

UTAH UPLAND GAME
Annual Report
1984



Clark Oshersgaard '80

Utah Department of Natural Resources
Division of Wildlife Resources
85-9

U T A H
U P L A N D G A M E

Annual Report

1984

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Utah Department of Natural Resources

DIVISION OF WILDLIFE RESOURCES

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William H. Geer
Director

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JOB PERFORMANCE REPORT
RESEARCH PROJECT SEGMENT
(Inventory)

State: U T A H Project Title: Statewide Wildlife
Management Inventory
Project No.: W-65-R-33 Job Title: Statewide Upland Game
Inventory and Management
Job No.: A-4

Period Covered: December 15, 1983 to April 30, 1985

Abstract: This report includes upland game inventory and harvest data relating to the 1984-85 hunting seasons. Results of annual inventory and harvest surveys and long-term trends of indices derived by each method are included. Data obtained in 1984 are compared to 1983 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, 1983 through February 10, 1984, as snow cover conditions allowed. Indices derived include hen-cock ratios and pheasants observed per 100 hours. Annual summer roadside counts (three or more per route) were conducted from July 23-August 18 on permanently established routes. Indices derived include pheasants per mile, young per mile, young per hen, mean brood and percent of hens with young.

Mourning dove breeding population trend was determined via the annual call count survey. This survey is part of a nationwide 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, sharp-tailed grouse, wild turkey and quail from June 15-August 26. Indices derived for each species include mean brood size, young per 100 adults and birds observed per 100 hours of effort.

Sage grouse strutting ground counts and sharp-tailed grouse dancing ground counts were conducted from March 15-May 15. Total cocks counted, average cocks per ground and percent change from 1983 for comparable grounds were determined on a county basis.

The Gambel's quail call count route in Washington County was discontinued in 1980. Long period waterhole counts were completed in July and August.

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

Harvest questionnaires were used to determine the harvest of upland game birds, cottontail rabbit, snowshoe hare, and wild turkey. A 9 percent sample of eligible licensees from the current year's (1984) resident small game license file and 1983 combination license file was selected for the game bird and rabbit and hare questionnaire. Separate questionnaires were mailed to all ptarmigan and wild turkey permittees. Indices derived include total hunters, hunter-days, total harvest and hunter success per day plus success for each season.

The upland game questionnaires were analyzed by the Division of Wildlife Resources information systems services subsection. Due to accumulated rounding errors associated with transferring data from the printout, some totals (columns and percentages) may not total exactly.

Beginning in 1978, 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 ptarmigan questionnaires were analyzed separated by Game Management personnel.

Field bag checks of upland game hunters were made primarily at checking stations, with additional random field checks made during each hunting season. Indices 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.

In 1984 a computerized pull apart mailer was again used to obtain harvest data. Data input and storage was entered on tape instead of cards. This method was initiated in 1981, and was found to be very satisfactory.

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 fourteenth edition of this annual Upland Game Report. It is an annual performance report of 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 species of upland game hunted in Utah. Data are 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 1984, a total of 88,431 Utah sportsmen spent 532,484 days afield in pursuit of various upland game species (Table 1). The harvest of upland game totaled 611,404 animals. 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 regulations for 1984 upland game hunting seasons are shown in Appendix Table 6.



Table 1. Summary of harvest statistics from the mail questionnaire for 1984.

Species	Hunters Afield	Total Harvest	Hunter Days	Bag per Hunter-day	Bag/Hunter For Season
Pheasant	76,840	192,190	258,169	0.74	2.50
Mourning dove	30,573	282,307	108,793	2.59	9.23
Chukar partridge	9,846	20,179	30,715	0.66	2.05
Sage grouse	8,283	10,421	15,266	0.72	1.32
Forest grouse	11,511	20,396	27,244	0.75	1.77
Quail	3,654	8,303	9,805	0.85	2.27
Hungarian partridge	1,523	1,360	3,309	0.41	0.89
Wild turkey					
spring	169	43	482	0.09	0.25
fall	86	28	193	0.14	0.33
Band-tailed pigeon	--	--	--	--	--
Sharp-tailed grouse	0	0	0	--	--
Ptarmigan	20	36	25	1.44	1.80
Cottontail	18,616	69,186	67,643	1.02	3.72
Snowshoe	3,796	6,455	10,840	0.60	1.70
TOTAL	--	611,404	532,484	--	--

Total hunters afield for all species of upland game = 88,431

HARVEST QUESTIONNAIRE

Harvest statistics were obtained from a random sample of licensed hunters by their response to a hunter questionnaire. The combined upland game bird and rabbit-hare questionnaire was again used.

A total of 12,026 upland game bird questionnaires, a 9.4 percent sample, were mailed. Of the total, 742 (6.2%) questionnaires were undeliverable. Of the 11,284 questionnaires delivered, 6,324 (56.0%) usable upland game questionnaires were returned. Of those, 1,968 purchased a license but did not hunt upland game. By dividing the total of 128,384 eligible licensees by the usable returns (6,324), a projection factor of 20.301075 is derived.

The 1984 hunter questionnaire sample size was decreased from 1983, however, a followup questionnaire was sent to those who failed to return their first one. This resulted in a 56 percent rate of return for usable questionnaires. A high rate of return is desirable in order to obtain an adequate sample of harvest estimates in counties where hunting pressure and harvest are limited. Extremely small samples from these counties tend to over-estimate the harvest and thus bias the results. Although harvest, number of hunters and days-afield may be over-estimated where small samples are obtained, harvest per hunter-day should be relatively precise.

The upland game questionnaire is designed to monitor statewide harvest trend from year to year. The more extensively a species is hunted, the more accurately the questionnaire measures the trend data. In an effort to improve the accuracy of indices for species which receive very little hunting pressure and harvest, and which have low densities and limited distribution, a unique questionnaire for that species is mailed to the permit holder. This method has been used for wild turkey, band-tailed pigeon, sharp-tailed grouse and white-tailed ptarmigan.

The annual harvest report is sometimes criticized for being inaccurate and without value. However, report users must recognize that the accuracy of the questionnaire is based on some basic assumptions. These assumptions are: (1) the returned useable sample is completely random (2) respondents recorded data correctly, i.e., they clearly understood the questionnaire, (3) respondents recorded data accurately, did not guess and were truthful, and (4) respondents correctly identified species hunted. If these assumptions are not met, projections of harvest by county may be over-estimated due to nonrespondent or memory biases. Extreme caution should be used in the interpretation of estimated harvest and hunters for specific species in specific counties. Rather, the long term trend in these indices should be used in managing the populations.

Presently, the upland game annual report contains the best data available and therefore constitutes the basic facts of upland game management. Although this report has its limitations, the trend data is valuable in making professional judgements regarding upland game populations and harvest.

The annual report is used in wildlife planning. It can be used to establish relative importance among species and for developing new resources through transplants or habitat developments. It points out areas of needed research by indicating problems and possible causes. It documents population trends and it combines all this inventory information into one easily accessible publication. Thus it is used extensively by federal land management agencies in environmental impact statements and management plans. It will become increasingly more important in developing management plans, and assessing impacts on wildlife habitat.

WEATHER CONDITIONS

Weather information used in this report is from the office of the Utah State Climatologist and N.O.A.A. Climatological Data Periodical. (Appendix Table 1, 2 and Figures 1 and 2.)

In the northwestern half of Utah, 1984 was the coldest in 53 years. Only in May were mean temperatures significantly (3.6%) above normal. The annual mean temperature of 46.7° F in the North Central Climatological Division set a new record low. The normal is 49.7° F. Mean temperatures in the Western and Northern Mountain Divisions tied previous low records.

It was not as cold in the southeastern half of the state. The Uinta Basin has had four colder years. Southcentral Utah has had 7 colder years. Mean temperatures in the Southeast and Dixie Divisions were about normal.

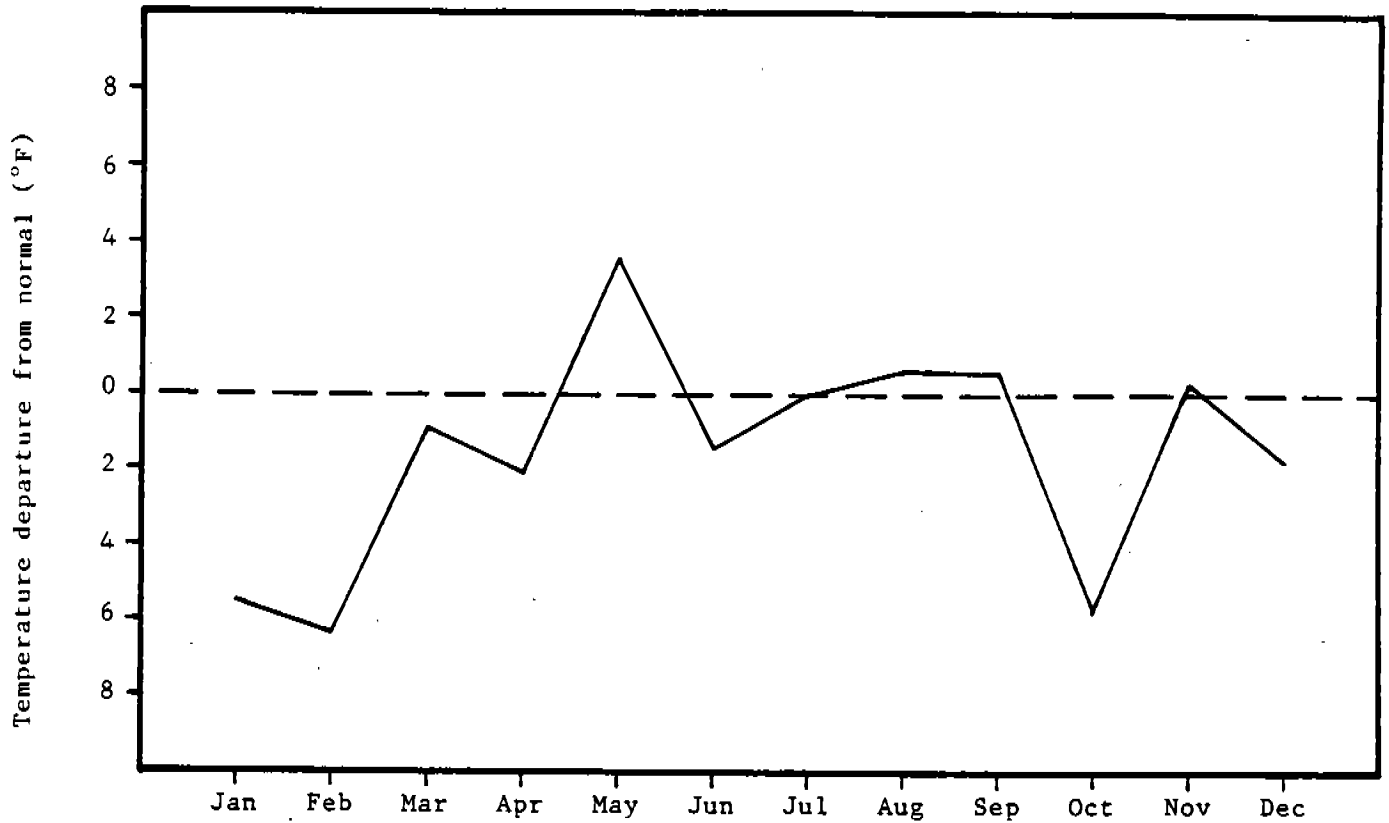


Figure 1. Monthly average temperature departure from normal, 1984.

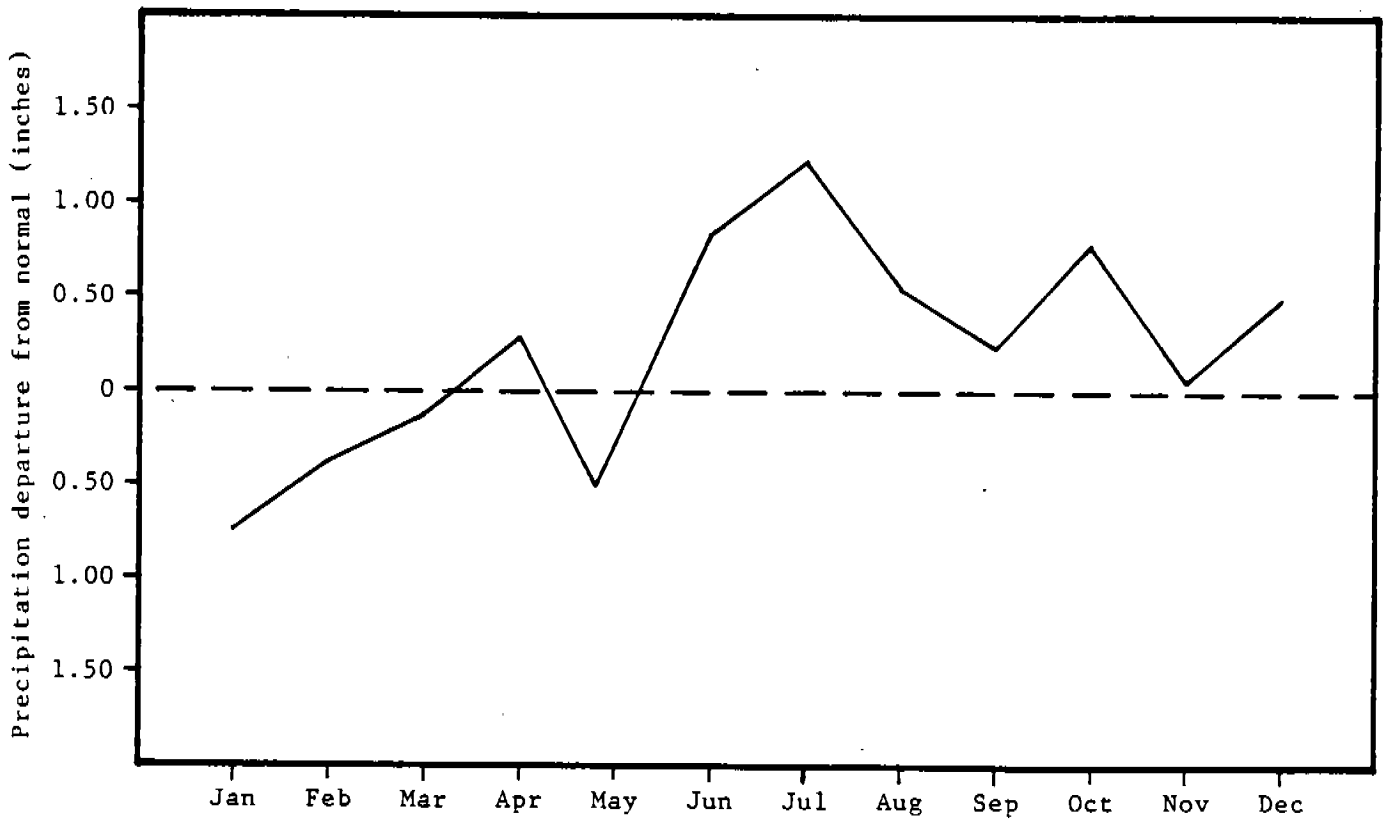


Figure 2. Monthly average precipitation departure from normal, 1984.

Annual precipitation in 1984 was above normal statewide, except for the Dixie division. However, no new records were set. It was the fourth wettest year on record in the Northcentral Division. The 21.49 inches which fell was considerably above the normal of 16.06 inches. It was not as wet in southern Utah.

The 1983-84 winter weather was severe. Above normal precipitation fell in November and December 1983. By the end of December, state average precipitation was 156 percent of normal. In the Northcentral Division, most precipitation accumulated as snow and remained on the ground. The number of days of snow covering the ground nearly broke old records in northern Utah.

Temperatures dropped considerably in January. Mean temperatures averaged 6° F below normal in January and February. In the Northcentral Division, mean temperatures in January and February were 7.4° F and 9.8° F below normal, respectively. Mean temperatures in the Uinta Basin were 11° F below normal for both months. This weather had devastating effects on introduced exotic small game such as pheasants, California quail, chukar and Hungarian partridge. Cottontails seemed to be severely impacted as well.

Except for May, spring weather conditions were only slightly better. April and June were more cold and wet than normal, resulting in reduced hatching success and brood survival. May was more hot and dry than normal. July was much more wet than normal resulting in good cover conditions. The accumulated precipitation averaged 120 percent of normal for each of these months.

LICENSE SALES

Small game license sales by type and cost are listed in Table 2. The number of licenses sold for all types, except combination, have gone up since 1954. However, the proportion of Utah's population hunting small game is declining (Table 3). In the early 1970's about 10 percent of Utah's population was hunting small game. By 2000, we project that only 5 percent will be hunting game.

Table 4 identifies revenue generated to Utah Division of Wildlife Resources from small game license sales. Small game program budgets run about half the revenue generated, with the other half going to support services such as law enforcement, administration, accounting, and field service.

Table 2. Statewide small game license sales information, 1954-83.

Year	Adult Res. Small Game		Juv. Res. Small Game		Non. Res. Small Game		Combination	
	No.	Cost	No.	Cost	No.	Cost	No.	Cost
1954	12,990	3.50	5,170	2.00	561	15.00	79,574	6.00
1955	12,086	3.50	5,369	2.00	478	15.00	79,960	6.00
1956	12,102	3.50	5,735	2.00	524	15.00	80,968	6.00
1957	12,239	3.50	6,192	2.00	505	15.00	81,271	6.00
1958	14,290	3.50	6,563	2.00	696	15.00	85,198	6.00
1959	13,421	3.50	5,966	2.00	669	15.00	90,069	6.00
1960	12,020	3.50	5,022	2.00	576	15.00	90,085	6.00
1961	12,177	3.50	6,108	2.00	617	15.00	88,180	6.00
1962	12,953	3.50	6,536	2.00	607	15.00	91,412	6.00
1963	13,365	3.50	6,319	2.00	642	15.00	94,768	6.00
1964	13,073	3.50	6,453	2.00	681	15.00	98,556	6.00
1965	12,913	3.50	6,755	2.00	716	15.00	100,410	6.00
1966	13,854	3.50	7,477	2.00	725	15.00	103,849	6.00
1967	18,588	4.50	12,851	2.50	652	20.00	86,218	10.00
1968	20,647	4.50	15,205	2.50	703	20.00	91,020	10.00
1969	20,221	4.50	15,567	2.50	853	20.00	96,117	10.00
1970	19,564	4.50	15,827	2.50	1,009	20.00	100,467	10.00
1971	20,681	4.50	16,044	2.50	1,000	20.00	102,284	10.00
1972	19,796	4.50	16,523	2.50	1,075	20.00	107,414	10.00
1973	18,836	4.50	16,522	2.50	964	20.00	115,436	10.00
1974	17,434	4.50	16,334	2.50	974	20.00	117,770	10.00
1975	17,057	4.50	15,869	2.50	967	20.00	115,362	10.00
1976	33,078	6.00	16,261	3.00	1,141	20.00	76,587	18.00
1977	36,473	6.00	15,795	3.00	1,270	20.00	74,600	18.00
1978	37,082	6.00	15,419	3.00	1,449	20.00	81,227	18.00
1979	36,721	6.00	14,200	3.00	1,575	20.00	84,450	18.00
1980	30,189	8.00	14,042	4.00	1,330	30.00	100,177	23.00
1981	37,804	8.00	13,874	4.00	1,559	30.00	83,486	23.00
1982	36,850	8.00	14,040	4.00	1,637	30.00	82,970	23.00
1983	39,602	8.00	13,814	4.00	1,685	30.00	73,529	23.00
1984		8.00		4.00		30.00		23.00
1985		12.00		6.00		40.00		35.00

Table 3. Actual (1971-1985) and projected (1985-2000) proportion of Utah population hunting small game based upon assumption of improved sportsman access to private lands and successful transplants of turkey, chukar, and hungarian partridge on public lands.

Year	Utah Population	Licenses Sold			Proportion Hunting Small Game
		RSG ¹	NRSG	Total	
1954	750,000		561		
1955	783,000		478		
1956	809,000		524		
1957	826,000		505		
1958	845,000		696		
1959	870,000		669		
1960	890,627		576		
1961	936,000		617		
1962	958,000		607		
1963	974,000		642		
1964	978,000		681		
1965	991,000		716		
1966	1,009,000		725		
1967	1,019,000		652		
1968	1,029,000		703		
1969	1,047,000		853		
1970	1,059,273		1,009		
1971	1,101,000	101,421	1,000	101,521	9.2
1972	1,135,000	110,691	1,075	111,766	9.8
1973	1,169,000	115,129	964	116,093	9.8
1974	1,197,000	112,963	974	113,937	9.4
1975	1,234,000	108,636	967	109,603	8.8
1976	1,272,000	85,268	1,141	86,409	6.7
1977	1,316,000	86,549	1,270	87,819	6.6
1978	1,364,000	95,637	1,449	97,086	7.0
1979	1,416,000	100,116	1,575	101,691	7.1
1980	1,461,037	110,039	1,330	111,369	7.5
1981	1,524,830	103,041	1,559	104,600	6.8
1982	1,588,622	99,744	1,637	101,381	6.3
1983	1,652,415	93,303	1,685	94,988	5.6
1984	1,716,207	--	--	--	--
1985	1,780,000	105,000	2,000	107,000	5.8
1990	1,988,650	110,000	2,250	112,250	5.5
1995	2,134,250	115,000	2,500	117,500	5.4
2000	2,258,450	120,000	3,000	123,000	5.3

¹Adjusted for waterfowl hunters subtracted from combination licenses, R.S.G. = Adjusted combination plus juvenile small game plus adult small game.

²Utah Statistical Abstracts 1984 - projections constitute the December 1982 official State of Utah baseline projections (Office of State Planning Coordinator and Bureau of Economic and Business Research, University of Utah).

Table 4. Small game license sales and income, 1971-83 (JSG=juvenile small game, RSG=adult resident small game, CMB=combination license, NRSNG=nonresident small game).

Year	License Fees			Number of Licenses Sold			No. Federal Duck Stamp Sold ³	Total Gross Revenue Attributed to Small Game (\$)						
	JSG	RSG	CMB	JSG	RSG	CMB		JSG	RSG	CMB ²	NRSNG	TOTAL		
1971	2.50	4.50	10.00	20.00	16,044	20,681	102,284	1,000	37,588	40,110	93,064	200,557	20,000	353,731
1972	2.50	4.50	10.00	20.00	16,523	19,796	107,414	1,075	33,042	41,307	89,082	230,553	21,500	382,442
1973	2.50	4.50	10.00	20.00	16,522	18,836	115,436	964	35,665	41,305	84,762	247,290	19,280	392,637
1974	2.50	4.50	10.00	20.00	16,334	17,834	117,770	974	38,575	40,835	78,453	245,504	19,480	384,272
1975	2.50	4.50	10.00	20.00	15,869	17,057	115,362	967	39,652	39,672	76,756	234,701	19,340	370,469
1976	3.00	6.00	18.00	20.00	16,261	33,078	76,587	1,141	40,658	48,783	198,468	184,675	22,820	454,746
1977	3.00	6.00	18.00	20.00	15,795	36,473	74,600	1,270	40,319	47,385	218,838	176,204	25,400	457,827
1978	3.00	6.00	18.00	20.00	15,419	37,082	81,227	1,449	38,091	46,257	222,492	221,719	28,980	579,448
1979	3.00	6.00	18.00	20.00	14,200	36,721	84,450	1,575	35,255	42,600	220,326	252,862	31,500	547,288
1980	4.00	8.00	23.00	30.00	14,042	30,189	109,177	1,330	34,369	56,168	241,512	425,120	39,900	762,700
1981	4.00	8.00	23.00	30.00	13,874	37,804	83,486	1,559	32,123	55,496	302,432	331,805	46,770	736,503
1982	4.00	8.00	23.00	30.00	14,040	36,850	82,970	1,637	34,116	56,160	294,800	315,597	49,110	737,167
1983	4.00	8.00	23.00	30.00	13,814	39,602	73,529	1,685	33,642	51,239	305,249	257,670	50,134	664,292
1984	4.00	8.00	23.00	30.00					34,237					

¹Value does not include cougar, bear, turkey permits and commercial hunting area licenses.

