68	0.59	0.56	0.74	1.23	0.77	1.07	0.61	0.73
1978	2.09	1.23	1.47	1.02	0.69	0.06	0.34	0.20	0.38	0.83	2.37	2.00
Departure (inches)	+1.48	+0.67	+0.87	+0.34	+0.10	-0.50	-0.40	-1.03	-0.39	-0.24	+1.76	+1.27
STATE AVERAGES												
Normal	1.08	1.00	1.14	1.16	0.96	0.92	0.75	1.07	0.78	1.09	0.99	1.17
1978	2.06	1.64	2.73	1.16	0.96	0.14	0.26	0.70	1.31	0.39	2.40	1.36
Departure (inches)	+0.98	+0.64	+1.59	0.00	0.00	-0.78	-0.49	-0.37	+0.53	-0.70	+1.41	+0.19

Table 3. Number and percent of total upland game hunters afield who reported hunting each game species during 1973-78.

Species	No. of Hunters							Percent of Total						
	1973	1974	1975	1976	1977	1978	1973	1974	1975	1976	1977	1978		
Pheasant	75,968	85,252	77,566	74,029	67,195	83,800	82.5	85.6	79.3	81.1	75.0	79.6		
Chukars	13,888	16,412	16,156	14,171	12,691	16,291	15.1	16.5	16.5	15.5	14.2	15.5		
Mourning Doves	27,435	34,021	37,378	31,293	26,905	35,985	29.8	34.2	38.2	34.3	30.0	34.2		
Sage Grouse	10,017	12,214	13,996	15,283	14,078	16,231	10.9	12.3	14.3	16.8	15.7	15.4		
Forest Grouse	17,588	21,290	20,102	21,186	19,188	25,318	19.1	22.0	20.6	23.2	21.4	24.0		
Quail	5,654	6,097	6,397	5,215	4,446	5,924	6.1	6.1	6.5	5.7	5.0	5.6		
Hungarian Partridge	3,566	4,103	3,409	3,517	3,557	4,743	3.9	4.1	3.5	38.6	4.0	4.5		
Wild turkey**	135	138*	143*	130*	152*	189*	0.1	0.1	0.1	0.1	0.2	0.2		
Cottontail**	20,109	22,737	24,803	28,239	35,831	35,590	21.8	22.8	25.4	31.0	40.0	33.8		
Snowshoe hare**	--	--	5,961	8,502	9,752	8,205			6.1	9.3	10.9	7.8		
TOTAL HUNTERS	92,098	99,556	97,808	91,226	89,593	105,288								

*Includes both spring and fall hunts.

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

Table 4. Percent of hunter trips resulting in failure to bag at least one bird, 1961-78.

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	3,204	22	51	583	9	318	539	59	--	--	109	383	28	72	123	59
1962	500	2,685	19	39	456	9	147	362	41	--	--	62	201	31	36	108	33
1963	795	3,317	24	53	691	8	248	550	45	220	468	71	305	23	59	177	33
1964	911	3,115	29	60	681	9	266	568	47	45	154	94	316	30	62	150	41
1965	1,165	4,009	29	--	--	--	486	851	57	82	168	128	371	34	93	233	40
1966	1,242	4,297	29	136	1,067	13	423	881	48	54	131	106	315	34	63	219	29
1967	1,353	4,833	28	153	1,319	12	477	915	52	138	266	161	424	38	116	315	37
1968	1,422	5,223	27	236	1,312	18	495	1,095	45	185	449	171	457	37	132	347	38
1969	1,897	5,335	36	214	1,568	14	647	1,250	52	241	648	182	465	39	148	292	51
1970	1,546	4,686	33	193	1,274	15	466	962	48	257	603	126	314	40	101	210	48
1971	1,783	5,049	35	210	1,333	16	464	934	50	234	625	162	385	42	87	210	41
1972	1,743	4,617	38	270	1,421	19	457	827	55	259	593	154	339	45	120	224	54
1973	1,659	4,699	35	209	1,596	13	414	824	50	226	553	128	311	41	97	196	49
1974	2,347	5,323	44	323	1,951	17	511	955	54	292	668	157	333	47	108	227	48
1975	2,472	5,604	44	329	2,554	13	607	1,105	55	374	901	177	406	44	121	220	55
1976	1,739	4,294	40	273	1,709	16	408	781	52	259	783	105	266	39	87	184	47
1977	1,874	5,175	36	295	1,967	15	511	943	54	397	972	125	299	42	106	247	43
1978	1,507	4,858	31	279	1,986	14	343	882	39	301	853	103	306	34	85	246	35

AVERAGES
(1961-77)

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Table 5. Regional and statewide summary of effort expended on upland game summer inventory, 1971-78.