²Combination license values are based on the assumption that all waterfowl hunters purchased only combination licenses. They may fish and hunt big game but they do not hunt any other small game. Therefore, duck stamp sales are subtracted from combination license sale when projecting revenue generated. The proportion of the combination license fee attributed to small game equals the resident small game license fee divided by the resident fishing license fee plus the resident big game license fee plus the resident small game license fee.

³Total federal duck stamps sold does not include those sold during the second quarter, April-June, because persons purchasing stamps during this quarter tend not to be hunters.

RING-NECKED PHEASANT

SUMMARY

The 1984 statewide breeding population based on 1983 harvest data should have been up from the 1983 breeding population. The severe winter reduced pheasant populations. Winter sex ratio indices were probably biased by the fact that counting conditions were good. Flocks were concentrated, often near roads where they were counted very easily. Winter carry-over from 1983 was poor in northern and central Utah.

Weather conditions during the nesting season were better than in 1983. Statewide monthly average temperatures were not as low. Accumulated precipitation was 120 percent above normal. Production was not significantly different from 1983 levels or the average, except that fewer broods were observed due to the severe winter.

Harvest statistics compiled from the questionnaire indicated less success compared to 1983. Hunter pressure remained about the same but total harvest decreased 13 percent. Birds per hunter-day decreased 11 percent from 1983. Field bag check data also showed that hunter success declined during 1984.



Winter Sex Ratio Counts

Results of the survey for the winter of 1983-84 and long-term trends are shown in Tables 1 and 2 of this section. Statewide comparisons to the winter of 1982-83 and the 10-year average are as follows:

	<u>Winter of 1983-84</u>	<u>Percent change from 1982-83</u>	
		<u>Average</u>	
Total pheasants counted (roadside)	2,735	-62	-62
Hens per cock	2.6	-53	-35
Pheasants observed per 100 hours	2,104	+11	+54
Total hours effort (roadside)	130	-65	-77

Winter sex ratio counts were 54 percent above average. However, we do not feel that increased pheasants observed per unit effort in northern and central Utah reflected an increased breeding population. Winter conditions were severe, with birds concentrated along roads. Many were weakened to the point that normal avoidance behavior was not exhibited. In other words, density estimates are biased due to the non-random nature of the survey technique. The hen-cock ratio decreased 53 percent from 1983 and was well below average. Counting conditions were generally good, but decreased effort reduced pheasant observations. No effort was expended in the Central Region, even though it accounts for one-third of the state's hunting pressure and harvest. More pheasants are harvested in Utah County than in any other county in the state.

Roadside Counts

A summary of summer roadside pheasant counts for 1984 is shown in Table 3. Long-term trends of pheasants per mile, young per mile, young per hen, percent of hens with young and mean brood size are found in Tables 4-8. Summer 1984 survey results compared to 1983 and the previous 10-year average follow:

	<u>1984</u>	<u>Percent change from 1983</u>	
		<u>Average</u>	
Total pheasants observed	1,797	-24	-33
Total miles driven	1,905	-15	-30
Pheasants per mile	0.94	-11	-6
Average brood size	4.78	-5	-8
Young per hen	3.92	+2	+7
Percent of hens with young	75	+1	+4

April, May, June and July temperatures averaged normal. In the North Central, South Central, Uinta Basin and Southeast climatic subdivisions (major pheasant distribution), an average of 0.45 inches above normal precipitation fell in each climatic subdivision through the year. April and June were colder and wetter than normal. May was hotter and dryer than normal with July much wetter than normal. Hatching success may have been negatively influenced by cold, wet weather in April. Also, cold, wet weather in June may have reduced brood survival resulting in lower fall populations. Counting conditions were poor over most of the state with dense vegetation obscuring broods.

Pheasant production appears to have decreased from 1983 in all regions except the Southern and the Southeastern. In the Northern Region, young broods were observed in the summer indicating unsuccessful early nesting attempts. The density index (pheasants per mile) decreased from 1.06 in 1983 to 0.94 in 1984 which is below the 10-year average (1.00).

Record high levels of the Great Salt Lake reduced both the quantity and quality of nesting and brood rearing habitat in Salt Lake, Davis, Weber and Box Elder counties.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1984 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. A comparison of 1984 harvest statistics to 1983 and the 36-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Pheasant hunters	76,840	-1	-8
Pheasants harvested	192,190	-13	-18
Hunter-days afield	258,169	-3	+16
Pheasants per hunter-day	0.74	-11	-30
Pheasants per hunter	2.50	-12	-11

The Division predicted 75,000 hunter and 200,000 harvest. In northern Utah, hunters were told to expect fair hunting with success comparable to 1983. Low breeding populations were noted but production was fair for those birds which made it through the winter. Fair to poor success was predicted in central, northeastern and southern Utah. Success was expected to be good in southeastern Utah.

Total hunters decreased from 1983 and remained below the long-term average (1948-83). Hunter-days afield and total harvest also decreased 3 and 13 percent, respectively, from 1983. Hunter success (pheasants per hunter-day) decreased from 1983, and 30 percent below average. Pheasants per hunter also decreased 12 percent.

Long-term trends (1970-84) of total hunters, hunter-days, harvest and hunter success are shown in Figure 1. Generally, the trend continues toward more hunter-days with gradual declines in total pheasants harvested and hunter success.

Field Bag Checks

A summary of pheasant field bag check data for 1984 is shown in Table 14. The hunter success trend determined via bag checks since 1979 is found in Table 15. A comparison of 1984 data, on a statewide basis, to 1983 and the 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	3,154	-30	-37
Total hours hunted	8,257	-47	-50
Pheasants per hunter (complete hunts)	0.58	-32	-25
Pheasants bagged per 100 hours	19	-5	+12
Average hours per hunter-day (complete hunts)	3.1	-28	-28
Hours hunted per pheasant bagged (complete)	5.3	+4	-9

Checking Station Report

Weather was generally fair over the state Saturday and Sunday (November 3-4, 1984). Scattered showers and wind occurred over northern Utah on Saturday, and temperatures were in the 50's and low 60's.

Generally, hunting pressure was down substantially over the state. This is attributed to less land being accessible to hunters, particularly in Weber, Davis, Salt Lake, Utah and Millard counties.

Hunter success was down from 1984 statewide. Success was down in Box Elder, Weber, Uintah, Duchesne, Carbon, Emery and Iron counties. Sanpete, Sevier and Cache county success was better than expected.

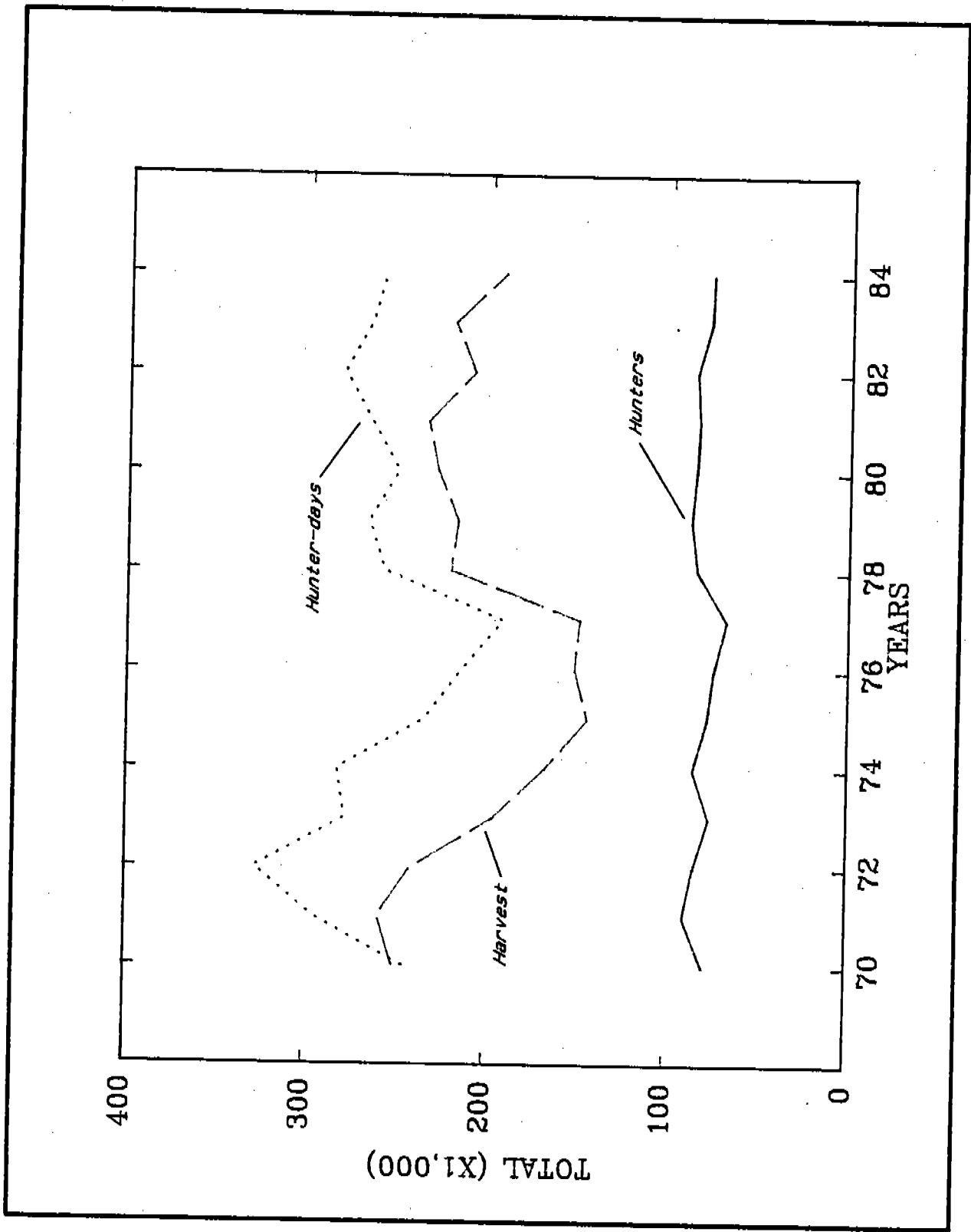


Figure 1. Statewide trend of pheasant harvest statistics.

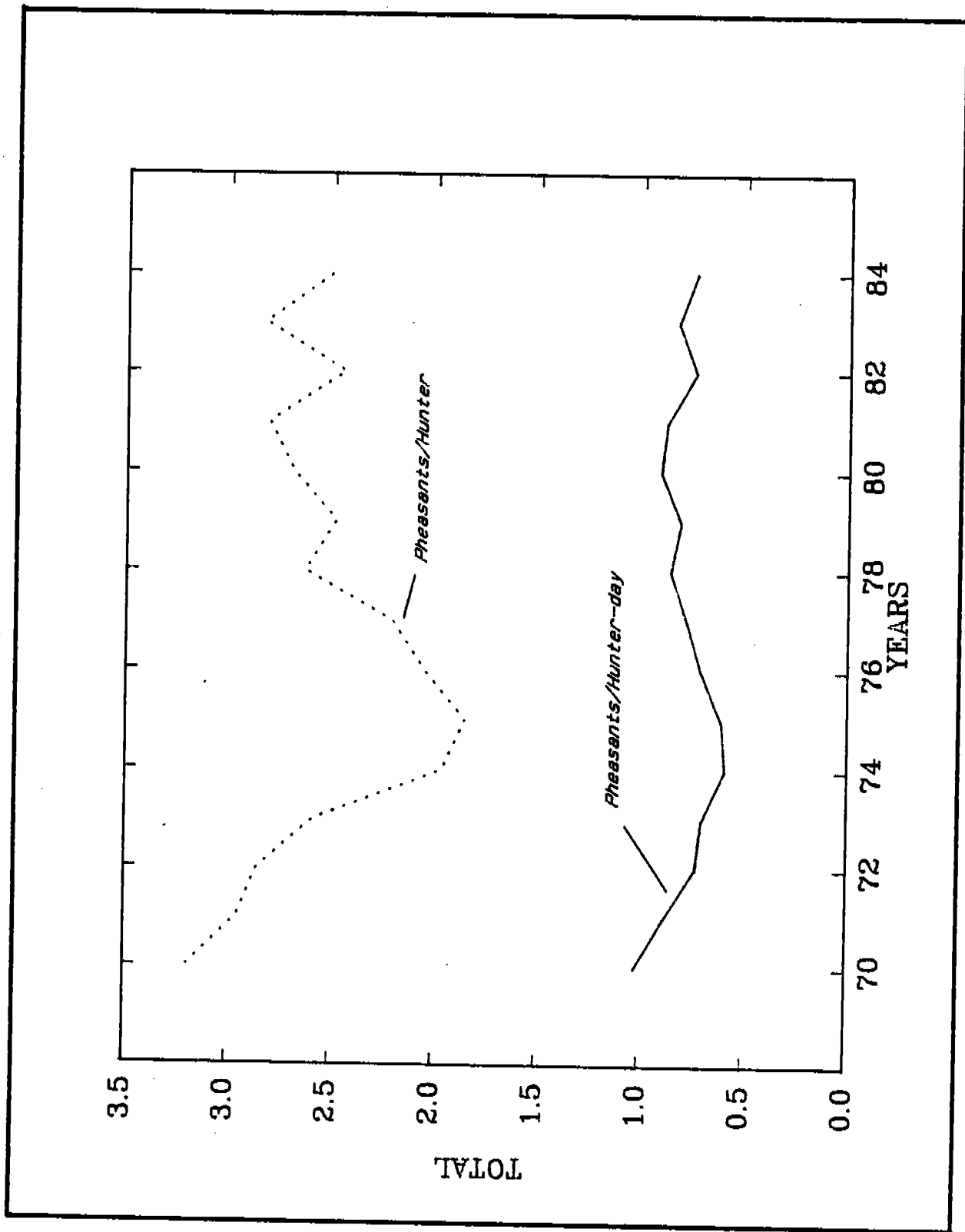


Figure 2. Statewide trend of pheasant harvest statistics.

Table 2. Trend of pheasant winter sex ratio counts, 1978-84.

Region and County	1978-79		1979-80		1980-81		1981-82		1982-83		1983-84		Averages 1974-83
	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	Hens/ Cock	Birds/ 100 Hr	
Northern Region													
Box Elder	5.2	2,138	6.4	1,400	3.4	1,245	6.1	1,790	3.7	8,400	--	--	--
Cache	2.4	790	3.5	1,064	2.3	1,478	2.9	1,624	3.6	1,556	--	--	--
Davis	5.6	1,712	2.5	509	3.9	830	6.9	2,787	17.0	1,080	11.2	6,090	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	8.6	9,938	14.0	1,154	6.2	1,162	10.1	6,664	6.0	700	--	--	--
REGIONAL TOTALS	4.5	1,627	5.5	1,179	3.1	1,234	5.9	2,999	4.3	1,596	11.2	6,090	4.8
Central Region													
Juab	4.6	2,755	6.2	3,586	4.8	373	5.4	1,513	3.2	1,066	--	--	--
Salt Lake	3.7	357	2.0	419	1.9	577	3.8	1,205	1.3	973	--	--	--
Sanpete	3.0	2,305	3.1	1,451	3.8	86	8.2	5,445	7.7	4,328	--	--	--
Tooele	3.5	1,294	3.2	1,129	5.6	348	--	--	3.2	267	--	--	--
Utah	5.0	1,763	5.7	1,170	7.3	1,318	3.3	2,845	3.2	1,608	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.9	1,480	4.2	1,405	4.7	891	5.6	3,641	6.3	2,668	--	--	4.9
Southern Region													
Beaver	--	--	0.4	150	1.2	433	2.6	2,666	5.3	543	2.7	433	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	0.6	550	2.3	206	3.8	--	2.9	837	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2.9	5,292	2.7	1,877	3.2	1,891	2.4	5,523	3.7	831	3.2	5,525	--
Platte	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	4.0	1,368	5.4	1,848	5.6	2,100	--	--	6.7	1,936	2.2	3,620	--
Washington	2.5	2,041	1.1	690	6.8	1,510	3.1	1,040	4.4	971	0.6	227	--
Wayne	0.5	75	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	2.8	2,278	2.9	1,081	3.9	1,539	2.6	2,033	5.1	1,121	2.6	2,009	3.7
Northeastern Region													
Doggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchene	2.1	3,060	2.2	1,072	1.6	787	1.9	600	1.5	553	1.7	1,113	--
Uintah	3.0	3,117	3.3	1,825	4.0	2,360	2.8	1,065	5.0	1,287	2.1	3,180	--
REGIONAL TOTALS	2.5	3,087	2.8	1,381	2.6	1,224	2.4	810	2.7	801	1.9	1,526	3.1
Southeastern Region													
Carbon	2.3	1,100	0.1	60	1.0	222	1.8	6,200	--	--	1.7	2,675	--
Emery	1.5	906	1.5	587	1.9	4,283	2.5	2,670	--	--	1.7	2,589	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	345	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1.6	911	1.3	367	1.8	2,543	2.1	3,453	1.8	1,240	1.7	2,615	2.0
STATE TOTALS	3.3	1,748	3.6	1,191	3.4	1,151	4.6	2,838	5.5	1,900	2.6	2,104	4.0

Table 3. Pheasant summer inventory, 1984.

Region and County	No. Routes	Total Miles	Distinct Broods		Mixed Observ.		Adults w/o		Total Hens	Total Yng	Total Cocks	Total Pheas Mile	Yng/ Mile Brood	Mean Ad Hens	Yng/ Ad Hens	% Hens w/Yng
			No.	Yng	Hens	Yng	Young Cocks	Hens								
Northern Region																
Box Elder	2	169	8	37	2	7	16	8	18	44	16	78	0.46	4.63	2.44	56
Cache	2	132	5	17	0	0	3	0	5	17	3	25	0.19	3.40	3.40	100
Davis	1	91	3	10	0	5	7	6	9	15	7	31	0.34	3.33	1.67	33
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	1	52	9	54	2	12	3	1	12	66	3	81	1.56	6.00	5.50	92
REGIONAL TOTALS	6	444	25	118	4	24	29	15	44	142	29	215	0.48	4.72	3.23	66
Central Region																
Juab	1	36	2	12	2	9	2	1	5	21	2	28	0.77	6.00	4.20	80
Salt Lake	2	54	8	38	7	30	10	3	19	68	10	97	1.80	4.75	3.58	79
Sanpete	1	148	8	51	11	62	13	2	21	113	13	147	0.99	6.38	5.38	90
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	2	121	42	124	16	29	22	34	92	153	22	267	2.21	2.95	1.66	63
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	359	60	225	36	130	47	40	137	355	47	535	1.49	3.75	2.59	70
Southern Region																
Beaver	1	90	1	7	--	--	--	2	3	7	--	10	0.11	7.00	2.33	33
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2	176	19	114	6	42	10	--	25	156	10	191	1.09	6.00	6.24	100
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	2	207	40	204	8	42	10	5	53	246	16	315	1.52	5.10	4.64	91
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	479	60	325	14	84	26	7	81	409	26	516	1.09	5.42	5.03	91
Northeastern Region																
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	3	300	15	88	9	49	32	12	36	137	32	205	0.68	5.87	3.81	67
Uintah	2	163	10	55	2	127	21	2	14	182	21	217	1.33	5.50	13.00	86
REGIONAL TOTALS	5	463	25	143	11	176	53	14	50	319	53	422	0.91	5.72	6.38	72
Southeastern Region																
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	3	166	9	45	4	30	14	7	20	75	14	109	0.66	5.00	3.75	65
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	166	9	45	4	30	14	7	20	75	14	109	0.66	5.00	3.75	65
STATE TOTALS	25	1,905	179	856	69	444	169	83	332	1,300	169	1,797	0.94	4.78	3.92	75

*Data collected by Southeastern Region.

Table 4. Trend of pheasants observed per mile during summer roadside counts, 1974-84.

Region and County	Year											Average 1962-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region												
Box Elder	0.87	0.21	0.46	0.60	0.78	0.41	1.03	1.40	0.74	1.43	0.46	
Cache	0.48	0.68	0.44	0.22	0.71	0.34	0.08	0.92	0.17	0.04	0.19	
Davis	0.32	1.55	0.54	1.67	1.59	1.47	1.77	1.38	0.83	1.07	0.34	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	1.77	1.23	2.24	1.30	1.01	1.55	2.03	3.17	1.79	--	1.56	
REGIONAL TOTALS	0.80	0.71	0.86	0.85	0.96	0.76	1.23	1.56	0.78	0.63	0.48	1.27
Central Region												
Juab	0.46	0.82	1.20	0.54	0.09	0.13	0.94	0.89	0.61	0.44	0.77	
Salt Lake	0.48	0.54	0.55	0.29	0.09	0.64	0.60	1.09	1.24	--	1.80	
Sanpete	1.60	0.08	1.37	1.23	1.28	1.85	2.18	5.25	1.78	1.74	0.99	
Tooele	0.87	0.17	1.02	0.77	1.11	3.83	1.08	0.48	0.45	--	--	
Utah	1.29	0.64	1.45	0.98	1.96	4.14	1.90	2.19	3.89	1.95	2.21	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.11	0.62	1.16	0.93	1.40	2.83	1.68	2.01	2.15	1.72	1.49	1.91
Southern Region												
Beaver	0.60	0.07	0.69	0.49	0.71	1.01	0.47	0.63	0.66	0.23	0.11	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.53	0.19	0.39	0.30	0.49	0.97	0.67	1.24	0.07	0.31	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	0.79	0.41	0.47	0.49	1.38	1.11	0.88	2.85	1.15	1.28	1.09	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	0.89	0.40	0.72	0.88	1.72	1.10	1.13	0.87	1.37	1.27	1.52	
Washington	1.34	0.47	0.47	0.57	1.40	1.36	0.70	1.41	0.62	1.09	--	
Wayne	0.48	0.09	1.33	0.03	2.10	0.21	--	1.04	0.40	0.26	--	
REGIONAL TOTALS	0.78	0.28	0.58	0.57	1.29	1.08	0.86	1.65	1.05	0.94	1.09	1.12
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.33	0.33	0.34	0.39	0.68	0.38	0.56	0.84	0.73	0.72	0.68	
Uintah	1.33	0.54	1.45	1.15	1.75	1.90	1.60	1.05	1.27	2.97	1.33	
REGIONAL TOTALS	0.61	0.39	0.67	0.65	1.02	0.90	0.93	0.91	0.90	1.39	0.91	0.73
Southeastern Region												
Carbon	0.00	0.02	0.39	0.23	0.22	0.40	0.37	1.22	0.28	0.42	--	
Emery	1.06	0.88	0.47	0.61	0.53	0.39	0.49	0.74	0.74	0.32	0.66	
Grand	--	--	--	--	--	--	--	--	--	1.70	--	
San Juan	5.00	3.57	0.93	0.93	0.00	0.35	--	--	--	--	--	
REGIONAL TOTALS	0.64	0.60	0.44	0.44	0.35	0.38	0.45	0.86	0.61	0.39	0.66	0.68
STATE TOTALS	0.83	0.49	0.78	0.71	1.02	1.37	1.10	1.46	1.19	1.06	0.94	1.24

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1974-84.