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				
<u>Pheasant</u>																
1971	507	--	878	--	796	--	588	--	346	--	3,115	--	--	3,115	--	--
1972	469	--	963	--	752	--	535	--	297	--	3,016	--	--	3,016	--	--
1973	322	--	691	--	740	--	488	--	320	--	2,561	--	--	2,561	--	--
1974	479	--	819	--	848	--	508	--	317	--	2,971	--	--	2,971	--	--
1975	490	--	846	--	993	--	515	--	393	--	3,237	--	--	3,237	--	--
1976	476	--	822	--	773	--	434	--	400	--	2,905	--	--	2,905	--	--
1977	484	--	731	--	790	--	554	--	343	--	2,902	--	--	2,902	--	--
1978	479	--	642	--	654	--	512	--	588	--	2,875	--	--	2,875	--	--
<u>Quail</u>																
1971	192	24	289	40	344	28	587	49	140	13	1,652	13	154	1,652	154	154
1972	46	9	342	30	575	39	870	63	120	8	1,953	8	149	1,953	149	149
1973	80	10	264	35	32	8	538	38	25	17	939	17	108	939	108	108
1974	24	4	43	27	853	66	227	28	214	21	1,361	21	146	1,361	146	146
1975	27	8	107	23	841	64	594	43	230	12	1,799	12	150	1,799	150	150
1976	81	10	206	29	503	62	597	44	75	10	1,462	10	155	1,462	155	155
1977	22	4	351	39	445	42	341	26	60	16	1,219	16	127	1,219	127	127
1978	--	--	239	18	563	61	541	46	88	17	1,431	17	142	1,431	142	142
<u>Chukar</u>																
1971	182	82	929	130	1,103	100	636	50	496	105	3,346	105	468	3,346	468	468
1972	712	91	1,423	131	950	37	1,012	69	984	58	5,081	58	386	5,081	386	386
1973	1,063	119	1,494	167	72	10	705	48	702	68	4,036	68	363	4,036	363	363
1974	125	31	1,591	107	564	43	440	30	1,115	67	3,835	67	278	3,835	278	278
1975	188	30	808	85	892	41	908	88	786	55	3,582	55	299	3,582	299	299
1976	875	75	964	110	465	32	727	67	687	66	3,718	66	350	3,718	350	350
1977	405	50	1,198	120	601	37	600	71	429	44	3,233	44	322	3,233	322	322
1978	359	28	459	42	135	14	315	23	536	52	1,804	52	159	1,804	159	159
<u>Forest Grouse</u>																
1971	1,201	240	785	173	796	249	794	77	440	89	4,016	89	828	4,016	828	828
1972	1,370	212	804	103	214	260	1,346	140	351	82	4,085	82	797	4,085	797	797
1973	627	127	917	105	296	429	949	147	761	72	3,550	72	880	3,550	880	880
1974	967	152	924	157	157	461	1,090	99	1,574	133	4,712	133	1,002	4,712	1,002	1,002
1975	1,194	199	1,287	160	775	629	1,474	136	1,476	135	6,206	135	1,259	6,206	1,259	1,259
1976	1,516	351	1,503	216	427	271	1,108	140	1,127	134	5,681	134	1,112	5,681	1,112	1,112
1977	737	132	1,317	162	610	286	1,040	135	1,079	128	4,783	128	843	4,783	843	843
1978	1,300	297	1,171	129	432	219	1,083	147	626	114	4,612	114	906	4,612	906	906