Region and County	Year										Average 1962-83	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983		1984
Northern Region												
Box Elder	0.62	0.13	0.31	0.41	0.55	0.03	0.69	1.07	0.44	0.63	0.26	
Cache	0.35	0.43	0.30	0.17	0.47	0.20	0.07	0.70	0.11	0.00	0.13	
Davis	0.22	0.84	0.54	1.17	1.26	0.99	1.27	0.81	0.43	0.78	0.16	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	1.31	0.77	1.47	0.84	0.62	1.22	1.53	2.38	1.38	--	1.27	
REGIONAL TOTALS	0.59	0.43	0.58	0.58	0.68	0.55	0.88	1.15	0.52	0.35	0.32	0.92
Central Region												
Juab	0.38	0.71	1.06	0.46	0.76	0.02	0.85	0.63	0.42	0.36	0.58	
Salt Lake	0.32	0.35	0.37	0.21	0.07	0.44	0.32	0.57	0.84	--	1.26	
Sanpete	1.26	0.56	1.12	0.98	1.06	1.53	1.72	4.40	1.44	1.44	0.76	
Tooele	0.62	0.07	0.69	0.45	0.72	2.95	0.76	0.28	0.22	--	--	
Utah	0.95	0.33	0.99	0.60	1.43	3.00	1.30	1.68	2.52	1.34	1.26	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.83	0.38	0.84	0.63	1.06	2.11	1.21	1.51	1.63	1.31	0.99	1.45
Southern Region												
Beaver	0.47	0.03	0.54	0.33	0.58	0.87	0.37	0.54	0.48	0.17	0.08	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.46	0.08	0.31	0.17	0.38	0.74	0.53	1.07	0.04	0.23	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	0.57	0.27	0.34	0.34	1.12	0.89	0.69	2.27	0.83	1.00	0.89	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	0.70	0.28	0.56	0.70	1.45	0.93	0.90	0.67	1.07	0.94	1.19	
Washington	1.03	0.26	0.35	0.37	1.08	1.02	0.49	0.89	0.43	0.68	--	
Wayne	0.14	0.02	0.87	0.00	1.76	0.15	--	0.87	0.21	0.12	--	
REGIONAL TOTALS	0.59	0.17	0.44	0.41	1.05	0.87	0.67	1.30	0.76	0.68	0.86	0.87
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.21	0.23	0.21	0.25	0.53	0.27	0.37	0.52	0.54	0.55	0.46	
Uintah	1.08	0.27	1.07	0.79	1.41	1.50	1.20	0.83	0.95	2.25	1.12	
REGIONAL TOTALS	0.45	0.24	0.47	0.44	0.81	0.69	0.66	0.63	0.66	1.06	0.69	0.53
Southeastern Region												
Carbon	0.00	0.00	0.22	0.03	0.15	0.30	0.22	0.93	0.18	0.27	--	
Emery	0.81	0.57	0.20	0.33	0.35	0.28	0.35	0.52	0.45	0.18	0.45	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	4.07	2.43	0.47	0.40	--	0.00	--	--	--	--	--	
REGIONAL TOTALS	0.50	0.39	0.22	0.18	0.24	0.26	0.31	0.65	0.68	0.23	0.45	0.50
STATE TOTALS	0.62	0.30	0.55	0.47	0.78	1.04	0.80	1.10	0.87	0.77	0.68	0.93

Table 6. Trend of young per adult hen ratios found during summer roadside pheasant counts, 1974-84.

Region and County	Year											Average 1962-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	3.19	2.44	4.18	3.68	3.64	3.92	2.60	4.09	3.00	1.41	2.44	
Cache	3.00	2.69	4.50	4.00	2.80	2.40	4.00	4.18	3.43	0.00	3.40	
Davis	3.00	1.53	3.75	3.18	4.71	2.30	2.78	1.81	1.25	3.31	1.07	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	3.66	2.07	2.35	2.12	1.81	4.13	3.97	3.38	4.70	--	5.50	
REGIONAL TOTALS	3.35	2.10	2.91	2.88	3.10	3.14	3.07	3.39	3.00	1.98	3.23	3.53
<u>Central Region</u>												
Juab	5.00	6.00	7.40	8.00	5.60	1.00	9.67	4.29	3.75	6.50	4.20	
Salt Lake	2.87	2.39	3.50	5.33	6.00	3.27	1.70	2.04	2.73	--	3.58	
Sanpete	4.45	2.67	5.22	5.09	6.03	5.91	4.97	6.71	5.48	5.85	5.38	
Tooele	3.36	1.33	3.06	1.93	2.69	3.93	2.88	2.43	2.17	--	--	
Utah	3.58	1.62	3.32	2.53	3.42	3.20	2.65	3.80	3.53	2.51	1.66	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.77	2.16	3.85	3.19	3.88	3.59	3.23	4.08	3.95	3.69	2.59	3.95
<u>Southern Region</u>												
Beaver	5.83	0.86	6.14	3.33	4.72	6.00	6.29	7.00	4.89	3.75	2.33	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	9.50	0.86	5.50	6.00	5.00	4.25	5.14	8.56	3.00	5.33	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	2.91	2.52	3.67	3.57	6.05	5.52	6.00	4.65	4.48	6.37	6.24	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	3.80	3.06	4.79	4.90	6.67	5.96	4.44	4.18	3.94	3.49	4.64	
Washington	3.89	1.94	5.83	2.47	4.52	4.95	5.50	2.69	3.46	2.23	--	
Wayne	0.54	0.25	2.60	--	7.57	5.00	--	8.75	1.67	3.33	--	
REGIONAL TOTALS	3.73	1.93	4.36	3.88	5.85	5.44	5.16	4.66	3.93	3.69	5.05	4.40
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	3.71	3.73	4.06	3.41	5.11	5.82	4.22	2.94	6.10	5.03	3.81	
Uintah	5.43	1.78	4.48	3.06	5.63	5.25	3.22	5.50	4.96	5.16	13.00	
REGIONAL TOTALS	4.69	2.73	4.34	3.18	5.39	5.39	3.52	3.73	5.54	5.11	6.38	4.33
<u>Southeastern Region</u>												
Carbon	--	0.00	2.05	0.42	3.00	4.80	5.00	7.91	5.07	3.13	--	
Emery	7.46	3.96	1.46	2.36	2.61	4.29	3.37	3.97	2.56	2.93	3.75	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	7.62	2.55	1.75	1.20	0.00	0.00	--	--	--	--	--	
REGIONAL TOTALS	7.52	3.28	1.74	1.62	2.70	3.00	3.65	4.98	4.93	3.21	3.75	4.03
STATE TOTALS	3.95	2.28	3.56	3.11	4.32	4.05	3.60	4.12	3.88	3.85	3.92	3.98

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1974-1984.

Region and County	Year												Average 1963-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984		
<u>Northern Region</u>													
Box Elder	78	78	73	79	80	62	68	83	73	52	56		
Cache	68	66	80	100	60	60	100	77	71	0	100		
Davis	100	97	75	58	88	80	63	71	67	75	33		
Morgan	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--		
Weber	69	34	58	44	39	70	100	91	91	--	92		
REGIONAL TOTALS	74	68	64	58	64	71	76	80	76	57	60	72	
<u>Central Region</u>													
Juab	100	100	100	100	100	--	100	100	100	100	80		
Salt Lake	52	45	59	100	100	64	71	57	62	--	79		
Sanpete	88	64	90	85	90	100	83	97	92	92	90		
Tooele	64	33	78	57	69	96	75	71	67	--	--		
Utah	58	42	66	61	69	57	64	66	71	60	63		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	68	49	73	67	74	66	82	72	76	71	70	73	
<u>Southern Region</u>													
Beaver	83	14	86	56	73	77	71	86	89	50	33		
Garfield	--	--	--	--	--	--	--	--	--	--	--		
Iron	80	14	100	100	86	83	86	100	100	100	--		
Kane	--	--	--	--	--	--	--	--	--	--	--		
Millard	50	48	81	68	85	88	87	83	73	94	100		
Piute	--	--	--	--	--	--	--	--	--	--	--		
Sevier	83	59	92	90	97	96	96	82	83	76	91		
Washington	78	31	50	73	87	95	33	66	77	83	--		
Wayne	8	50	40	--	100	100	--	88	78	--	--		
REGIONAL TOTALS	64	42	78	76	89	90	87	81	80	83	91	79	
<u>Northeastern Region</u>													
Daggett	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	76	59	88	81	83	88	77	68	66	82	67		
Uintah	100	48	94	61	95	87	92	100	86	75	86		
REGIONAL TOTALS	90	53	91	68	90	88	87	78	75	77	72	77	
<u>Southeastern Region</u>													
Carbon	--	0	59	17	44	100	75	100	67	63	--		
Emery	77	65	29	55	48	43	68	72	58	64	65		
Grand	--	--	--	--	--	--	--	--	--	100	--		
San Juan	100	55	50	60	0	0	--	--	--	--	--		
REGIONAL TOTALS	86	60	44	44	48	56	70	79	59	67	65	67	
STATE TOTALS	71	54	71	65	76	73	77	79	75	74	75	74	

Table 8. Trend of average brood size for pheasants, 1974-84.

Region and County	Year											Average 1962-84
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	4.17	3.14	5.75	4.67	5.71	6.38	3.40	4.90	4.13	4.00	4.63	
Cache	4.38	4.67	5.83	4.00	4.60	3.50	4.00	5.93	6.50	0.00	3.40	
Davis	3.50	2.75	4.33	5.73	4.79	4.00	5.13	3.64	2.00	5.40	3.33	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	7.27	5.78	5.05	6.57	4.80	6.00	4.37	3.70	5.66	--	6.00	
REGIONAL TOTALS	4.84	4.26	5.19	5.29	5.00	5.22	4.21	4.48	4.88	4.58	4.72	5.09
<u>Central Region</u>												
Juab	5.00	9.00	7.33	8.00	5.60	--	4.00	3.80	3.75	6.50	6.00	
Salt Lake	5.00	5.73	6.09	5.33	6.00	5.13	3.33	4.67	4.44	--	4.75	
Sanpete	4.59	4.72	5.88	4.92	6.56	5.98	5.43	7.24	5.93	6.39	6.38	
Tooele	6.50	4.00	4.38	3.33	4.57	8.93	3.83	3.67	3.50	--	--	
Utah	6.24	4.12	4.86	4.56	4.91	5.45	4.09	5.38	4.99	4.02	2.95	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.46	4.73	5.35	4.70	5.29	5.81	4.46	5.66	5.15	5.01	3.75	5.38
<u>Southern Region</u>												
Beaver	8.00	6.00	7.75	6.00	6.50	7.10	7.25	6.50	5.00	6.50	7.00	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	9.50	6.00	5.25	6.00	5.00	4.25	6.00	8.14	3.00	5.33	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	6.20	5.73	6.93	5.23	6.88	6.31	6.38	6.30	6.30	6.40	6.00	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	4.82	4.25	5.17	6.17	6.40	5.94	4.70	5.00	4.56	5.14	5.10	
Washington	4.42	5.80	8.00	3.57	6.33	5.00	--	5.90	4.40	3.90	--	
Wayne	7.00	--	7.00	--	10.25	5.00	--	1.00	2.00	--	--	
REGIONAL TOTALS	5.83	5.31	6.37	5.45	6.71	5.96	5.49	6.14	4.98	5.18	5.42	5.56
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	5.43	6.40	4.64	4.55	6.54	6.60	5.50	4.58	7.31	4.50	5.87	
Uintah	5.21	4.22	5.00	5.00	5.75	5.56	3.30	5.50	4.25	5.11	5.50	
REGIONAL TOTALS	5.29	5.37	4.85	4.80	6.12	5.93	3.90	4.89	5.84	4.87	5.72	5.52
<u>Southeastern Region</u>												
Carbon	--	--	3.00	2.50	6.75	3.33	6.67	7.67	6.00	3.00	--	
Emery	6.67	5.00	4.86	4.33	5.27	6.00	7.00	6.00	4.42	6.60	5.00	
Grand	--	--	--	--	--	--	--	--	--	5.50	--	
San Juan	6.12	--	3.50	4.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	6.36	5.00	4.40	4.07	5.67	5.00	6.86	6.24	4.64	5.30	5.00	5.66
STATE TOTALS	5.46	4.80	5.37	4.94	5.69	5.79	4.58	5.45	5.11	5.03	4.78	5.38

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	7,563 457	23,914	19,265	0.81	9.26	10.02
Cache	245	14,271	9,460	0.66	5.53	4.92
Davis	427	26,675	15,063	0.56	10.33	7.84
Morgan	13	365	162	0.44	0.14	0.08
Rich	(3)	(101)	(81)	(0.80)	(0.04)	(0.04)
Summit	(6)	(304)	(243)	(0.80)	(0.12)	(0.13)
Weber	534	35,973	24,645	0.69	13.93	12.82
REGIONAL TOTALS	1,676	101,202	68,598	0.68	39.20	35.69
<u>Central Region</u>						
Juab	113	3,999	3,451	0.86	1.55	1.80
Salt Lake	344	17,540	8,912	0.51	6.79	4.64
Sanpete	324	16,220	17,499	1.08	6.28	9.11
Tooele	147	7,572	4,405	0.58	2.93	2.29
Utah	13,289 803	43,627	35,912	0.82	16.90	18.69
Wasatch	(10)	(426)	(121)	(0.29)	(0.17)	(0.06)
REGIONAL TOTALS	1,731	88,959	70,181	0.79	34.46	36.52
<u>Southern Region</u>						
Beaver	40	1,684	1,116	0.66	0.65	0.58
Garfield	11	426	223	0.52	0.17	0.12
Iron	34	1,563	669	0.43	0.61	0.35
Kane	(3)	(162)	(81)	(0.50)	(0.06)	(0.04)
Millard	273	14,494	13,317	0.92	5.61	6.93
Piute	10	710	466	0.66	0.28	0.24
Sevier	229	13,337	11,652	0.87	5.17	6.06
Washington	53	2,842	669	0.24	1.10	0.35
Wayne	8	812	203	0.25	0.31	0.01
REGIONAL TOTALS	658	35,872	28,320	0.79	13.89	14.74
<u>Northeastern Region</u>						
Daggett	(3)	(162)	(0)	(0.00)	(0.06)	(0.00)
Duchesne	172	8,993	8,912	0.99	3.48	4.64
Uintah	2962 179	10,942	9,358	0.86	4.24	4.87
REGIONAL TOTALS	351	19,936	18,270	0.92	7.72	9.74
<u>Southeastern Region</u>						
Carbon	80	4,405	1,948	0.44	1.71	1.01
Emery	111	6,273	4,100	0.65	2.43	2.13
Grand	8	263	101	0.38	0.10	0.05
San Juan	1	40	101	2.50	0.02	0.05
REGIONAL TOTALS	200	10,982	6,252	0.57	4.25	3.25
Unknown Counties	27	1,218	568	0.47	0.47	0.30
STATE TOTALS	4,643 TRIPS 3,785 HUNTERS	258,169	192,190	0.74	100	100

*Total hunter trips from questionnaire returns.

() Data combined in unknown counties because small sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 10. Summary of pheasants bagged per hunter-day by region and county, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>								
Box Elder	0.96	1.01	0.94	1.11	1.03	0.86	0.99	0.81
Cache	0.88	0.99	0.81	0.97	0.88	0.74	0.82	0.66
Davis	0.68	0.69	0.63	0.65	0.65	0.63	0.58	0.56
Morgan	0.73	0.78	0.60	0.56	0.57	0.64	0.58	0.44
Rich	0.33	1.86	0.00	0.00	0.00	0.00	(0.67)	(0.80)
Summit	0.00	0.40	0.00	0.00	0.00	0.00	(0.96)	(0.80)
Weber	0.76	0.70	0.71	0.77	0.72	0.63	0.72	0.69
REGIONAL TOTALS	0.81	0.83	0.77	0.86	0.84	0.71	0.78	0.68
<u>Central Region</u>								
Juab	0.68	0.79	0.87	1.00	0.89	0.76	1.00	0.86
Salt Lake	0.60	0.72	0.62	0.70	0.68	0.57	0.66	0.51
Sanpete	0.79	0.91	1.07	1.18	1.18	1.00	1.20	1.08
Tooele	0.55	0.81	0.58	0.73	0.65	0.43	0.60	0.58
Utah	0.78	0.83	0.82	0.92	0.91	0.73	0.81	0.82
Wasatch	0.50	2.00	0.00	0.00	0.00	0.00	(0.21)	(0.29)
REGIONAL TOTALS	0.71	0.81	0.79	0.90	0.89	0.71	0.83	0.79
<u>Southern Region</u>								
Beaver	0.74	0.97	0.56	0.86	1.06	0.77	0.72	0.66
Garfield	0.88	0.97	0.48	0.69	0.53	0.81	0.41	0.52
Iron	0.59	0.83	0.66	0.83	0.74	0.69	0.61	0.43
Kane	0.00	0.00	0.00	0.00	0.00	0.00	(1.00)	(0.50)
Millard	0.79	1.06	1.04	1.24	1.02	0.97	1.10	0.92
Piute	0.56	0.97	0.95	0.88	0.85	1.00	0.80	0.66
Sevier	0.76	0.82	1.01	1.01	1.03	0.89	0.96	0.87
Washington	0.46	0.70	0.60	0.63	0.45	0.39	0.43	0.24
Wayne	0.40	1.00	1.17	1.43	0.67	0.88	0.50	0.25
REGIONAL TOTALS	0.72	0.91	0.93	1.03	0.95	0.85	0.89	0.79
<u>Northeastern Region</u>								
Daggett	0.00	1.00	0.00	0.00	0.00	0.00	(0.67)	(0.00)
Duchesne	1.09	1.41	1.13	1.13	1.09	1.05	1.15	0.99
Uintah	1.11	1.05	0.95	1.09	0.98	0.93	0.98	0.86
REGIONAL TOTALS	1.10	1.20	1.03	1.11	1.04	0.99	1.06	0.92
<u>Southeastern Region</u>								
Carbon	0.50	0.86	0.66	0.94	0.70	0.54	0.59	0.44
Emery	0.55	0.65	0.71	0.85	0.85	0.57	0.60	0.65
Grand	0.75	0.73	0.45	0.33	0.63	0.94	2.44	0.38
San Juan	0.33	0.57	0.33	0.29	0.68	0.50	0.76	2.50
REGIONAL TOTALS	0.54	0.72	0.68	0.87	0.78	0.56	0.62	0.57
Unknown Counties	0.70	0.85	0.84	1.17	0.77	0.48	1.03	0.47
STATE TOTALS	0.78	0.86	0.81	0.91	0.88	0.74	0.83	0.74

() Data combined in unknown counties because small sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 11. Percentage distribution of pheasant harvest by region and county, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>								
Box Elder	11.45	11.06	12.04	12.35	12.94	12.40	13.87	10.02
Cache	8.28	8.55	6.93	7.94	8.66	7.07	7.22	4.92
Davis	8.97	8.47	8.15	7.61	5.33	8.27	7.57	7.84
Morgan	0.24	0.25	0.35	0.20	0.23	0.20	0.13	0.08
Rich	0.01	0.24	0.00	0.00	0.00	0.00	(0.02)	(0.04)
Summit	0.00	0.04	0.00	0.00	0.00	0.00	(0.15)	0.13
Weber	12.17	10.11	10.84	10.03	7.79	10.18	10.66	12.82
REGIONAL TOTALS	41.12	38.71	38.31	38.13	34.95	38.12	39.46	35.69
<u>Central Region</u>								
Juab	1.03	1.24	1.61	1.75	3.19	2.10	1.87	1.80
Salt Lake	7.51	8.19	7.14	6.29	4.88	5.96	5.86	4.64
Sanpete	4.68	4.44	6.87	7.17	7.28	7.47	7.84	9.11
Tooele	1.77	2.22	1.70	1.52	2.05	1.83	2.08	2.29
Utah	17.08	18.83	17.67	17.65	17.89	16.54	15.73	18.69
Wasatch	0.01	0.07	0.00	0.00	0.00	0.00	(0.02)	(0.06)
REGIONAL TOTALS	32.08	35.00	34.99	34.38	35.29	33.90	33.38	36.52
<u>Southern Region</u>								
Beaver	0.65	0.51	0.28	0.51	0.91	0.68	0.40	0.58
Garfield	0.07	0.26	0.09	0.07	0.08	0.32	0.05	0.12
Iron	0.48	0.92	0.52	0.88	1.08	1.00	0.83	0.35
Kane	0.00	0.00	0.00	0.00	0.00	—	(0.01)	(0.04)
Millard	4.02	4.69	5.46	5.76	7.77	5.37	4.17	6.93
Piute	0.10	0.30	0.13	0.22	0.30	0.13	0.09	0.24
Sevier	4.24	3.99	5.72	5.04	5.37	5.86	5.04	6.06
Washington	0.73	0.78	0.99	0.86	0.58	0.48	0.50	0.35
Wayne	0.04	0.09	0.14	0.07	0.09	0.11	0.03	0.01
REGIONAL TOTALS	10.34	11.53	13.33	13.43	16.17	13.95	11.11	14.74
<u>Northeastern Region</u>								
Daggett	0.00	0.07	0.00	0.00	0.00	—	(0.00)	(0.00)
Duchesne	5.85	5.61	5.25	4.69	4.60	5.51	6.17	4.64
Uintah	5.27	5.63	5.24	5.00	3.99	5.13	6.03	4.87
REGIONAL TOTALS	11.12	11.31	10.49	9.69	8.58	10.64	12.20	9.74
<u>Southeastern Region</u>								
Carbon	0.79	1.04	0.85	1.60	1.73	1.51	1.40	1.01
Emery	1.80	1.43	1.66	2.50	2.84	1.46	1.80	2.13
Grand	0.06	0.10	0.03	0.01	0.11	0.13	0.13	0.05
San Juan	0.02	0.04	0.03	0.01	0.12	0.11	0.10	0.05
REGIONAL TOTALS	2.68	2.61	2.57	4.13	4.80	3.20	3.44	3.25
Unknown Counties	2.68	0.84	0.31	0.24	0.21	0.19	0.40	0.30
STATE TOTALS	100	100	100	100	100	100	100	100

() Data included in unknown counties because small sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 12. Percentage distribution of pheasant hunting pressure by county hunted, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>								
Box Elder	9.22	9.37	10.37	10.20	11.07	10.77	11.62	9.26
Cache	7.25	7.42	6.95	7.51	8.65	7.11	7.30	5.53
Davis	10.24	10.52	10.48	10.71	7.24	9.83	10.75	10.33
Morgan	0.26	0.28	0.48	0.33	0.33	0.23	0.19	0.14
Rich	0.02	0.11	0.00	0.00	0.00	--	--	(0.04)
Summit	0.01	0.08	0.00	0.00	0.00	--	--	(0.12)
Weber	12.35	12.30	12.42	11.91	9.62	11.92	12.20	13.93
<u>REGIONAL TOTALS</u>	<u>39.35</u>	<u>40.07</u>	<u>40.70</u>	<u>40.66</u>	<u>36.93</u>	<u>39.86</u>	<u>42.06</u>	<u>39.20</u>
<u>Central Region</u>								
Juab	1.17	1.35	1.50	1.60	3.16	2.05	1.55	1.55
Salt Lake	9.70	9.71	9.40	8.21	6.34	7.74	7.31	6.79
Sanpete	4.60	4.18	5.23	5.57	5.46	5.55	5.39	6.28
Tooele	2.50	2.34	2.38	1.89	2.77	3.18	2.85	2.93
Utah	16.95	19.43	17.48	17.64	17.30	16.94	16.00	16.90
Wasatch	0.02	0.03	0.00	0.00	0.00	--	--	(0.17)
<u>REGIONAL TOTALS</u>	<u>34.93</u>	<u>37.03</u>	<u>35.99</u>	<u>34.91</u>	<u>35.03</u>	<u>35.46</u>	<u>33.10</u>	<u>34.46</u>
<u>Southern Region</u>								
Beaver	0.68	0.45	0.40	0.54	0.74	0.66	0.46	0.65
Garfield	0.06	0.23	0.15	0.09	0.14	0.29	0.11	0.17
Iron	0.62	0.95	0.65	0.97	1.28	1.07	1.12	0.61
Kane	0.00	0.00	0.00	0.00	0.00	--	--	(0.06)
Millard	3.95	3.80	4.29	4.24	6.74	4.12	3.15	5.61
Piute	0.14	0.26	0.11	0.23	0.31	0.10	0.10	0.28
Sevier	4.31	4.15	4.62	4.57	4.60	4.90	4.34	5.17
Washington	1.24	0.96	1.33	1.24	1.14	0.91	0.95	1.10
Wayne	0.08	0.08	0.10	0.05	0.12	0.09	0.05	0.31
<u>REGIONAL TOTALS</u>	<u>11.08</u>	<u>10.89</u>	<u>11.65</u>	<u>11.93</u>	<u>15.07</u>	<u>12.14</u>	<u>10.28</u>	<u>13.89</u>
<u>Northeastern Region</u>								
Daggett	0.00	0.06	0.00	0.00	0.00	--	--	(0.06)
Duchesne	4.15	3.41	3.79	3.78	3.71	3.91	4.45	3.48
Uintah	3.67	4.58	4.48	4.20	3.59	4.10	5.08	4.24
<u>REGIONAL TOTALS</u>	<u>7.82</u>	<u>8.05</u>	<u>8.28</u>	<u>7.98</u>	<u>7.30</u>	<u>8.01</u>	<u>9.53</u>	<u>7.72</u>
<u>Southeastern Region</u>								
Carbon	1.22	1.03	1.05	1.57	2.18	2.08	1.97	1.71
Emery	2.52	1.90	1.91	2.67	2.95	1.89	2.51	2.43
Grand	0.06	0.12	0.06	0.04	0.15	0.10	0.04	0.10
San Juan	0.05	0.05	0.07	0.05	0.15	0.16	0.10	0.02
<u>REGIONAL TOTALS</u>	<u>3.86</u>	<u>3.10</u>	<u>3.09</u>	<u>4.33</u>	<u>5.43</u>	<u>4.23</u>	<u>4.62</u>	<u>4.25</u>
Unknown Counties	2.95	0.84	0.32	0.19	0.24	0.31	0.32	0.47
Mixed Counties	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
<u>STATE TOTALS</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Table 13. Statewide summary of pheasant harvest statistics, 1948-1984.

Year	Total Hunters	Total Harvest	Hunters-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	0.73	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
1979	87,462	216,700	266,245	0.81	2.48
1980	84,868	228,442	249,770	0.91	2.69
1981	83,408	234,217	265,381	0.88	2.81
1982	85,368	208,437	280,624	0.74	2.44
1983	77,847	220,074	265,731	0.83	2.83
1984	76,840	192,190	258,169	0.74	2.50
<hr/>					
TOTALS (1948-84)	3,073,034	8,604,056	8,248,768	1.04	2.80
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AVERAGES (1948-83)	83,228	233,663	221,961	1.05	2.81

Table 14. Pheasant field bag check summary, 1984.

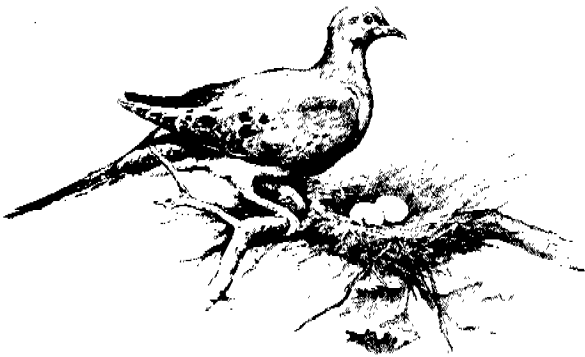
Region and County	ALL HUNTS				COMPLETE HUNTS						
	Total Parties	Total Hunters	Total Hours	Total Birds/100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Birds/100 Hr	Birds/Hunter		
<u>Northern Region</u>											
Box Elder	237	458	1,142	158	14	212	408	1,016	153	15	0.38
Cache	42	141	352	58	17	29	104	304	49	16	0.47
Davis	201	435	1,006	116	12	80	169	427	57	13	0.34
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	16	40	84	13	16	12	34	78	12	15	0.35
REGIONAL TOTALS	496	1,074	2,584	345	13	333	716	1,825	271	15	0.38
<u>Central Region</u>											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	126	286	866.5	184	21	46	101	311.5	164	53	1.62
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	126	286	866.5	184	21	46	101	311.5	164	53	1.62
<u>Southern Region</u>											
Beaver	16	44	150	14	9	5	13	17	4	24	0.31
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	276	668	2,188	363	17	128	285	1,159	189	16	0.66
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	88	266	830	178	21	14	33	136	31	23	0.94
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	380	978	3,168	555	18	147	331	1,312	224	17	0.68
<u>Northeastern Region</u>											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	61	182	525	112	21	26	67	308	56	18	0.84
Uintah	88	260	610	132	22	33	90	277	69	25	0.77
REGIONAL TOTALS	149	442	1,135	244	21	59	157	585	125	21	0.80
<u>Southeastern Region</u>											
Carbon	25	84	184	8	4	8	35	71.5	3	4	0.09
Emery	41	286	309	39	13	16	41	127.5	12	9	0.29
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	3	4	10.5	4	38	3	4	10.5	4	38	1.00
REGIONAL TOTALS	69	374	503.5	51	10	27	80	209.5	19	9	0.24
STATE TOTALS	1,220	3,154	8,257	1,379	17	612	1,385	4,243	803	19	0.58

Table 15. Pheasant hunter success trend as determined by field bag check, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	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	27	0.68	26	0.62	23	0.57	16	0.44	22	0.50	15	0.38
Cache	--	--	27	0.97	--	--	10	0.36	--	--	16	0.47
Davis	19	0.75	13	0.33	4	0.24	14	0.34	12	0.35	13	0.34
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	22	0.89	21	0.72	19	0.39	24	0.59	15	0.35
REGIONAL TOTALS	25	0.69	24	0.62	18	0.56	16	0.41	20	0.47	15	0.38
<u>Central Region</u>												
Juab	24	0.61	22	0.44	16	0.44	21	0.32	54	0.35	--	--
Salt Lake	0	0.00	--	--	10	0.45	28	1.66	4	0.06	--	--
Sanpete	55	1.40	19	0.95	25	1.15	25	1.12	34	0.97	--	--
Tooele	160	2.00	120	2.00	67	1.75	118	1.86	80	2.18	--	--
Utah	34	0.91	27	0.80	32	0.94	21	0.58	26	0.86	53	1.62
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	38	0.99	25	0.83	28	0.99	24	0.75	31	0.31	53	1.62
<u>Southern Region</u>												
Beaver	24	0.95	--	--	25	0.86	20	1.08	--	--	24	0.31
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	37	1.13	25	0.75	26	1.08	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	21	0.83	28	0.90	20	0.75	12	0.40	12	0.71	16	0.66
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	31	0.99	29	1.17	32	1.33	22	0.92	22	1.01	23	0.94
Washington	60	1.00	25	0.64	--	--	--	--	21	0.70	--	--
Wayne	--	--	--	--	5	0.98	--	--	--	--	--	--
REGIONAL TOTALS	23	0.87	28	0.98	23	0.91	17	0.64	15	0.82	17	0.68
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	15	0.97	18	1.21	20	1.48	15	1.48	22	1.87	18	0.84
Uintah	19	0.26	19	0.61	15	0.98	16	1.21	19	1.47	25	0.77
REGIONAL TOTALS	17	1.07	19	1.04	18	1.29	15	1.36	21	1.64	21	0.80
<u>Southeastern Region</u>												
Carbon	27	0.74	18	0.47	--	--	--	--	21	0.55	4	0.09
Emery	29	0.83	22	0.83	11	0.31	19	0.63	17	0.29	9	0.29
Grand	--	--	--	--	17	0.33	--	--	--	--	--	--
San Juan	0	0.00	--	0.00	--	--	--	--	--	--	38	1.00
REGIONAL TOTALS	28	0.79	21	0.75	12	0.31	19	0.63	20	0.48	9	0.24
STATE TOTALS	22	0.89	22	0.84	20	0.90	17	0.71	20	0.85	19	0.58

MIGRATORY UPLAND GAME BIRDS

SUMMARY



Mourning Doves

The breeding density index increased significantly in 1984 but remained below average.

Harvest statistics derived from the questionnaire showed increased hunter pressure and harvest compared to 1983. However, hunter success decreased 4 percent.

Field bag checks also indicated a significant decrease in hunter success supporting the results of the questionnaire survey.

Division personnel collected 3,884 wings for aging during 1984. Aging of wings indicated juvenile per 100 adult ratio increased to 131 compared to 106 in 1983, and the 18-year average of 116. Significantly, more harvested juvenile birds were hatched later than in 1983, and the long-term average.

Band-tailed Pigeons

No band-tailed pigeons were banded in Utah in 1984. Banding of band-tailed pigeons was discontinued in 1979, as a result of recommendations by the Four-Corners Band-tailed Pigeon Study Committee.

Hunter participation and harvest during the 1984 season is unknown because data is unavailable.



MOURNING DOVE

Call Count Survey

Results of the 1984 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. Indices 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 1984 survey to 1983 and the average for the period 1964-1983:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Average doves heard per route	12.9	+ 30	- 5
Average calls heard per route	58.7	+ 36	+ 2
Average doves seen per route	21.3	+124	+52

Coo count data indicated increased breeding activity in late May compared to 1983 but continued to be 5 percent below the long-term average.

Harvest

Hunter Questionnaire

Information obtained from the hunter questionnaire for 1984 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 1984 compared to 1983 and the 10-year (1974-83) average:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Mourning dove hunters	30,573	+8	-5
Mourning dove harvest	282,307	+3	-13
Hunter-days afield	108,793	+8	-1
Mourning doves per hunter-day	2.59	-4	-13
Mourning doves hunter	9.23	-4	-8

The Division predicted one week before the season 30,000 hunters and 300,000 harvest. Significant improvement in dove hunter success was predicted due to a 30 percent improvement in spring dove call count index and 5 times as many doves observed on an experimental pre-season dove route in Central Utah. Although hunter success decreased four percent, total harvest increased slightly compared to 1983. Numbers of dove hunters, hunter-days afield and doves per hunter-day remained below the 10 year average.

Long-term harvest trends are depicted in Figure 2.

Accumulated annual precipitation was well above normal by September 1. Recurring thunderstorms produced excellent forage and cover conditions for doves. The moist conditions delayed grain thrashing in northcentral Utah resulting in the shattering of some grain.

Field Bag Checks

A summary of field bag check data for 1984 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1984 survey compared to 1983 and the average (1967-83) follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	1,753	+48	-4
Total hours hunted	8,186	+76	+30
Doves per hunter (complete hunts)	3.80	-34	+4
Doves bagged per 100 hours	80	-26	-15
Average hours per hunter-day (complete hunts)	4.3	-12	+16
Hours hunted per dove bagged	1.3	+44	+18

September 1, 1984 was a Saturday, so more hunters were expected. Weather was fair throughout the weekend. Field bag checks indicated a significant decrease in hunter success. This confirms the questionnaire results which also indicated decreased hunter success. The total number of hunters checked was up 48 percent from 1983. Dove hunters spent less time afield per hunter-day than in 1983, 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 1975 through 1984 is contained in Table 10. Hatching dates for immature doves harvested in the Northern Region since 1975 are shown in Table 11. Hatching dates for immature doves harvested in Utah in 1984 are shown in Table 12.

Following is a comparison of data collected in 1984 to 1983 and long-term averages (1966-83):

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Sample size	3,884	+35	+19
Immatures/100 adults	131	+24	+13
Percent of immatures hatched on: (N. Region)			
August 3 or later	43.1	+89	+13
July 25 or later	91.5	+41	+15
Before July 25	8.5	-76	-58

More wings were collected for aging during the 1984 season compared to 1983. The 131 immatures per 100 adults indicated a more successful hatch than 1983, and was 13 percent above the previous 18-year average. Wing analysis indicated significantly later hatching for 1984 compared with 1983 and the long-term average.

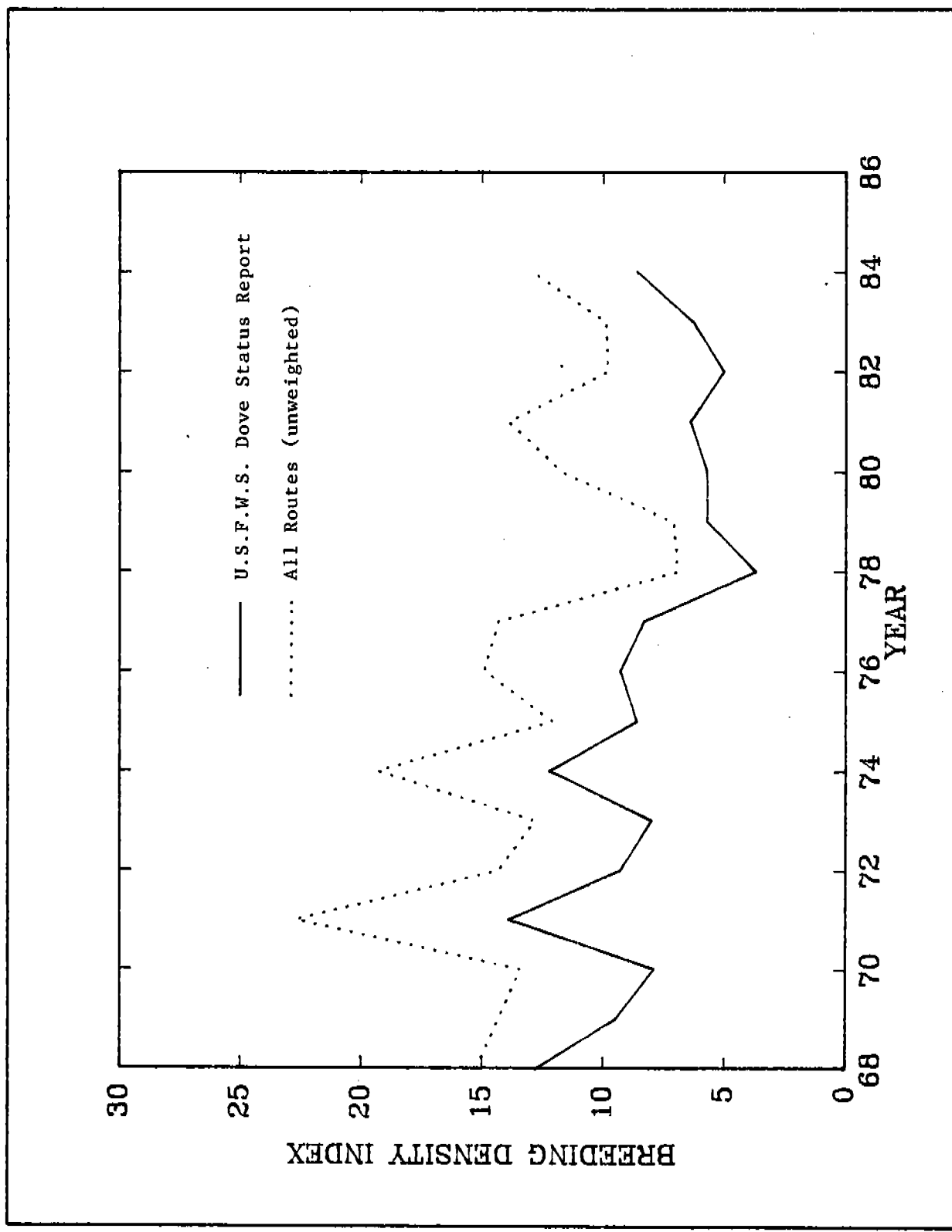


Figure 1. Mourning dove breeding density index trend.

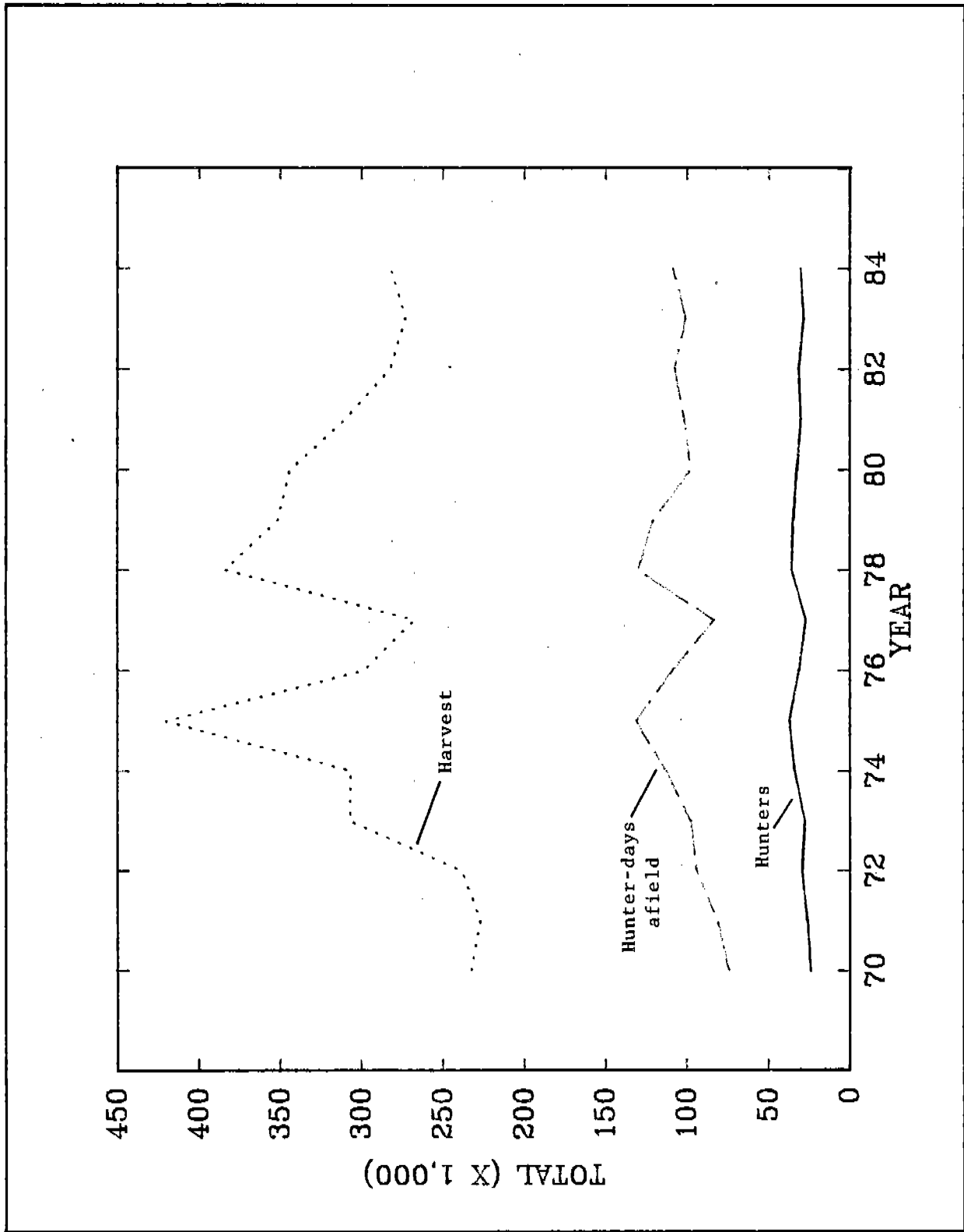


Figure 2. Statewide trends of mourning dove harvest statistics.

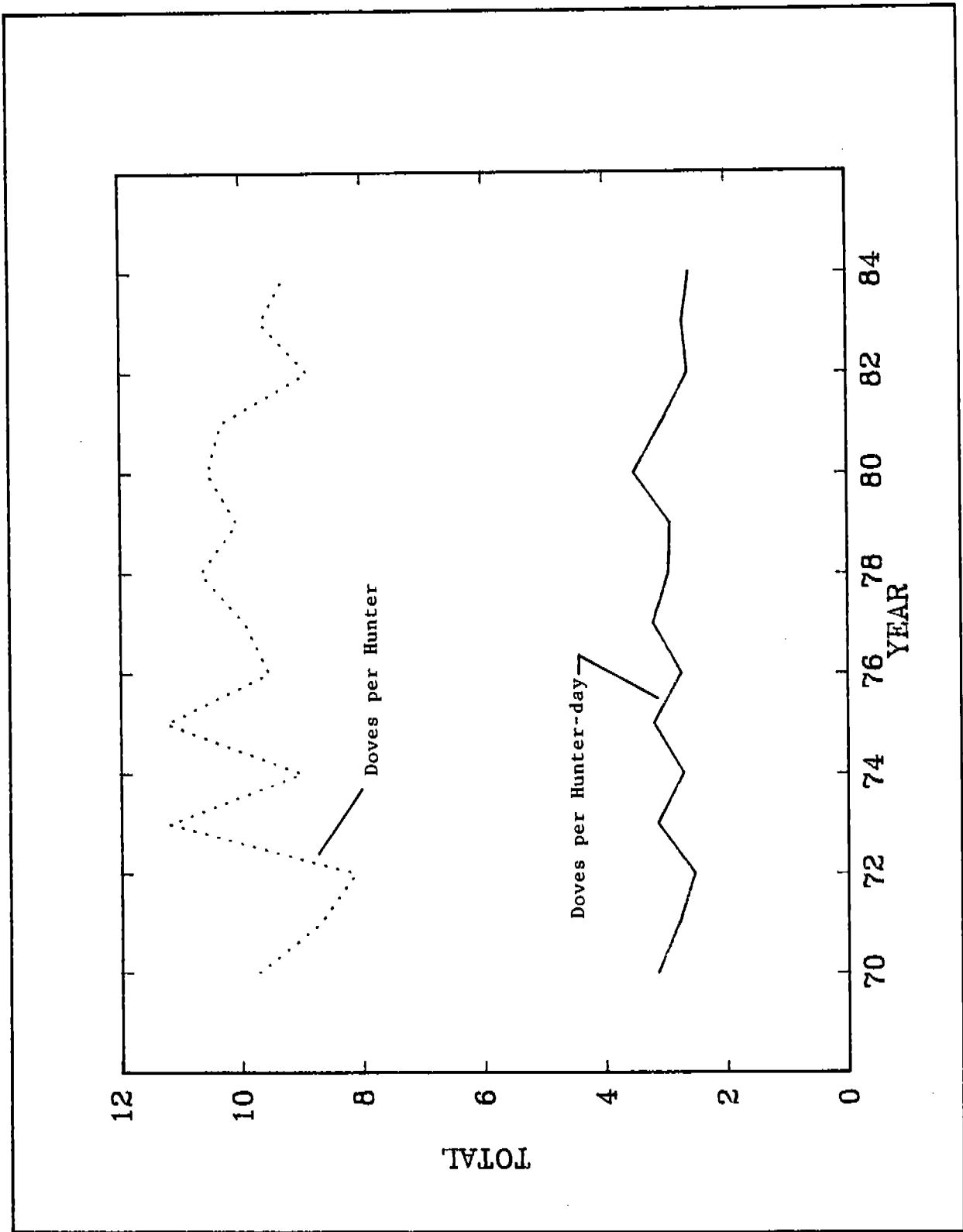


Figure 3. Statewide trends of mourning dove harvest statistics.