Table 5. 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	Miles	Hours
<u>Sage Grouse</u>														
1971	1,743	296	909	145	1,423	98	144	1,465	144	1,089	128	6,629	812	
1972	1,628	323	1,187	143	751	144	170	2,125	170	1,280	141	6,971	921	
1973	3,146	353	927	147	1,171	116	238	1,952	238	496	41	7,692	895	
1974	2,026	321	1,551	115	1,881	193	248	2,964	248	887	124	9,299	1,001	
1975	1,254	249	963	123	714	226	236	1,868	236	1,098	131	5,897	965	
1976	1,965	281	426	121	379	183	227	1,881	227	1,222	161	5,873	973	
1977	1,966	305	1,370	133	465	157	215	1,995	215	928	116	6,724	926	
1978	1,408	267	541	124	490	152	226	1,616	226	879	97	4,934	866	
<u>Hungarian Partridge</u>														
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	
1974	1,035	176	14	2	--	--	--	--	--	--	--	1,049	178	
1975	344	64	0	0	--	--	--	--	--	--	--	344	64	
1976	940	83	113	21	--	--	--	--	--	--	--	1,053	104	
1977	1,145	156	125	5	--	--	--	--	--	--	--	1,270	161	
1978	1,065	90	197	17	--	--	--	--	--	--	--	1,262	107	
<u>Wild Turkey</u>														
1971	--	--	--	--	726	73	--	--	--	215	28	941	101	
1972	--	--	--	--	73	62	--	--	--	290	54	363	116	
1973	--	--	--	--	143	11	--	--	--	--	--	143	11	
1974	--	--	--	--	0	0	--	--	--	799	64	799	64	
1975	--	--	--	--	215	18	--	--	--	792	100	1,007	118	
1976	--	--	--	--	125	16	--	--	--	362	45	487	61	
1977	--	--	--	--	193	29	--	--	--	421	58	614	87	
1978	--	--	--	--	--	--	--	--	--	204	55	204	55	
<u>Cottontail</u>														
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	--	
1974	270	--	180	--	1,040	--	--	370	--	542	--	2,402	--	
1975	330	--	231	--	1,237	--	--	340	--	712	--	2,850	--	
1976	510	--	260	--	1,372	--	--	300	--	626	--	3,068	--	
1977	360	--	262	--	1,329	--	--	400	--	556	--	2,907	--	
1978	382	--	264	--	1,038	--	--	300	--	761	--	2,745	--	

Table 6. Season framework for upland game during 1978.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Pheasant	Nov. 4-12	2 cocks	4 cocks	Statewide except Daggett, Duchesne and Uintah counties.
	Nov. 4-17	2 cocks	4 cocks	Daggett, Duchesne and Uintah counties.
	Nov. 4 - Dec. 3	2 cocks	4 cocks	All state and federal lands subject to restrictions and closures imposed by administering agencies, except those in Beaver, Carbon, Emery, Garfield, Grand, Iron, Kane, Millard, Piute, Sevier, San Juan and Wayne counties.
Mourning dove	Sept. 1-30	10	20	Statewide.
Band-tailed pigeon	Sept. 1-30	5	10	Grand, San Juan, Beaver, Garfield, Iron, Kane, Millard, Piute, Sevier, Washington and Wayne counties.
Chukar	Sept. 17, 1978 - Jan. 15, 1979	5	10	Statewide except Cache, Davis, Morgan, Rich, Summit and Weber counties.
	Sept. 16 - Nov. 30	5	10	Cache, Davis, Morgan, Rich, Summit and Weber counties.
Sage grouse	Sept. 16-22	3	6	Beaver, Garfield, Grand (part), Iron, Kane, Millard, Piute, Sevier, Uintah (part) and Wayne counties.
	Sept. 16-22	2	4	Carbon, Daggett, Duchesne, Emery, Grand (part), San Juan, Sanpete (part), Uintah (part), Utah (part), Wasatch (part) and Box Elder (part).
	Sept. 16-22	1	2	Box Elder (part), Cache, Davis, Morgan, Rich, Summit, Wasatch (part) and Weber counties.
	Sept. 16-17	1	2	Wasatch County (part).

Table 6. Continued.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
	The following counties were closed to sage grouse hunting during 1978:			Salt Lake, Sanpete (part), Washington, Utah (part), Juab and Tooele.
Forest grouse	Sept. 16- Nov. 30	4 aggregate	8 aggregate	Statewide.
Quail	Nov. 4-12	5	10	Statewide except Daggett, Duchesne, Grand, Uintah and Washington counties.
	Nov. 4-17	5	10	Daggett, Duchesne and Uintah counties.
	Nov. 4, 1978 - Jan. 1, 1979	8	16	Washington County.
Hungarian partridge	Sept. 16, 1978 - Jan. 15, 1979	5	10	Statewide except Cache, Davis Morgan, Rich, Summit and Weber counties.
	Sept. 16 - Nov. 30	5	10	Cache, Davis, Morgan, Rich, Summit and Weber counties.
Wild turkeys	April 29 - Spring hunt May 14	Season limit 1 male turkey		Beaver, Garfield, Grand, Iron, Kane, Piute, San Juan, Sevier, Washington (part) and Wayne counties.
Fall hunt	Sept. 16 - Oct. 8	Season limit 1 turkey of either sex		Garfield, Grand, Iron, Kane, San Juan, Washington and Wayne counties.
Snowshoe hare	Sept. 16, 1978 - Jan 31, 1979	5	10	Statewide.
Cottontail rabbit	Sept. 16, 1978 - Jan. 31, 1979	10	20	Statewide except Box Elder, Cache, Davis, Morgan, Rich, Summit and Weber counties.

Table 6. Continued.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
	Sept. 16, 1978 - Jan. 31, 1979	5	10	Box Elder, Cache, Davis, Morgan, Rich, Summit and Weber counties.

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