Table 1. Summary of the mourning dove call-count survey for 1984.

Region and County	Route Number	Total Doves Heard Per Route	Total Calls Heard Per Route	Total Doves Seen Per Route
<u>Northern Region</u>				
Summit	R1020	1	11	0
Box Elder	R1500	0	0	6
REGIONAL TOTALS		1	11	6
<u>Central Region</u>				
Juab	R2830	19	77	4
REGIONAL TOTALS		19	77	4
<u>Southern Region</u>				
Sevier-Sanpete	R0370	5	5	19
Wayne-Sevier	R0660	17	35	11
Garfield	R1090	15	75	0
Millard	R3640	14	33	37
Beaver	R3820	6	26	19
Iron	R4000	31	232	8
Washington	R4310	1	8	3
REGIONAL TOTALS		89	414	97
<u>Northeastern Region</u>				
Duchesne	R0080	1	2	32
Uintah	* R0220	10	37	10
REGIONAL TOTALS		11	39	42
<u>Southeastern Region</u>				
Emery	R0540	10	35	3
San Juan	R1171	57	334	163
San Juan	* R1450	7	9	4
REGIONAL TOTALS		74	378	170
STATE TOTALS		194	880	319
STATE AVERAGE		12.9	58.7	21.3
PERCENT CHANGE (from previous year)		+30.3	+35.9	+124.2

*New route location

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, 1973-84.

Region and County	Route Number	Number of Doves Heard Per Route												
		1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region														
Summit	R1020	3	3	3	11	10	5	6	5	4	5	--	1	
Box Elder	R1500	5	3	5	1	4	2	9	4	8	--	1	0	
REGIONAL TOTALS		8	6	8	12	14	7	15	9	12	5	1	1	
Central Region														
Juab	R2830	17	16	13	28	25	31	15	31	22	9	25	19	
REGIONAL TOTALS		17	16	13	28	25	31	15	31	22	9	25	19	
Southern Region														
Sevier-Sanpete	R0370	0	0	0	0	2	0	0	3	0	0	3	5	
Wayne-Sevier	R0660	11	16	7	5	8	1	2	5	14	4	--	17	
Garfield	R1090	0	0	0	3	1	0	0	0	9	2	3	15	
Millard	R3640	24	22	21	6	29	8	4	2	10	9	5	14	
Beaver	R3820	6	24	0	0	0	0	5	9	7	13	3	6	
Iron	R4000	35	103	42	45	27	12	14	40	36	21	19	31	
Washington	R4310	26	32	37	19	15	1	4	3	6	0	14	1	
REGIONAL TOTALS		102	197	107	78	82	22	29	62	82	49	47	89	
Northeastern Region														
Duchesne	R0080	3	14	9	11	14	2	2	1	13	7	0	1	
Uintah	R0220	18	12	7	27	7	4	--	49	19	1	9	10	
REGIONAL TOTALS		21	26	16	38	21	6	2	50	32	8	9	11	
Southeastern Region														
Emery	R0540	27	4	6	14	4	10	9	7	22	7	11	10	
San Juan	R1170	17	41	32	51	67	24	28	14	38	26	30	57	
San Juan	R1450	*	*	*	2	1	3	1	3	0	24	5	7	
REGIONAL TOTALS		44	45	38	67	72	37	38	24	60	57	46	74	
STATE TOTALS		192	290	182	223	214	103	99	176	208	128	128	194	
STATE AVERAGES		12.8	19.3	12.1	14.9	14.3	6.9	7.1	11.7	13.9	9.8	9.9	12.9	
PERCENT CHANGE (from previous year)		-10	+51	-37	+23	-4	-52	+3	+65	+18	-38	0	+30	

*Automatic zero.

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	163	8,810	28,117	3.19	8.10	9.96
Cache	86	6,496	13,297	2.05	5.97	4.71
Davis	66	5,704	9,460	1.66	5.24	3.35
Morgan	12	446	852	1.91	0.41	0.30
Rich	8	324	2,172	6.69	0.30	0.77
Summit	5	182	710	3.89	0.17	0.25
Weber	72	6,496	10,089	1.55	5.97	3.57
REGIONAL TOTALS	412	28,462	64,699	2.27	26.16	22.92
<u>Central Region</u>						
Juab	155	5,988	26,594	4.44	5.50	9.42
Salt Lake	143	11,429	22,310	1.95	10.51	7.90
Sanpete	68	3,309	9,846	2.98	3.04	3.49
Tooele	152	8,445	24,462	2.90	7.76	8.67
Utah	294	17,824	39,343	2.21	16.38	13.94
Wasatch	14	1,096	2,415	2.20	1.01	0.86
REGIONAL TOTALS	826	48,093	124,973	2.60	44.21	44.27
<u>Southern Region</u>						
Beaver	22	1,888	6,516	3.45	1.74	2.31
Garfield	8	406	730	1.80	0.37	0.26
Iron	30	1,542	4,730	3.07	1.42	1.68
Kane	11	690	3,979	5.76	0.63	1.41
Millard	120	6,780	28,807	4.25	6.23	10.20
Plute	7	649	1,258	1.94	0.60	0.45
Sevier	61	5,318	11,246	2.11	4.89	3.98
Washington	34	2,557	6,699	2.62	2.35	2.37
Wayne	3	162	324	2.00	0.15	0.11
REGIONAL TOTALS	296	19,996	64,293	3.22	18.38	22.77
<u>Northeastern Region</u>						
Daggett	8	812	1,197	1.48	0.75	0.42
Duchesne	20	1,522	2,781	1.83	1.40	0.99
Uintah	49	2,882	7,511	2.61	2.65	2.66
REGIONAL TOTALS	77	5,217	11,490	2.20	4.80	4.07
<u>Southeastern Region</u>						
Carbon	39	3,166	6,760	2.13	2.91	2.39
Emery	26	1,827	4,100	2.24	1.68	1.45
Grand	17	1,015	2,497	2.46	0.93	0.88
San Juan	17	994	3,491	3.51	0.91	1.24
REGIONAL TOTALS	99	7,003	16,849	2.41	6.44	5.97
Unknown Counties	1	20	0	0.00	0.02	0.00
STATE TOTALS	1,711	108,793	282,307	2.59	100	100

*Total hunter trips from questionnaire returns.

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>								
Box Elder	3.92	3.60	3.76	4.97	3.04	3.74	3.50	3.19
Cache	2.84	1.98	2.47	2.77	2.83	2.16	2.48	2.05
Davis	1.81	1.49	1.34	1.79	1.59	1.52	1.32	1.66
Morgan	3.87	2.10	3.14	2.91	2.73	4.78	2.65	1.91
Rich	0.82	4.19	1.71	2.00	3.00	1.57	3.08	6.09
Summit	5.69	1.86	3.36	4.71	3.19	2.34	2.08	3.89
Weber	1.97	1.66	1.91	2.29	2.18	1.93	1.81	1.55
REGIONAL TOTALS	2.91	2.38	2.53	3.31	2.57	2.50	2.43	2.27
<u>Central Region</u>								
Juab	5.07	4.46	4.38	4.70	3.82	3.64	5.35	4.44
Salt Lake	2.58	2.13	2.28	2.33	2.65	1.89	2.14	1.95
Sanpete	4.16	2.73	2.61	3.64	3.23	2.48	3.64	2.98
Tooele	3.26	3.19	2.53	3.43	2.30	2.54	2.74	2.90
Utah	2.92	2.39	2.22	3.08	2.96	2.10	2.10	2.21
Wasatch	2.50	2.89	2.59	3.45	1.46	1.39	0.83	2.20
REGIONAL TOTALS	3.20	2.73	2.62	3.23	2.86	2.33	2.64	2.60
<u>Southern Region</u>								
Beaver	5.27	5.67	4.94	5.03	4.86	4.78	5.62	3.45
Garfield	1.04	1.70	4.56	5.17	4.02	4.15	3.07	1.80
Iron	4.00	4.48	4.52	5.02	4.42	3.24	3.60	3.07
Kane	3.05	5.08	4.17	5.86	4.71	2.50	4.38	5.76
Millard	4.62	5.13	4.92	5.43	4.11	4.49	4.63	4.25
Piute	3.10	2.60	2.18	3.90	4.05	0.63	1.65	1.94
Sevier	3.66	2.52	2.91	3.63	2.30	2.51	2.73	2.11
Washington	4.84	3.90	3.25	3.73	4.19	2.92	4.34	2.62
Wayne	6.40	3.64	6.04	2.93	3.76	2.56	2.50	2.00
REGIONAL TOTALS	4.23	3.88	4.05	4.58	3.85	3.49	3.80	3.22
<u>Northeastern Region</u>								
Daggett	3.44	3.40	2.79	1.50	1.00	2.33	1.34	1.48
Duchesne	2.65	3.43	3.13	3.07	3.76	3.09	2.79	1.83
Uintah	3.10	2.70	2.96	3.44	1.81	2.51	2.33	2.61
REGIONAL TOTALS	2.94	3.01	3.01	3.22	2.43	2.74	2.39	2.20
<u>Southeastern Region</u>								
Carbon	2.25	2.85	3.14	3.88	3.42	3.13	2.06	2.13
Emery	2.88	3.00	2.54	3.04	3.62	2.37	2.00	2.24
Grand	1.26	4.00	3.68	4.66	4.12	2.99	2.85	2.46
San Juan	3.88	4.09	3.97	3.80	3.75	3.68	3.70	3.51
REGIONAL TOTALS	2.61	3.40	3.09	3.69	3.75	2.99	2.41	2.41
Unknown counties	2.13	3.46	5.09	5.00	0.64	1.56	7.20	0.00
Mixed counties	10.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	3.21	2.95	2.92	3.52	3.05	2.62	2.71	2.59

Table 5. Percentage distribution of mourning dove harvest by region and county, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>								
Box Elder	8.44	8.10	10.01	10.46	8.89	10.36	11.40	9.96
Cache	2.64	2.71	3.00	2.12	2.77	2.85	4.85	4.71
Davis	1.81	1.61	2.39	1.38	1.90	2.73	2.71	3.35
Morgan	1.55	0.65	1.03	0.96	1.05	1.27	0.64	0.30
Rich	0.08	0.59	0.22	0.27	0.23	0.26	0.54	0.77
Summit	1.16	0.36	0.19	0.16	0.46	0.48	0.12	0.25
Weber	3.72	3.07	3.78	3.72	3.37	5.67	4.31	3.57
REGIONAL TOTALS	19.40	17.08	20.63	19.07	18.66	23.62	24.56	22.92
<u>Central Region</u>								
Juab	7.62	8.88	9.55	9.25	6.99	7.97	8.93	9.42
Salt Lake	8.49	7.16	9.39	7.89	7.09	7.12	7.34	7.90
Sanpete	3.31	3.87	4.34	3.94	2.59	2.65	3.44	3.49
Tooele	7.15	6.18	5.57	7.55	5.31	8.27	9.46	8.67
Utah	16.40	16.20	12.73	14.92	17.37	15.20	14.14	13.94
Wasatch	0.56	0.66	0.63	0.80	0.78	0.58	0.24	0.86
REGIONAL TOTALS	43.54	42.95	42.22	44.35	40.13	41.79	43.56	44.27
<u>Southern Region</u>								
Beaver	2.55	1.68	1.62	1.69	1.70	2.60	1.65	2.31
Garfield	0.15	0.65	1.11	1.07	1.54	1.17	0.90	0.26
Iron	3.97	4.20	2.60	2.60	4.20	2.64	2.71	1.68
Kane	0.38	0.98	0.80	0.40	1.36	0.11	0.84	1.41
Millard	7.27	9.28	10.84	8.55	7.73	6.80	6.17	10.20
Piute	0.37	0.81	0.45	0.60	1.03	0.03	0.41	0.45
Sevier	4.83	4.26	5.23	3.63	2.91	3.37	3.23	3.98
Washington	3.82	2.91	2.45	3.39	3.16	3.25	3.70	2.37
Wayne	0.36	0.86	1.25	0.22	0.64	0.35	0.12	0.11
REGIONAL TOTALS	23.70	25.63	26.36	22.15	24.26	20.42	19.74	22.77
<u>Northeastern Region</u>								
Daggett	0.35	0.09	0.22	0.04	0.12	0.15	0.21	0.42
Duchesne	1.51	2.31	1.66	2.07	2.40	2.30	1.53	0.99
Uintah	2.18	2.61	2.79	2.29	1.99	2.52	2.49	2.66
REGIONAL TOTALS	4.04	5.01	4.67	4.41	4.50	4.97	4.24	4.07
<u>Southeastern Region</u>								
Carbon	2.03	1.75	1.96	2.82	2.44	3.94	2.28	2.39
Emery	1.84	2.38	1.92	2.85	3.32	2.00	2.37	1.45
Grand	0.33	2.32	0.90	1.98	3.90	1.20	0.99	0.88
San Juan	1.51	1.90	1.10	2.30	2.75	1.90	2.08	1.24
REGIONAL TOTALS	5.70	8.35	5.89	9.95	12.40	9.04	7.73	5.97
Unknown counties	3.51	0.94	0.23	0.07	0.05	0.15	0.18	0.00
Mixed counties	0.11	0.05	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100	100

Table 6. Percentage distribution of mourning dove hunting pressure by region and county, 1977-84.

Region and County	Year							
	1977	1978	1979	1980	1981	1982	1983	1984
Northern Region								
Box Elder	6.92	6.63	7.76	7.40	8.91	7.25	8.84	8.10
Cache	2.99	4.03	3.54	2.69	2.98	3.46	5.29	5.97
Davis	3.22	3.18	5.21	2.71	3.65	4.69	5.57	5.24
Morgan	1.29	0.91	0.95	1.16	1.17	0.70	0.65	0.41
Rich	0.31	0.42	0.37	0.49	0.23	0.43	0.48	0.30
Summit	0.65	0.57	0.17	0.12	0.44	0.54	0.16	0.17
Weber	6.07	5.44	5.76	5.72	4.72	7.71	6.45	5.97
REGIONAL TOTALS	21.45	21.17	23.77	20.30	22.10	24.78	27.45	26.16
Central Region								
Juab	4.84	5.87	6.36	6.93	5.57	5.73	4.53	5.50
Salt Lake	10.58	9.92	12.00	11.94	8.16	9.90	9.30	10.51
Sanpete	2.55	4.18	4.86	3.81	2.44	2.80	2.57	3.04
Tooele	7.05	5.70	6.42	7.75	7.05	8.52	9.39	7.76
Utah	18.02	20.00	16.70	17.05	17.90	18.92	18.28	16.38
Wasatch	0.72	0.68	0.71	0.82	1.63	1.08	0.78	1.01
REGIONAL TOTALS	43.76	46.36	47.04	48.29	42.76	46.95	44.85	44.21
Southern Region								
Beaver	1.56	0.88	0.95	1.18	1.06	1.48	0.80	1.74
Garfield	0.47	1.12	0.71	0.73	1.17	0.74	0.80	0.37
Iron	3.19	2.77	1.68	1.82	2.90	2.13	2.05	1.42
Kane	0.40	0.57	0.56	0.24	0.88	0.11	0.52	0.63
Millard	5.05	5.34	6.43	5.54	5.74	3.97	3.62	6.23
Piute	0.38	0.92	0.60	0.54	0.77	0.11	0.68	0.60
Sevier	4.24	4.98	5.24	3.53	3.86	3.51	3.20	4.89
Washington	2.54	2.20	2.20	3.20	2.30	2.92	2.31	2.35
Wayne	0.18	0.69	0.60	0.26	0.52	0.35	0.13	0.15
REGIONAL TOTALS	18.00	19.46	18.98	17.05	19.20	15.34	14.11	18.38
Northeastern Region								
Daggett	0.33	0.08	0.23	0.1	0.35	0.17	0.42	0.75
Duchesne	1.83	1.98	1.55	2.38	1.94	1.95	1.49	1.40
Uintah	2.26	2.84	2.74	2.35	3.34	2.63	2.90	2.65
REGIONAL TOTALS	4.22	4.90	4.52	4.83	5.63	4.75	4.81	4.80
Southeastern Region								
Carbon	2.90	1.81	1.82	2.56	2.17	3.30	3.00	2.91
Emery	2.05	2.34	2.21	3.30	2.80	2.21	3.23	1.68
Grand	0.83	1.71	0.71	1.50	2.88	1.05	0.94	0.93
San Juan	1.25	1.37	0.81	2.14	2.23	1.35	0.53	0.91
REGIONAL TOTALS	7.03	7.23	5.56	9.49	10.08	7.91	8.71	6.44
Unknown counties	5.31	0.80	0.13	0.05	0.23	0.26	0.07	0.02
Mixed counties	0.04	0.08	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100	100

Table 7. Statewide summary of mourning dove harvest statistics, 1951-84.

Year	Total Hunters	Total Harvest	Hunters-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
1979	34,903	351,161	120,459	2.92	10.06
1980	32,627	343,851	97,644	3.52	10.54
1981	30,060	310,068	101,728	3.05	10.31
1982**	31,756	282,188	107,728	2.62	8.89
1983	28,258	272,979	100,568	2.71	9.66
1984	30,573	282,307	108,793	2.59	9.23
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TOTALS					
(1951-84)	744,495	7,068,972	2,238,427	119.56	310.91
(1974-83)	323,186	3,236,304	1,094,563	29.63	99.84
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AVERAGES					
(1951-84)	21,897	207,911	65,836	3.16	9.14
(1974-83)	32,319	323,630	109,456	2.96	9.98

*Estimated.

**Bag Limit increased to 15.

Table 8. Mourning dove field bag check summary, 1984.

Region and County	ALL HUNTS				COMPLETE HUNTS				Total Birds/ Hunter		
	Total Parties	Total Hunters	Total Hours	Total Birds 100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Birds 100 Hr			
Northern Region											
Box Elder	128	319	1,381	1,388	101	128	319	1,381	1,388	101	4.35
Cache	--	--	--	--	--	--	--	--	--	--	--
DAVIS	25	41	105	55	52	9	12	25	29	116	2.42
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	1	4	16	25	156	1	4	16	25	156	6.25
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	13	23	46	65	141	6	10	34	62	182	6.20
REGIONAL TOTALS	167	387	1,548	1,533	101	144	345	1,456	1,504	103	4.36
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	36	58	125	77	62	36	58	125	77	62	1.33
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	36	58	125	77	62	36	58	125	77	62	1.33
Southern Region											
Beaver	8	20	132	124	94	4	11	105	92	88	8.36
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	100	245	959	929	97	8	20	96	97	101	4.85
Plute	--	--	--	--	--	--	--	--	--	--	--
Sevier	6	13	52	28	54	0	0	0	0	--	2.15
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	114	278	1,143	1,081	94	12	31	201	189	94	6.09
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	5	11	28	38	135	5	11	28	38	135	3.45
Uintah	11	26	45	43	95	6	17	32	16	50	0.94
REGIONAL TOTALS	16	37	73	81	111	11	28	60	54	90	1.93
Southeastern Region											
Carbon	12	36	116	130	112	2	8	10	75	750	9.38
Emery	4	13	36	64	178	1	2	7	30	428	16.00
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	14	31	63	138	219	5	11	26	49	188	4.45
REGIONAL TOTALS	30	80	215	332	154	8	21	43	154	358	7.33
LEHI CHECK STATION	241	589	3,729	1,918	51	196	479	2,225	1,254	56	2.61
NEPHI CHECK STATION*	132	324	1,353	1,507	111	60	157	757	1,022	135	6.50
STATE TOTALS	736	1,753	8,186	6,529	80	467	1,119	4,867	4,254	87	3.80

*Includes Millard and Juab counties.

Table 9. Mourning dove hunter success trend determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	Doves/100 Hr Hunter	Doves/Hunter	Doves/100 Hr Hunter	Doves/Hunter	Doves/100 Hr Hunter	Doves/Hunter	Doves/100 Hr Hunter	Doves/Hunter	Doves/100 Hr Hunter	Doves/100 Hr Hunter	Doves/100 Hr Hunter	Doves/Hunter
<u>Northern Region</u>												
Box Elder	98	3.74	131	5.98	135	5.52	109	4.80	128	5.61	101	4.35
Cache	--	--	163	5.33	--	--	--	--	33	1.67	--	--
Davis	80	1.78	81	2.74	59	1.70	122	3.30	75	2.00	116	2.42
Morgan	--	--	--	--	--	--	--	--	100	1.00	--	--
Rich	80	2.15	--	--	--	--	406	14.60	--	--	156	6.25
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	67	3.00	--	--	--	--	317	9.50	214	3.00	182	6.20
REGIONAL TOTALS	96	3.51	129	5.72	128	4.99	120	4.99	126	5.12	103	4.36
<u>Central Region</u>												
Juab	421	9.83	68	4.30	--	--	--	--	--	--	--	--
Salt Lake	23	0.38	333	3.33	--	--	--	--	61	1.40	--	--
Sanpete	81	2.23	20	0.56	200	1.00	37	0.92	--	--	--	--
Tooele	233	7.00	241	8.09	139	0.93	--	2.77*	133	3.33	--	--
Utah	47	1.84	53	1.80	--	--	--	--	172	7.86	62	1.33
Wasatch	--	--	--	--	--	--	--	--	0	0.00	--	--
REGIONAL TOTALS	49	1.85	75	3.84	63	0.96	37	0.92	122	3.90	62	1.33
<u>Southern Region</u>												
Beaver	158	4.75	224	9.25	78	2.89	113	5.42	--	--	88	8.36
Garfield	196	5.36	--	--	--	--	--	--	--	--	--	--
Iron	321	6.77	500	10.00	--	--	--	--	--	--	--	--
Kane	331	9.53	180	5.65	--	--	--	--	35	6.13	--	--
Millard	98	5.60	172	6.20	152	5.96	--	3.75*	113	8.03	101	4.85
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	1.88*	--	1.83*	--	2.15*
Washington	500	10.00	343	6.86	--	--	--	--	236	4.71	--	--
Wayne	--	--	--	--	150	2.77	30	1.13	--	--	--	--
REGIONAL TOTALS	141	6.34	203	6.41	125	4.45	97	4.41	148	6.80	94	6.09
<u>Northeastern Region</u>												
Daggett	225	2.12	59	1.11	226	5.20	--	--	--	--	--	--
Duchesne	--	--	100	1.00	--	--	66	2.00	67	1.60	135	3.45
Uintah	87	1.75	124	2.38	166	2.92	400	4.00	146	2.11	50	0.94
REGIONAL TOTALS	156	2.00	87	1.61	198	3.95	200	3.33	108	1.93	90	1.93
<u>Southeastern Region</u>												
Carbon	61	1.75	177	3.65	1,000	10.00	230	6.68	183	2.20	750	9.38
Emery	--	--	233	3.50	664	9.13	205	4.79	193	5.80	428	15.00
Grand	50	0.50	--	--	--	--	32	10.50	--	--	--	--
San Juan	217	4.19	261	5.64	115	2.50	--	--	566	11.33	188	4.45
REGIONAL TOTALS	133	3.00	215	4.43	415	6.75	153	5.90	231	5.74	358	7.33
NEPHI CHECK STATION	86	4.65	37	1.68	116	5.62	91	3.94	155	7.40	56	2.61
LEHI CHECK STATION	--	--	50	2.39	95	3.97	185	3.16	83	5.14	135	6.50
STATE TOTALS	69	2.86	64	2.94	107	4.34	125	3.98	117	5.76	87	3.80

*Doves per hunter index based on all hunts.

Table 10. Age composition (Immatures/100 Adults) of mourning doves harvested, 1975-84.

Region and County	1975		1976		1977		1978		1979		1980		1981		1982		1983		1984		
	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)	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	123 (2830)	103 (1870)	216 (1296)	88 (999)	84 (1271)	121 (1454)	107 (700)	124 (716)	143 (515)	135 (1172)											
Cache	66 (128)	114 (15)	0 (2)		106 (33)	151 (113)			67 (5)												
Davis	100 (4)		150 (10)		71 (65)	169 (43)			107 (56)	121 (42)											
Morgan	84 (116)																				
Rich					92 (25)			4,200 (43)													
Summit																					
Weber	100 (26)	117 (13)	233 (20)		190 (29)																
REGIONAL TOTALS	118 (3104)	103 (1898)	216 (1328)	88 (999)	86 (1423)	124 (1610)	107 (700)	135 (815)	143 (617)	133 (1237)											
Central Region																					
Juab	228 (220)	240 (136)	283 (199)	63 (75)																	
Salt Lake	109 (338)	147 (42)	275 (120)																		
Sanpete	650 (30)	222 (87)	139 (74)																		
Tooele	76 (202)	156 (115)	195 (177)	60 (262)	84 (103)	118 (96)	78 (71)	80 (137)													
Utah	128 (392)	170 (278)	113 (286)	61 (1814)	80 (1823)	45 (29)		100 (32)													
Wasatch																					
REGIONAL TOTALS	128 (1182)	184 (658)	177 (856)	61 (2151)	81 (1926)	95 (125)	78 (71)	89 (169)													
Southern Region																					
Beaver																					
Garfield	176 (47)																				
Iron																					
Kane																					
Millard																					
Piute																					
Sevier																					
Washington																					
Wayne																					
REGIONAL TOTALS	176 (47)	320 (30)																			
Northeastern Region																					
Daggett																					
Duchesne																					
Uintah																					
REGIONAL TOTALS																					
Southeastern Region																					
Carbon					67 (167)																
Emery	233 (30)																				
Grand	300 (84)								260 (18)	76 (88)											
San Juan	189 (214)	97 (274)								50 (84)											
REGIONAL TOTALS	215 (328)	97 (274)																			
NEPHI CHECK STATION					67 (167)	281 (80)	65 (102)	119 (226)													
LEHI CHECK STATION					87 (2013)	114 (1814)	100 (862)	105 (1067)	83 (1075)	84 (1021)	108 (1239)	198 (1130)	96 (1292)								
STATE TOTALS	126 (4661)	118 (2860)	200 (2184)	75 (5163)	91 (5330)	111 (3881)	87 (4015)	91 (3143)	106 (2877)	131 (3884)	112 (892)	141 (196)	85 (1344)	112 (3790)							

Table 11. Percent of harvest by hatching date of immature mourning doves in northern Utah, 1975-84.

Date Hatched	Age* (Days)	P	PERCENT OF HARVEST BY HATCH DATE										S A M P L E S I Z E									
			1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Aug 3	29	none	11.1	42.5	36.4	52.8	45.6	35.6	46.1	32.6	22.8	43.1	177	409	329	246	265	316	166	152	77	304
Jul 31	32	1	24.3	22.9	27.9	25.3	22.7	26.9	33.6	24.9	21.3	29.4	389	220	252	118	132	239	121	116	72	207
Jul 25	38	2	32.3	17.9	17.3	12.0	14.3	16.4	14.2	21.7	21.0	19.0	517	172	156	56	83	146	51	101	71	134
Jul 18	45	3	18.4	7.2	6.7	5.8	8.1	11.6	5.0	7.7	14.8	6.0	295	69	60	27	47	103	18	36	50	42
Jul 9	54	4	8.6	4.0	4.3	3.0	5.0	5.1	0.6	4.7	9.2	2.1	137	38	39	14	29	45	2	22	31	15
Jun 30	63	5	5.3	2.0	2.4	0.4	1.5	2.4	--	4.1	6.2	0.4	85	19	22	2	9	21	0	19	21	3
Jun 21	72	6	--	1.0	2.9	0.2	1.7	1.5	--	2.8	2.1	0.0	--	10	26	1	10	13	0	13	7	0
Jun 8	85	7	--	0.9	2.2	--	--	0.3	--	1.3	2.4	--	--	9	20	0	0	3	0	6	8	0
May 22	102	8	--	1.7	--	0.2	0.2	--	0.3	0.2	0.0	--	--	16	--	1	1	0	1	1	1	0
Apr 27	127	9	--	--	--	0.2	0.9	0.2	0.3	--	--	--	--	--	1	5	2	1	0	0	0	0
Apr 21	133	10	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0	0	0	0	0
			100	100	100	100	100	100	100	100	100	100	1600	962	904	466	581	888	360	466	336	705

*Allen, J. M., 1963.

P = Last primary molted.

Table 12. Percent of harvest by hatching date of immature mourning doves from the various regions and check stations in Utah, 1984.

Date Hatched	Age* (Days)	P	PERCENT OF HARVEST BY HATCH DATE											
			N Region		C Region		SE Region		N Region		S A M P L E		Other	Total
			Nephi	CS	Nephi	CS	SE	Nephi	CS	C Region	T Region	S Region		
Aug 3	29	none	43.1	27.5	43.9	--	34.8	50.0	304	110	141	--	251	24
Jul 31	32	1	29.4	46.0	40.5	--	43.6	37.5	207	184	130	--	314	18
Jul 25	38	2	19.0	14.0	9.3	--	11.9	8.3	134	56	30	--	86	4
Jul 18	45	3	6.0	6.5	4.0	--	5.4	0.0	42	26	13	--	39	0
Jul 9	54	4	2.1	2.5	1.6	--	2.1	2.1	15	10	5	--	15	1
Jun 30	63	5	0.4	2.0	0.6	--	1.4	2.1	3	8	2	--	10	1
Jun 21	72	6	0.0	0.8	--	--	0.4	0.0	0	3	0	0	3	0
Jun 8	85	7	--	0.0	--	--	0.0	--	0	0	0	0	0	--
May 22	102	8	--	0.3	--	--	0.1	--	0	1	0	0	1	--
Apr 27	127	9	--	0.5	--	--	0.3	--	0	2	0	0	2	0
Apr 21	133	10	--	--	--	--	--	--	0	0	0	0	0	0
			100	100	100	100	100	100	338	400	321	--	721	48

*Allen, J. M., 1963.

P = Last primary molted.

BAND-TAILED PIGEON

Banding

Between 1969 and 1978, 2,649 total pigeons were 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 1984 band-tailed pigeon harvest are unknown, because permits were not required. Therefore, a questionnaire was not sent to participants. Harvest trends since 1970 are shown in Table 14.

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Band-tailed pigeon hunters	---	---	---
Band-tailed pigeon harvest	---	---	---
Hunter-days afield	---	---	---
Pigeons per hunter-day	---	---	---
Pigeons per hunter	---	---	---

Total hunters, hunter-days afield and total harvest are unknown for 1984. It is assumed that a majority of the 1984 harvest again occurred in Iron and Washington counties.

Table 13. Band-tailed pigeon harvest statistics, 1984.

Area Hunted	Participating Hunters		Hunter-days		Harvest		Pigeons/ Hunter-day	Percent of Pressure*	Percent of Harvest
	Reported	Calc.	Reported	Calc.	Reported	Calc.			
Beaver County	--	--	--	--	--	--	--	--	--
Blue Mountain-Elk Ridge	--	--	--	--	--	--	--	--	--
Carbon County	--	--	--	--	--	--	--	--	--
Garfield County	--	--	--	--	--	--	--	--	--
Iron County	--	--	--	--	--	--	--	--	--
Kane County	--	--	--	--	--	--	--	--	--
LaSal Mountain	--	--	--	--	--	--	--	--	--
Millard County	--	--	--	--	--	--	--	--	--
Plute County	--	--	--	--	--	--	--	--	--
Utah County	--	--	--	--	--	--	--	--	--
Washington County	--	--	--	--	--	--	--	--	--
Wayne County	--	--	--	--	--	--	--	--	--
Mixed counties (Washington & Iron)	--	--	--	--	--	--	--	--	--
TOTALS	--	--	--	--	--	--	--	--	--

*Based on hunter-days.

Table 14. Band-tailed pigeon harvest trend, 1970-84.

Year	Total Hunters Afield	Total Harvest	Hunter-Days Afield	Pigeons Per Hunter-day	Pigeons Per 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
1979	62	117	133	0.9	1.9
1980	62	182	175	1.0	2.9
1981	67	101	142	0.7	1.5
1982	51	113	125	0.9	2.2
1983	—	—	—	—	—
1984	—	—	—	—	—
TOTALS (1970-84)	746	2,036	1,787	1.1	2.7
AVERAGES (1970-83)	57	157	137	1.1	2.8

CHUKAR PARTRIDGE

SUMMARY

The statewide breeding population of chukars decreased in 1984 following a very severe winter in northwestern Utah. Late winter and early spring precipitation, critical to successful chukar production, was above average, indicating good reproductive potential, but was accompanied by near record cold temperatures in January and February which did not permit normal melting and periodic exposure of the ground.

Results of the brood survey indicated that brood production was well below average. Favorable nesting conditions and adequate forage were available as a result of accumulated precipitation during November and December and a snow pack which did not melt on most chukar ranges until late March. The indicated chukar density decreased significantly during 1984, with chukars observed per 100 hours of effort decreasing to 57 percent below average.

Harvest statistics reflected a significant decrease in harvest. Likewise, hunter success (chukars per hunter-day) decreased 29 percent from 1983. Chukar hunters decreased 5 percent and spent 4 percent less time afield than in 1983. Apparently, good reproduction did not compensate for the winter loss.



Brood Counts

Results of the annual random brood survey for 1984 are shown in Table 1 of this section. Long-term trends of young-adult ratios, mean brood size and chukars observed per 100 hours are found in Tables 2-4. Following are the survey results for 1984 compared to 1983 and the 10-year (1974-83) average:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total chukars observed	226	-33	-73
Young per 100 adults	426	-27	+26
Mean brood size	6.91	-14	-19
Chukars observed per 100 hours	176	-56	-57
Total hours effort	128.5	+52	-43

Harvest data for 1983 indicated breeding populations for 1984 should have increase in all regions except the Southern and Northeastern Regions. However, the severe winter reduced breeding populations drastically in northern Utah. Late winter and early spring precipitation (January-April) was below average over the entire state (Figure 2) but heavy accumulations of snow in November and December (156 percent of normal) and near record cold temperatures in January and February were more than most northern Utah chukar populations could stand. Significant above average temperatures were recorded only in May. Above normal precipitation also occurred in July during the brood rearing period.

Effort on chukar brood counts increased significantly from 1983 but remained far below average.

Brood count sample sizes were again extremely small for all regions. The Central Region counted 5 and the Southeastern Region counted 6 of the state total of 11 broods. Chukar density was 57 percent below the 10-year average and production was down considerably from 1983.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1984 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 1984 harvest statistics to 1983 and the 26-year average:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Chukar hunters	9,846	-5	-35
Chukars harvested	20,179	-32	-53
Hunter-days afield	30,715	-4	-28
Chukars per hunter-day	0.66	-29	-31
Chukars per hunter	2.05	-28	-27

Chukar hunters spent 4 percent less time afield and harvested about 32 percent fewer birds than in 1983. Chukars per hunter-day was below the 1983 level and significantly below the statewide average. The Central Region again had the highest percentage of the harvest in 1984, and also had the highest percentage of hunter pressure.

Field Bag Check

A summary of field bag check data for 1984 is shown in Table 10. The hunter success trend determined by field bag checks since 1979 is shown in Table 11. Data for the 1984 season compared to 1983 and the (1966-83) average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	90	-63	-83
Total hours hunted	295	-67	-87
Chukars per hunter (complete hunts)	0.14	-86	-87
Chukars bagged per 100 hours	4	-85	-83
Average hours per hunter-day (complete hunts)	4.0	-9	-11
Hours hunted per chukar bagged (complete hunts)	28.5	+533	+482

Field bag checks indicate hunter success was down, 86 percent. Fewer hunters pursued chukars in 1984 and spent less time afield. The hours required to bag a chukar was 482 percent more than average.

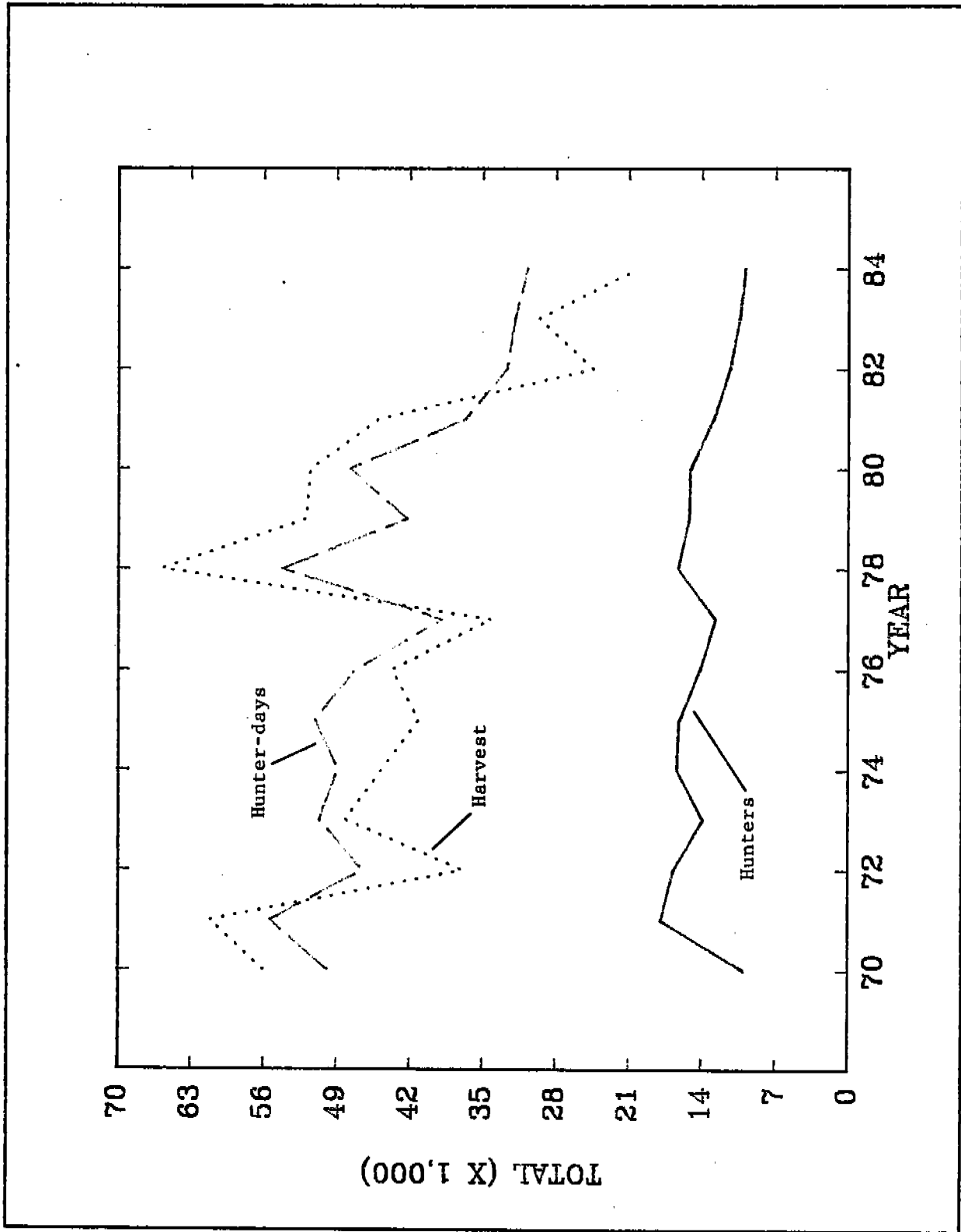


Figure 1. Statewide trends of chukar partridge harvest statistics.

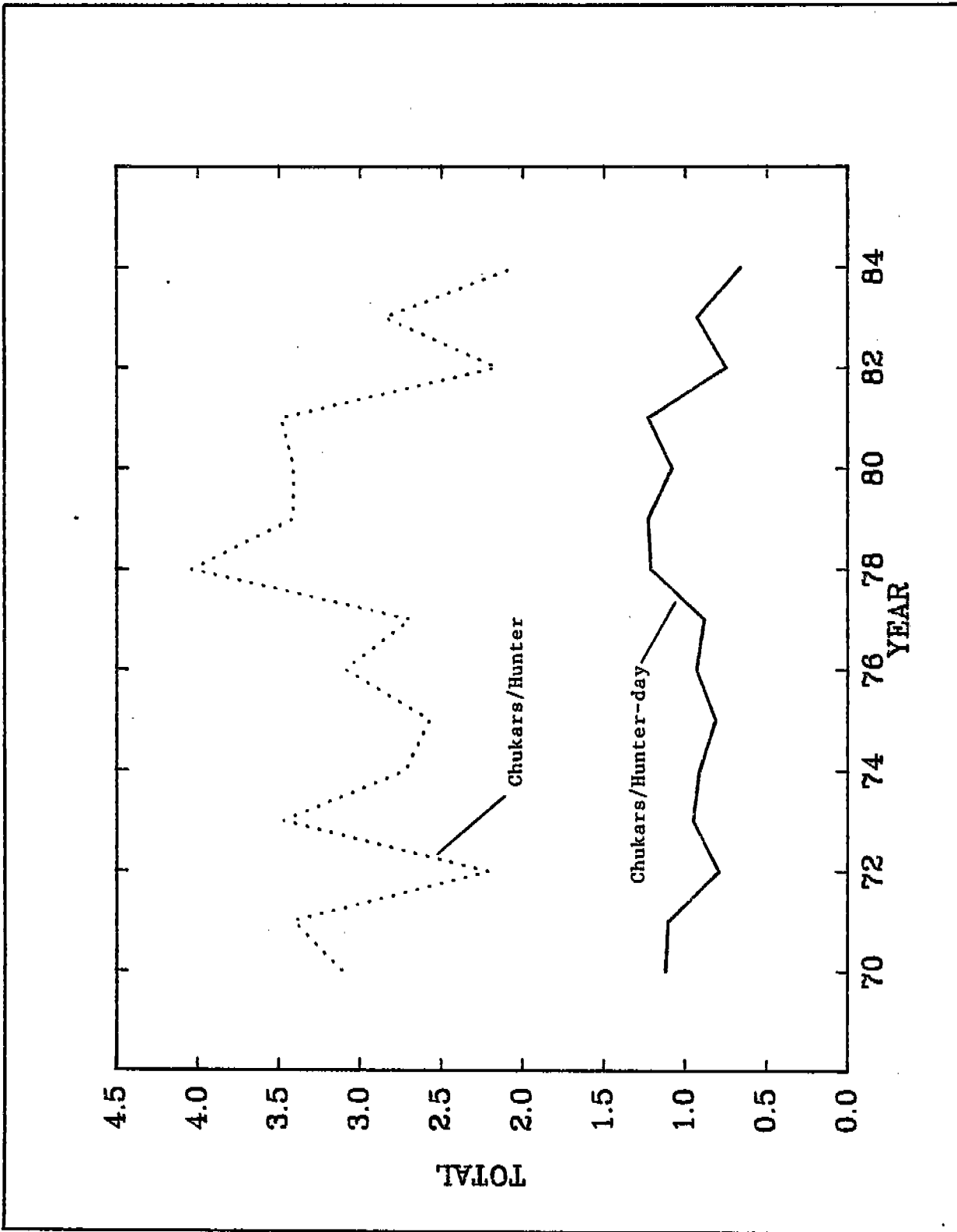


Figure 2. Statewide trends of chukar partridge harvest statistics.

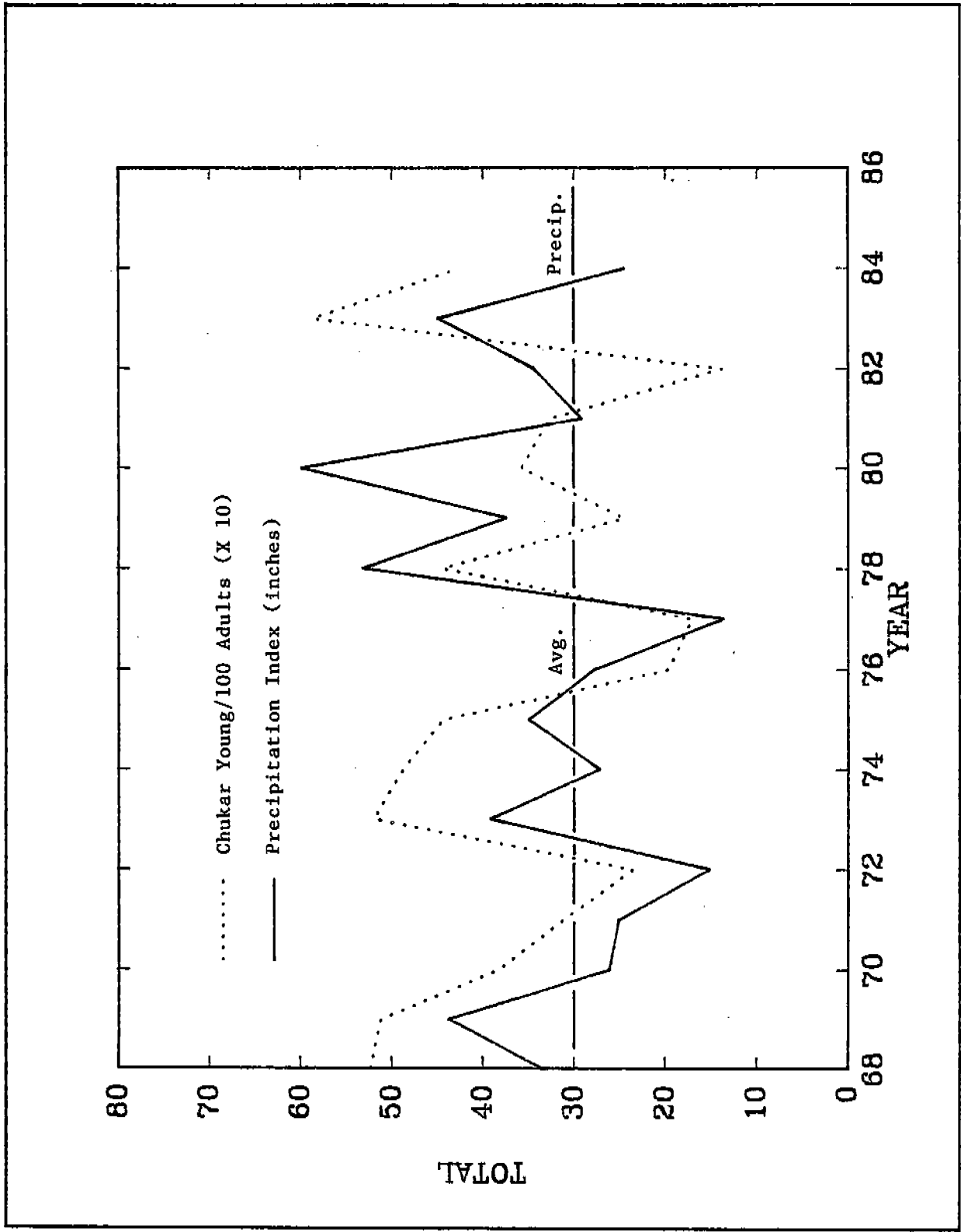


Figure 3. Relationship between late winter and early spring (Jan.-April) precipitation and chukar production.

Table 1. Chukar summer inventory summary, 1984.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Total Adults	Total Yng	Total Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr	
	# Ad	Yng		Ad	Yng					Veh. Horse	Walk Total		
Northern Region													
Box Elder	0	0	--	0	0	0	0	--	514	31	0	28	59
Cache	0	0	--	0	0	0	0	--	140	15	0	0	15
Davis	0	0	--	0	0	0	0	--	0	0	0	7	7
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	--	0	0	0	0	--	654	46	0	35	81
Central Region													
Juab	2	2	8.00	0	0	2	16	800	93	7	0	2	9
Salt lake	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	3	3	6.00	9	43	14	61	436	165	14	0	3	17
Utah	0	0	--	0	0	0	0	--	45	6	0	0	6
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	5	6.80	9	43	16	77	481	303	27	0	5	32
Southern Region													
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region													
Carbon	2	2	5.50	13	37	15	48	359	0	0	0	1.5	1.5
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	4	4	7.75	0	0	4	31	775	115	12	0	0	12
San Juan	0	0	--	3	27	8	27	337	3	2	0	0	2
REGIONAL TOTALS	6	6	7.00	21	64	27	106	392	118	14	0	1.5	15.5
STATE TOTALS	11	11	6.91	30	107	43	183	426	1,075	87	0	41.5	128.5

*Data collected by Southeastern Region.

Table 2. Trend of chukar young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region												
Box Elder	663	842	733	300	562	198	111	326	120	--	--	--
Cache	750	550	1,900	--	--	300	--	--	--	600	--	--
Davis	--	--	--	--	--	3	43	65	7	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	750	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	750	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	684	814	722	300	562	81	53	193	27	262	--	370
Central Region												
Juab	350	500	352	356	1,100	--	557	315	600	--	--	800
Salt Lake	--	0	--	380	--	283	--	400	50	--	--	--
Sanpete	--	--	488	331	440	500	767	--	400	--	--	--
Tooele	356	264	417	96	686	771	697	359	585	--	436	--
Utah	96	--	800	150	0	205	243	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	800	--	--
REGIONAL TOTALS	300	308	411	230	386	518	572	348	512	800	481	439
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	450	--	--	350	--	--	122	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	340	--	--	--	--	--
Millard	--	50	264	95	150	450	550	200	--	--	--	--
Plute	--	500	--	--	0	500	--	938	642	--	--	--
Sevier	--	--	--	--	--	--	600	800	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	900	--	--	--	600	737	--	--
REGIONAL TOTALS	--	114	294	95	233	420	425	410	389	737	--	346
Northeastern Region												
Daggett	--	--	--	--	--	575	--	--	--	--	--	--
Duchesne	--	--	800	375	0	--	--	163	--	--	--	--
Uintah	733	--	766	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	733	--	755	375	--	--	--	78	--	--	--	488
Southeastern Region												
Carbon	794	633	--	125	--	--	700	--	--	--	359	--
Emery	842	367	200	--	500	--	--	--	220	--	--	--
Grand	656	377	98	0	980	416	--	577	518	617	775	--
San Juan	650	552	40	58	220	--	--	533	--	--	337	--
REGIONAL TOTALS	717	437	97	59	591	416	700	575	426	617	392	464
STATE TOTALS	487	443	196	170	444	245	358	326	138	586	426	339

Table 3. Trend of chukar mean brood size from 1974-84.

Region and County	Year										Average 1974-83	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983		1984
<u>Northern Region</u>												
Box Elder	11.00	11.00	10.50	6.00	14.60	9.57	--	8.33	12.00	--	--	
Cache	7.00	--	19.00	--	--	3.00	--	--	--	6.00	--	
Davis	--	--	--	--	--	2.00	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	7.50	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	7.50	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	8.00	11.00	13.33	6.00	14.60	8.00	--	8.33	3.00	7.00	--	8.81
<u>Central Region</u>												
Juab	11.00	8.67	7.75	9.00	11.00	--	7.70	5.45	6.00	--	8.00	
Salt Lake	--	--	--	--	--	5.67	--	4.00	--	--	--	
Sanpete	--	--	11.00	6.50	5.00	6.33	--	--	--	--	--	
Tooele	11.89	9.00	7.20	6.00	6.50	14.07	9.91	8.92	10.60	--	6.00	
Utah	8.00	--	8.00	3.00	0.00	6.00	4.00	--	--	--	--	
Wasatch	--	--	--	--	--	--	6.00	--	--	--	--	
REGIONAL TOTALS	11.35	8.83	7.68	6.64	6.50	11.38	8.16	7.13	10.14	--	6.80	8.64
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	9.50	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	3.00	6.71	3.50	0.00	6.00	10.00	--	--	--	--	
Piute	--	5.00	--	--	0.00	10.00	--	10.50	3.00	--	--	
Sevier	--	--	--	--	--	--	--	8.00	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	9.00	--	--	--	9.00	--	--	
REGIONAL TOTALS	--	4.00	7.33	3.50	9.00	8.00	10.00	9.67	7.00	--	7.31	
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	9.00	--	--	--	
Duchesne	--	--	8.00	3.75	0.00	--	--	--	--	--	--	
Uintah	6.00	--	7.67	--	--	--	--	--	--	10.00	--	
REGIONAL TOTALS	6.00	--	7.75	3.75	--	--	--	9.00	--	10.00	--	7.30
<u>Southeastern Region</u>												
Carbon	9.00	9.50	9.00	--	--	--	--	--	--	--	5.50	
Emery	12.00	9.80	12.00	6.17	--	5.00	--	--	--	--	--	
Grand	1.00	6.25	4.00	6.00	--	0.00	12.50	--	11.90	8.25	7.75	
San Juan	--	10.00	4.33	3.00	--	1.00	--	--	5.33	--	--	
REGIONAL TOTALS	8.50	9.05	6.00	5.58	--	3.00	12.50	--	11.30	8.25	7.00	8.02
STATE TOTALS	10.65	10.00	7.12	7.10	5.77	8.75	10.35	8.23	9.48	8.00	6.91	8.55

Table 4. Trend of chukars observed per 100 hours, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region												
Box Elder	468	895	208	32	307	438	43	645	90	--	--	--
Cache	--	130	167	--	--	57	--	--	--	700	--	--
Davis	--	--	--	--	--	608	760	810	1,127	100	--	--
Morgan	--	--	100	--	--	--	--	--	--	850	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	632	640	197	32	307	430	140	502	479	227	--	359
Central Region												
Juab	338	229	413	152	109	1,500	206	692	363	--	--	200
Salt Lake	--	25	0	400	--	209	--	500	43	--	--	--
Sanpete	0	0	157	192	142	200	248	--	857	--	--	--
Tooele	730	291	452	136	917	1,038	1,468	985	1,013	--	--	441
Utah	140	0	129	33	133	1,220	533	--	38	--	--	--
Wasatch	--	--	--	--	--	--	350	--	--	491	--	--
REGIONAL TOTALS	437	178	302	157	243	623	440	722	578	164	291	384
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	0	0	440	--	--	1,200	--	--	500	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	0	--	--	--	--	--	--	--	--	--	--	--
Millard	291	36	1,020	216	182	220	236	1,467	--	--	--	--
Plute	--	150	0	--	0	120	--	1,660	433	--	--	--
Sevier	100	--	--	--	--	--	1,400	900	17	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	0	--	10	83	--	--	--	700	3,350	--	--
REGIONAL TOTALS	79	37	616	114	115	242	525	1,436	266	3,350	--	678
Northeastern Region												
Daggett	0	0	--	0	--	--	--	--	--	--	--	--
Duchesne	0	0	22	73	0	0	--	300	790	--	--	--
Uintah	227	0	96	0	--	0	--	614	454	86	--	--
REGIONAL TOTALS	83	0	52	27	0	0	--	533	348	27	--	178
Southeastern Region												
Carbon	947	1,100	--	450	--	0	1,600	--	--	--	--	420
Emery	1,130	233	370	0	200	--	--	--	--	--	--	--
Grand	900	2,277	2,950	40	379	1,020	--	2,891	1,167	2,871	291	--
San Juan	789	721	492	136	67	0	--	1,120	--	--	1,750	--
REGIONAL TOTALS	915	996	883	98	185	230	160	2,338	1,578	2,871	858	1,025
STATE TOTALS	469	303	370	96	213	396	336	978	496	398	176	406

Table 5. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	96	4,466	1,339	0.30	14.54	6.64
Cache	25	852	365	0.43	2.77	1.81
Davis	14	609	324	0.53	1.98	1.61
Morgan	7	609	60	0.10	1.98	0.30
Rich	5	101	81	0.80	0.33	0.41
Summit	2	60	40	0.67	0.20	0.20
Weber	4	263	649	2.46	0.86	3.22
REGIONAL TOTALS	153	6,963	2,862	0.41	22.67	14.18
<u>Central Region</u>						
Juab	33	1,583	1,461	0.92	5.15	7.24
Salt Lake	19	893	1,421	1.59	2.91	7.04
Sanpete	11	446	507	1.14	1.45	2.51
Tooele	92	5,664	5,379	0.95	18.44	26.66
Utah	62	3,877	2,415	0.62	12.62	11.97
Wasatch	8	304	20	0.07	0.99	0.10
REGIONAL TOTALS	225	12,769	11,206	0.88	41.57	55.53
<u>Southern Region</u>						
Beaver	2	101	162	1.60	0.33	0.80
Garfield	4	121	223	1.83	0.39	1.11
Iron	1	20	40	2.00	0.07	0.20
Kane	2	60	40	0.67	0.20	0.20
Millard	37	2,760	2,212	0.80	8.99	10.96
Piute	13	1,299	649	0.50	4.23	3.22
Sevier	25	2,030	751	0.37	6.61	3.72
Washington	1	40	20	0.50	0.13	0.10
Wayne	2	60	0	0.00	0.20	0.00
REGIONAL TOTALS	87	6,496	4,100	0.63	21.14	20.32
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	6	182	40	0.22	0.59	0.20
Uintah	7	223	324	1.45	0.73	1.61
REGIONAL TOTALS	13	406	365	0.90	1.32	1.81
<u>Southeastern Region</u>						
Carbon	18	1,197	507	0.42	3.90	2.51
Emery	28	1,258	548	0.44	4.10	2.72
Grand	21	1,542	568	0.37	5.02	2.81
San Juan	3	81	20	0.25	0.26	0.10
REGIONAL TOTALS	70	4,080	1,644	0.40	13.28	8.15
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	548	30,715	20,179	0.66	100	100

*Total hunter trips from questionnaire returns.

Table 6. Summary of chukars bagged per hunter-day by region and county, 1976-84.

Region and County	Year								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Northern Region									
Box Elder	1.31	1.23	1.80	1.34	1.41	1.55	0.75	1.00	0.30
Cache	0.70	1.11	0.89	0.60	0.74	0.42	0.38	0.42	0.43
Davis	0.89	1.29	2.20	2.19	0.75	0.33	0.47	0.17	0.53
Morgan	0.31	0.88	1.08	1.38	0.75	0.75	1.21	1.02	0.10
Rich	0.81	0.13	1.22	0.38	0.60	0.50	0.67	0.83	0.80
Summit	1.43	1.00	0.75	1.02	0.78	0.73	0.00	1.38	0.67
Weber	0.60	0.75	0.77	0.67	0.48	1.25	0.91	0.61	2.46
REGIONAL TOTALS	1.07	1.15	1.57	1.25	1.25	1.28	0.74	0.91	0.41
Central Region									
Juab	0.46	0.73	0.63	1.13	0.86	0.66	0.57	1.00	0.92
Salt Lake	0.54	1.41	0.89	1.20	0.89	1.32	0.96	0.95	1.59
Sanpete	0.35	0.90	0.70	1.15	0.90	1.72	0.57	0.77	1.14
Tooele	0.86	0.86	1.06	1.37	0.89	0.97	0.73	0.94	0.95
Utah	0.90	0.56	0.66	0.83	1.01	0.81	0.74	0.85	0.62
Wasatch	0.56	0.56	1.29	0.44	0.58	0.33	0.94	0.61	0.07
REGIONAL TOTALS	0.77	0.80	0.91	1.15	0.92	0.98	0.73	0.90	0.88
Southern Region									
Beaver	0.59	0.20	0.00	0.00	0.86	2.33	0.61	1.80	1.60
Garfield	0.50	0.00	2.00	1.71	2.55	1.11	1.00	0.38	1.83
Iron	0.76	--	0.00	0.00	0.00	1.00	0.17	--	2.00
Kane	0.00	--	0.00	3.00	4.00	0.00	0.00	0.38	0.67
Millard	0.87	0.66	0.98	1.29	1.04	1.92	1.57	1.28	0.80
Piute	0.24	0.67	1.35	0.78	0.56	1.78	0.59	0.68	0.50
Sevier	0.57	0.53	0.76	0.67	0.39	1.48	0.41	0.40	0.37
Washington	0.80	0.33	0.00	1.67	0.00	0.00	0.00	--	0.50
Wayne	2.74	3.94	1.10	3.00	2.85	2.29	0.83	0.50	0.00
REGIONAL TOTALS	0.79	0.80	0.95	0.89	0.85	1.71	0.68	0.71	0.63
Northeastern Region									
Daggett	2.00	--	0.00	2.25	0.00	0.00	0.00	--	--
Duchesne	0.77	0.19	1.78	1.20	1.28	1.30	0.43	0.50	0.22
Uintah	0.40	0.33	1.88	1.38	0.27	1.20	2.06	1.00	1.45
REGIONAL TOTALS	0.74	0.25	1.56	1.38	1.00	1.25	1.15	0.63	0.90
Southeastern Region									
Carbon	0.69	0.19	0.58	1.88	1.01	1.24	0.76	0.88	0.42
Emery	1.37	0.39	0.18	1.27	1.37	1.06	0.83	1.54	0.44
Grand	1.42	0.26	0.33	3.39	1.80	1.89	1.02	1.61	0.37
San Juan	0.43	0.00	1.56	4.00	1.67	0.67	2.20	1.82	0.25
REGIONAL TOTALS	1.05	0.27	0.40	2.14	1.44	1.42	0.90	1.43	0.40
Unknown Counties	1.18	0.77	1.48	1.00	0.17	1.83	1.00	1.27	0.00
STATE TOTALS	0.93	0.88	1.21	1.23	1.08	1.23	0.75	0.93	0.66

Table 7. Percentage distribution of chukar harvest by region and county, 1976-84.

Region and County	Year								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Northern Region									
Box Elder	32.64	37.25	49.32	27.64	38.93	26.85	25.31	23.59	6.64
Cache	5.04	6.97	4.51	1.29	1.84	1.27	1.25	1.49	1.81
Davis	2.31	1.77	2.95	2.58	0.49	0.09	0.56	0.09	1.61
Morgan	0.79	2.21	2.74	2.75	2.24	1.98	3.20	2.16	0.30
Rich	0.60	0.09	0.33	0.34	0.10	0.05	0.13	0.22	0.41
Summit	0.46	0.66	0.27	1.15	0.23	0.52	0.00	1.31	0.20
Weber	1.16	1.19	2.19	0.87	0.49	0.94	1.94	1.40	3.22
REGIONAL TOTALS	43.00	50.13	62.31	36.61	44.33	31.71	32.39	30.25	14.18
Central Region									
Juab	1.85	2.12	0.88	2.94	3.33	2.31	2.07	3.16	7.24
Salt Lake	2.36	5.78	3.65	4.12	2.90	6.94	4.51	4.15	7.04
Sanpete	0.69	2.07	1.43	4.63	2.14	2.93	3.01	3.56	2.51
Tooele	12.71	17.08	16.74	20.44	14.56	14.11	18.23	20.34	26.66
Utah	13.96	8.52	5.18	8.05	12.71	7.69	13.97	12.76	11.97
Wasatch	0.42	0.44	1.10	0.20	0.46	0.05	1.07	0.63	0.10
REGIONAL TOTALS	31.99	36.01	28.98	40.37	36.10	34.03	42.86	44.60	55.53
Southern Region									
Beaver	0.46	0.04	0.00	0.00	0.40	0.99	1.07	0.40	0.80
Garfield	0.23	0.00	0.55	0.34	1.84	0.47	0.38	0.13	1.11
Iron	0.14	--	0.00	0.00	0.00	0.05	0.06	0.00	0.20
Kane	0.00	--	0.00	0.50	0.13	0.00	0.00	0.27	0.20
Millard	2.54	2.52	1.49	2.47	1.65	3.63	5.33	4.55	10.96
Piute	0.37	0.71	0.70	1.57	0.92	6.13	0.63	0.94	3.22
Sevier	1.57	2.56	1.83	3.59	1.68	5.10	4.07	2.34	3.72
Washington	0.18	0.04	0.00	0.14	0.00	0.00	0.00	0.00	0.10
Wayne	2.40	2.78	0.33	0.17	1.22	0.76	0.31	0.09	0.00
REGIONAL TOTALS	7.91	8.65	4.90	8.77	7.84	17.13	11.84	8.73	20.32
Northeastern Region									
Daggett	0.18	--	0.00	0.25	0.00	0.00	0.00	0.00	0.00
Duchesne	0.79	0.40	0.49	0.67	1.35	0.61	0.63	0.22	0.20
Uintah	0.18	0.62	0.27	0.50	0.10	0.57	2.32	0.31	1.61
REGIONAL TOTALS	1.16	1.02	0.76	1.43	1.45	1.18	2.94	0.53	1.81
Southeastern Region									
Carbon	2.22	0.26	0.33	5.21	2.34	2.64	2.82	1.94	2.51
Emery	1.90	0.88	0.21	1.99	2.34	4.29	3.38	8.12	2.72
Grand	5.50	0.93	0.76	5.33	5.20	8.31	3.01	4.28	2.81
San Juan	0.46	0.00	0.43	0.22	0.33	0.19	0.69	0.90	0.10
REGIONAL TOTALS	10.08	2.07	1.74	12.76	10.21	15.43	9.90	15.24	8.15
Unknown Counties	5.87	2.12	1.31	0.06	0.07	0.52	0.06	0.63	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, 1976-84.

Region and County	Year								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Northern Region									
Box Elder	23.07	26.68	33.14	25.32	29.87	21.19	25.13	22.01	14.54
Cache	6.65	5.51	6.13	2.65	2.70	3.71	2.44	3.27	2.77
Davis	2.40	1.20	1.62	1.45	0.71	0.35	0.89	0.50	1.98
Morgan	2.36	2.21	3.06	2.45	3.23	3.24	1.97	1.97	1.98
Rich	0.69	0.58	0.33	1.10	0.18	0.12	0.14	0.25	0.33
Summit	0.30	0.58	0.44	1.38	0.32	0.87	0.70	0.88	0.20
Weber	1.80	1.40	3.43	1.58	1.10	0.93	1.59	2.14	0.86
REGIONAL TOTALS	37.26	38.15	48.15	35.93	39.10	30.40	32.86	31.01	22.67
Central Region									
Juab	3.73	2.56	1.70	3.20	4.19	4.28	2.72	2.93	5.15
Salt Lake	4.03	3.61	4.98	4.24	3.52	6.43	3.52	4.07	2.91
Sanpete	1.84	2.02	2.47	4.96	2.56	2.08	3.94	4.32	1.45
Tooele	13.77	17.49	19.08	18.39	17.54	17.83	18.71	20.16	18.44
Utah	14.45	13.38	9.45	11.95	13.64	11.70	14.16	13.87	12.62
Wasatch	0.69	0.70	1.03	0.55	0.85	0.17	0.84	0.96	0.99
REGIONAL TOTALS	38.51	39.74	38.71	43.30	42.29	42.50	43.88	46.31	41.57
Southern Region									
Beaver	0.73	0.19	0.07	0.00	0.50	0.52	1.31	0.21	0.33
Garfield	0.43	0.04	0.33	0.24	0.78	0.52	0.28	0.33	0.39
Iron	0.17	--	0.07	0.07	0.04	0.06	0.28	0.08	0.07
Kane	0.21	--	0.00	0.21	0.04	0.00	0.14	0.67	0.20
Millard	2.70	3.33	1.85	2.34	1.70	2.32	2.53	3.31	8.99
Piute	1.42	0.93	0.63	2.48	1.78	4.23	0.80	1.30	4.23
Sevier	2.57	4.23	2.92	6.58	4.65	4.23	7.36	5.45	6.61
Washington	0.21	0.12	0.00	0.10	0.00	0.00	0.05	0.00	0.13
Wayne	0.81	0.62	0.37	0.07	0.46	0.41	0.28	0.17	0.20
REGIONAL TOTALS	9.26	9.46	6.24	12.09	9.94	12.28	13.03	11.51	21.14
Northeastern Region									
Daggett	0.09	--	0.07	0.14	0.04	0.00	0.00	0.08	0.00
Duchesne	0.94	1.86	0.33	0.69	1.14	0.58	1.08	0.42	0.59
Uintah	0.43	1.67	0.18	0.45	0.39	0.58	0.84	0.29	0.73
REGIONAL TOTALS	1.46	3.53	0.59	1.27	1.56	1.16	1.92	0.79	1.32
Southeastern Region									
Carbon	3.00	1.20	0.70	3.41	2.49	2.61	2.77	2.05	3.90
Emery	1.29	1.98	1.44	1.93	1.85	4.98	3.05	4.90	4.10
Grand	3.60	3.10	2.77	1.93	3.13	5.39	2.20	2.47	5.02
San Juan	0.99	0.39	0.33	0.07	0.21	0.35	0.23	0.46	0.26
REGIONAL TOTALS	8.88	6.67	5.24	7.34	7.67	13.32	8.25	9.89	13.28
Unknown Counties	4.63	2.40	1.07	0.07	0.43	0.35	0.05	0.46	0.00
Mixed Counties	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100	100	100

Table 9. Statewide summary of chukar partridge harvest statistics, 1958-84.

Year	Total Hunters	Total Harvest	Hunters-days Afield	Chukars Per Hunter-day	Chukars Per Hunter
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
1979	15,210	51,918	42,254	1.23	3.41
1980	15,100	51,511	47,778	1.08	3.41
1981	12,907	44,983	36,662	1.23	3.49
1982	11,326	24,460	32,691	0.75	2.16
1983	10,418	29,649	31,904	0.93	2.85
1984	9,846	20,179	30,715	0.66	2.05
TOTALS (1958-84)	403,189	1,144,259	1,136,482	(25.26) 1.01	(74.49) 2.84
AVERAGES (1958-83)	15,129	43,234	42,529	0.95	2.79

Table 10. Chukar field bag check summary, 1984.

Region and County	ALL HUNTS				COMPLETE HUNTS				
	Total Partles	Total Hunters	Total Hours	Total Birds/100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Birds/100 Hr	Birds/Hunter
<u>Northern Region</u>									
Box Elder	20	46	180	4 2	20	46	180	4 2	0.09
Cache	1	2	16	1 6	1	2	16	1 6	0.50
Davis	1	1	6	0 --	1	1	6	0 --	--
Morgan	--	--	--	-- --	--	--	--	-- --	--
Rich	--	--	--	-- --	--	--	--	-- --	--
Summit	--	--	--	-- --	--	--	--	-- --	--
Weber	--	--	--	-- --	--	--	--	-- --	--
REGIONAL TOTALS	22	49	202	5 3	22	49	202	5 3	0.10
<u>Central Region</u>									
Juab	--	--	--	-- --	--	--	--	-- --	--
Salt Lake	--	--	--	-- --	--	--	--	-- --	--
Sanpete	--	--	--	-- --	--	--	--	-- --	--
Tooele	--	--	--	-- --	--	--	--	-- --	--
Utah	--	--	--	-- --	--	--	--	-- --	--
Wasatch	--	--	--	-- --	--	--	--	-- --	--
REGIONAL TOTALS	--	--	--	-- --	--	--	--	-- --	--
<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	11	20	36	0 --	4	6	14	0 --	--
Grand	11	19	45	5 11	0	0	0	0 --	--
San Juan	1	2	12	3 3	1	2	12	3 25	1.50
REGIONAL TOTALS	23	41	93	8 9	5	8	26	3 12	0.38
STATE TOTALS	55	90	295	13 4	27	57	228	8 4	0.14

*Includes data from Southeastern Region.

Table 11. Chukar hunter success trend as determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	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	19	0.74	15	0.64	47	1.90	5	0.28	11	0.50	2	0.09
Cache	7	6.29	14	0.50	9	0.33	--	--	--	--	6	0.50
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	29	1.00	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	18	0.71	15	0.63	46	1.83	5	0.28	11	0.51	3	0.10
<u>Central Region</u>												
Juab	0	0.00	--	--	62	2.10	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	89	3.88	--	--	44	1.60	10	0.50	16	0.83	--	--
Utah	15	0.52	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	28	1.02	--	--	50	1.77	10	0.50	16	0.83	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	76	1.46	--	--	--	--	25	0.74	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	550	2.75	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	33	0.67	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	25	0.96	--	--	--	--	--	--
REGIONAL TOTALS	76	1.46	--	--	26	0.92	25	0.74	550	2.75	--	--
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	44	1.71	33	0.67	26	0.81	79	3.00	--	--
Grand	108	3.83	73	2.54	60	2.00	--	--	83	3.29	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	25	1.50
REGIONAL TOTALS	108	3.83	57	2.11	54	1.56	20	0.67	81	3.17	12	0.38
STATE TOTALS	29	1.07	21	0.89	44	1.69	9	0.40	22	0.98	4	0.14

SAGE GROUSE

SUMMARY

Harvest data for 1983 indicated a slightly below average breeding population of sage grouse for 1984. Strutting ground surveys indicated no change in the average male grouse attendance from 1983.

Brood surveys showed decreased production throughout the state. Likewise, birds observed per 100 hours decreased 30 percent compared to 1983, and remained significantly below average.

The lower production in 1984 was apparent in harvest statistics collected from questionnaires and from field bag checks. Total statewide harvest decreased 27 percent and was 28 percent below the 21-year average. Total hunters and hunter-days afield both decreased 10 and 17 percent, respectively, from 1983. Sage grouse bagged per hunter and sage grouse bagged per hunter-day also decreased from the previous year.



Strutting Ground Counts

The status of the sage grouse breeding population for 1984, as indicated by strutting ground counts, is shown in Table 1 of this section. Results of this survey for 1984 compared to 1983 and the 1967-83 average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Number of grounds counted	43	-62	-61
Total male grouse counted	664	-61	-70
Average male grouse per ground	15	0	-25
Percent change from previous year (comparable grounds)	-18	--	--

Access for spring 1984 strutting ground counts was generally good in all regions of the state. However, the numbers of grouse observed were down in all regions. The statewide index for comparable grounds was down 18 percent. Harvest data for 1983 indicated improved, but below average populations going into the winter of 1983-84, but the numbers of juvenile birds indicated poor production during 1984. Declines in breeding populations continue to be the trend in most areas of the state.

Brood Counts

Results of the survey for 1984 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. Indices for 1984 are compared to 1983 and the previous 10-year (1974-83) average as follows:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total sage grouse counted	947	-28	-68
Young per 100 adults	125	-38	-21
Mean brood size	4.27	-7	-6
Sage grouse observed per 100 hours	180	-30	-54
Total hours effort	526	+3	-31

The effort devoted to sage grouse brood counts was 31 percent below average, and the total number of grouse counted was 68 percent below average.

Sage grouse density decreased 30 percent from 1983, and production showed a 38 percent decrease. Fewer adults and fewer young were observed, with average brood size 6 percent below the 10-year average.

Harvest

Hunter Questionnaire

Results of the 1984 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 1984 hunting season compared to 1983 and the 1963-83 average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Sage grouse hunters	8,283	-10	-25
Sage grouse harvested	10,921	-27	-28
Hunter-days afield	15,266	-17	-15
Sage grouse per hunter-day	0.72	-11	-15
Sage grouse per hunter	1.32	-19	-6

Production decreased in 1984 and was reflected in the harvest. Total statewide harvest decreased 27 percent. Total sage grouse hunters and hunter-days afield also decreased. Hunter success decreased 5 percent in the Northern Region where 36 percent of the harvest and 48 percent of the hunting pressure occurred.

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

Field Bag Checks

A summary of field bag check data for 1984 is shown in Table 11. Hunter success trends determined via this method are shown in Table 12. Results of the 1984 survey compared to 1983 and the 1974-83 average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	1,009	-11	-51
Total hours hunted	5,903	+5	-28
Sage grouse per hunter (complete hunts)	0.81	-18	-4
Sage grouse bagged per 100 hours	13	-32	-32
Average hours per hunter-day (complete hunts)	5.9	+7	+34
Hours hunted per grouse bagged	7.4	+32	+30

Sex and Age Composition of the Harvest

A summary of the sex and age composition of harvested sage grouse in 1984 is found in Table 13 and the trend from 1981-84 in Table 14.

Following are data derived from wing surveys in 1984 compared to 1983 and the 1979-83 average:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Sample size	820	-18	-43
Percent males	41	-5	0
Percent females	59	+4	0
Young per 100 adults	155	+2	+27
Young per 100 hens (adult)	255	+12	+39

Analysis of wings collected at checking stations during the 1984 season indicates that statewide production was up compared to 1983, and above the previous 5-year average. However, production was down for the southern portion of the state and specifically Iron and Wayne counties.

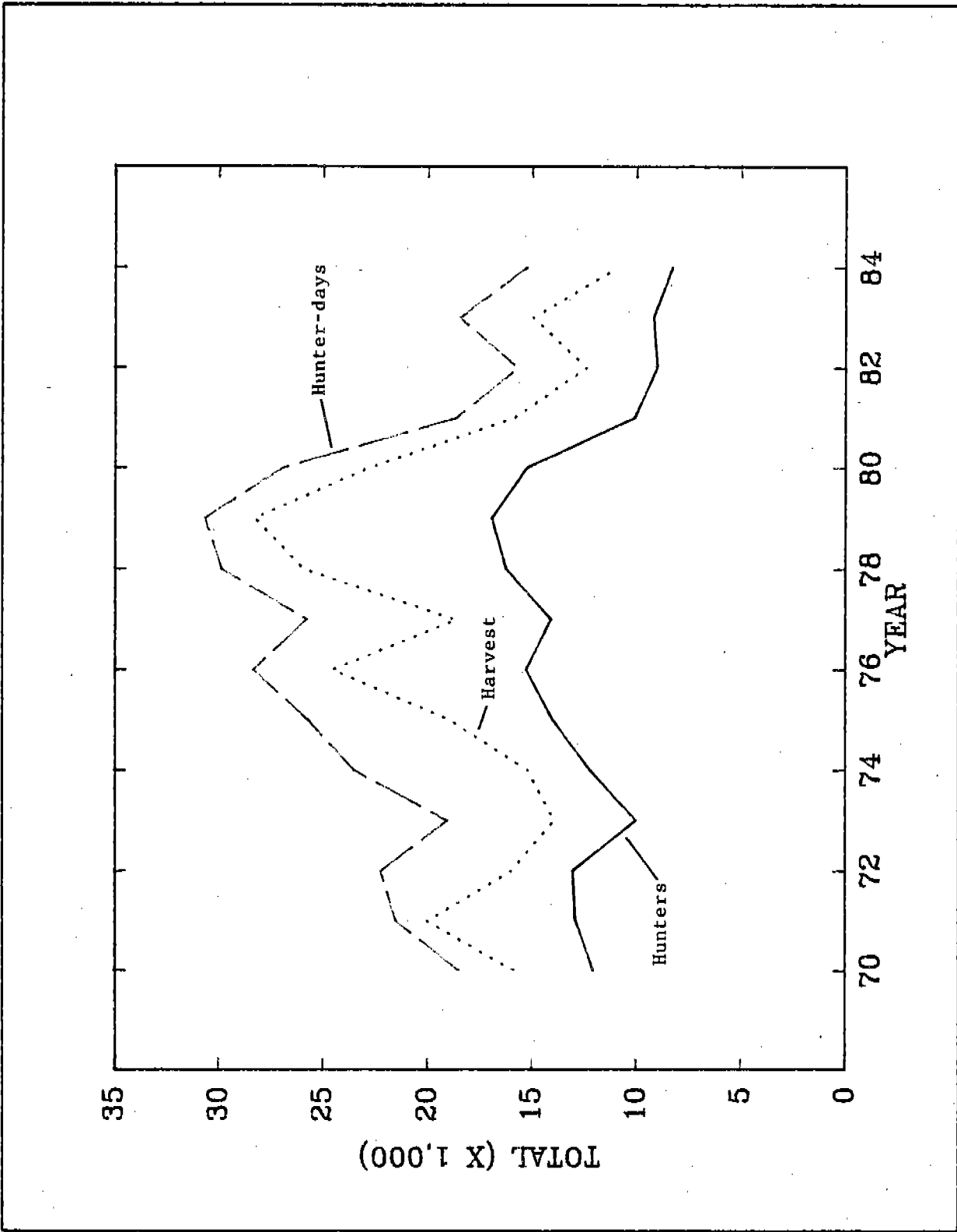


Figure 1. Statewide trend of sage grouse harvest statistics.

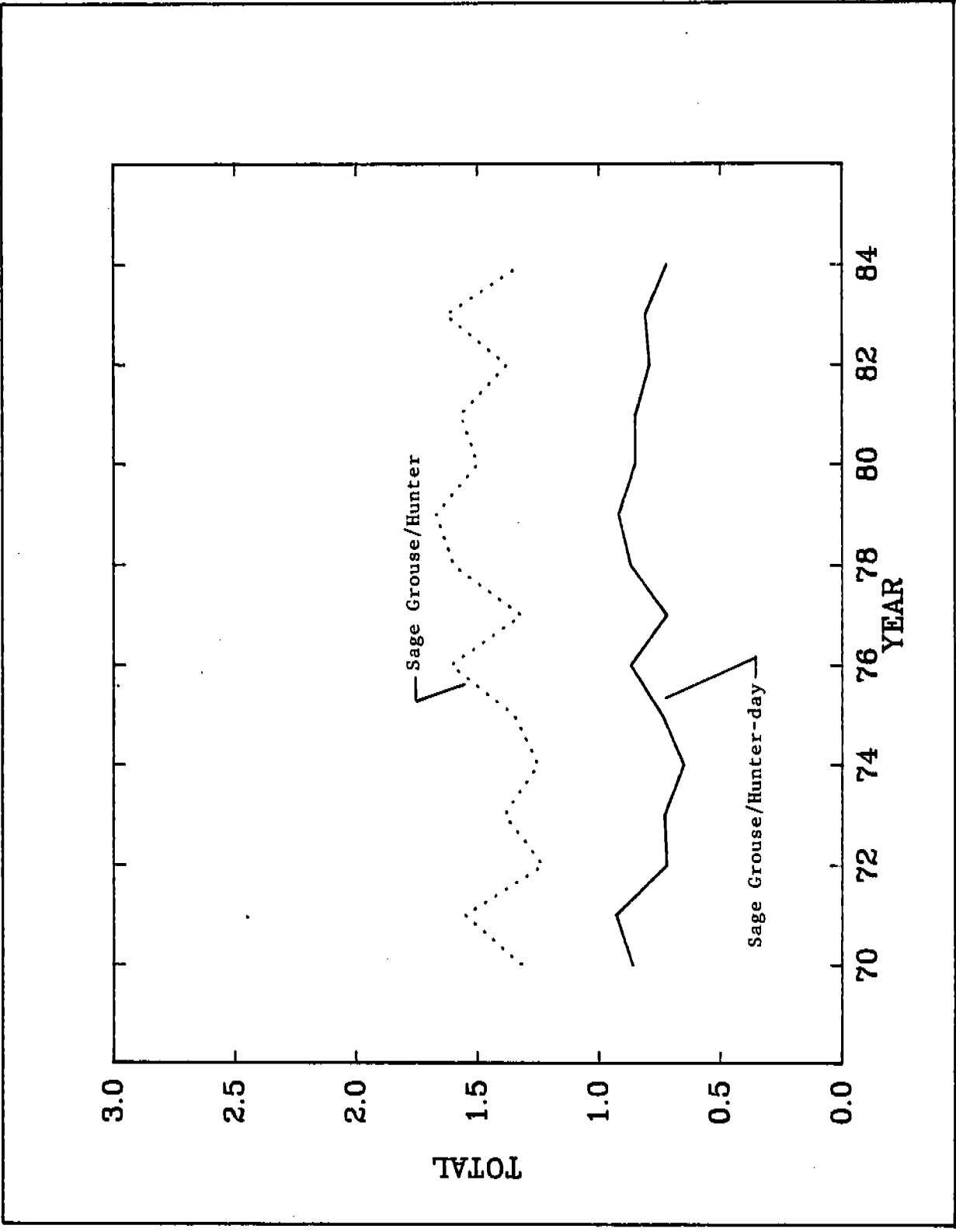


Figure 2. Statewide trend of sage grouse harvest statistics.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1974-84.

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Northern Region											
BOX ELDER											
No. strutting grounds counted	25	19	15	22	18	24	28	35	15	17	8
Total male grouse counted	306	346	239	621	452	763	899	711	384	322	216
County average (all strutting grounds)	12	18	16	28	25	32	32	20	26	19	27
% change from previous year - comparable grounds	-19	+29	0	+53	+3	+69	+9	-35	-24	-29	-8
CACHE											
No. strutting grounds counted	3	3	3	3	1	3	1	3	1	0	1
Total male grouse counted	44	100	35	45	15	32	18	18	19	0	5
County average (all strutting grounds)	15	33	12	15	15	11	18	6	19	--	5
% change from previous year - comparable grounds	-14	+133	-68	+29	-40	0	+20	-33	+58	--	--
MORGAN											
No. strutting grounds counted	3	3	3	3	3	3	3	3	3	3	1
Total male grouse counted	63	41	52	43	111	75	131	57	65	31	2
County average (all strutting grounds)	21	14	17	14	37	25	44	19	22	10	2
% change from previous year - comparable grounds	+3	-35	+27	-17	+158	-32	+76	-57	+16	-31	-91
RICH											
No. strutting grounds counted	14	10	8	13	15	11	11	13	7	9	6
Total male grouse counted	389	268	326	321	417	382	236	259	153	188	103
County average (all strutting grounds)	28	27	41	25	28	35	21	20	22	21	17
% change from previous year - comparable grounds	+31	-32	+57	-13	+17	+11	-40	+5	-21	+2	-2

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
SUMMIT											
No. strutting grounds counted	5	4	6	6	6	8	1	7	2	7	1
Total male grouse counted	113	88	107	169	91	116	15	60	11	46	16
County average (all strutting grounds)	23	22	18	28	15	15	15	9	6	7	16
% change from previous year - comparable grounds	-18	-30	-10	+52	-29	+5	+15	+13	-50	-9	+78
REGIONAL TOTALS											
No. strutting grounds counted	50	39	35	47	43	49	44	61	28	36	17
Total male grouse counted	915	843	759	1,199	1,086	1,368	1,299	1,105	632	587	342
Average grouse per ground (all strutting grounds)	18	22	23	26	25	28	30	18	23	16	20
% change from previous year - comparable grounds	-1	-1	+8	+19	+10	+29	-2	-27	-20	-22	-9
Southern Region											
GARFIELD											
No. strutting grounds counted	14	14	14	10	11	9	8	11	9	8	7
Total male grouse counted	327	233	201	192	224	211	97	298	359	197	133
County average (all strutting grounds)	23	17	14	19	20	23	12	27	39	25	19
% change from previous year - comparable grounds	+114	-35	-14	+2	+24	0	-48	+114	+78	-12	-46
WAYNE											
No. strutting grounds counted	11	11	13	12	12	9	8	14	14	1*	(12)*
Total male grouse counted	237	160	260	256	166	221	32	284	300	123	(89)
County average (all strutting grounds)	22	15	20	21	14	25	4	20	21	123	(7)
% change from previous year - comparable grounds	+3	-33	+3	+19	-31	-59	--	--	--	--	--

*No counts because of snow. Aerial count made in Wayne County only (not added to regional total).

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
BEAVER											
No. strutting grounds counted	5	6	8	7	7	6	5	7	7	7	4
Total male grouse counted	110	122	108	90	66	134	113	140	131	117	48
County average (all strutting grounds)	22	20	14	13	9	22	23	20	19	17	12
% change from previous year - comparable grounds	+34	+1	-32	+8	-27	+137	+1	+6	-6	-11	+78
IRON											
No. strutting grounds counted	9	9	9	5	10	5	6	7	9	4	---
Total male grouse counted	86	51	26	54	87	83	84	101	111	105	---
County average (all strutting grounds)	10	6	3	11	9	17	14	14	12	26	---
% change from previous year - comparable grounds	---	-41	-50	+108	+11	+48	+1	+20	-3	+27	---
SEVIER											
No. strutting grounds counted	1	---	2	3	4	4	---	2	4	---	---
Total male grouse counted	9	---	2	26	23	9	---	0	5	---	---
County average (all strutting grounds)	9	---	1	9	6	2	---	0	1	---	---
% change from previous year - comparable grounds	---	---	---	+200	-11	60	---	---	---	---	---

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
MILLARD											
No. strutting grounds counted	--	--	1	1	1	--	--*	1	1	--	1
Total male grouse counted	--	--	11	3	14	--	--	22	22	--	4
County average (all strutting grounds)	--	--	11	3	14	--	--	22	22	--	4
% change from previous year - comparable grounds	--	--	--	-73	+367	--	--	--	0	--	--
REGIONAL TOTALS											
No. strutting grounds counted	40	40	47	37	45	33	27	42	44	23	12
Total male grouse counted	769	566	608	618	580	691	326	845	928	563	185
Average grouse per ground (all strutting grounds)	19	14	13	17	13	21	12	20	21	24	15
% change from previous year - comparable grounds	+49	-30	-13	+14	-13	-22	-32	+46	+33	-9	-33
Central Region											
SANPETE											
No. strutting grounds counted	2	2	2	2	2	2	2	2	2	2	2
Total male grouse counted	0	5	10	4	7	6	9	9	11	8	0
County average (all strutting grounds)	--	3	5	2	4	3	5	5	6	4	--
% change from previous year - comparable grounds	--	--	+100	-60	+75	-14	+17	0	+22	-27	-100
TOOELE											
No. strutting grounds counted	5	5	5	5	5	5	5	5	5	6	6
Total male grouse counted	95	59	80	77	37	116	131	46	28	28	23
County average (all strutting grounds)	19	12	16	15	7	23	26	9	6	5	4
% change from previous year - comparable grounds	+43	-30	+15	-4	-52	-36	+13	-64	-64	0	-18

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
WASATCH											
No. strutting grounds counted	2	2	2	2	2	2	2	2	2	2	2
Total male grouse counted	99	201	216	206	184	119	45	45	18	54	57
County average (all strutting grounds)	50	101	108	103	92	60	23	23	9	27	29
% change from previous year - comparable grounds	+90	+103	+7	-5	-11	-35	-62	0	-60	+200	+6
REGIONAL TOTALS											
No. strutting grounds counted	9	9	9	9	9	9	9	9	9	10	10
Total male grouse counted	194	265	306	287	228	197	185	100	57	90	80
Average grouse per ground (all strutting grounds)	22	29	34	32	25	22	21	11	6	9	8
% change from previous year - comparable grounds	+65	+45	+12	-6	-21	-35	-24	-51	-43	+58	-11
Northeastern Region											
DAGGETT											
No. strutting grounds counted	4	3	3	3	3	3	5	6	6	6	--
Total male grouse counted	53	30	40	55	78	47	51	68	18	45	--
County average (all strutting grounds)	13	10	13	18	26	16	10	11	3	7	--
% change from previous year - comparable grounds	-5	-19	+33	+38	+42	-40	-19	+20	-57	+50	--
DUCHESNE											
No. strutting grounds counted	11	11	15	14	14	10	16	16	15	15	--
Total male grouse counted	172	172	245	161	227	93	120	112	156	178	--
County average (all strutting grounds)	16	16	16	12	16	9	8	7	10	12	--
% change from previous year - comparable grounds	+44	-5	-14	-20	+37	-35	+5	0	+15	+17	--

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
UINTAH											
No. strutting grounds counted	11	9	10	11	13	11	12	10	12	16	--
Total male grouse counted	163	240	257	245	454	338	126	174	242	273	--
County average (all strutting grounds)	15	27	26	22	35	31	11	17	20	17	--
% change from previous year - comparable grounds	+8	+29	0	-16	+63	-18	-67	+56	+40	-21	--
REGIONAL TOTALS											
No. strutting grounds counted	26	23	28	28	30	24	33	32	33	37	--
Total male grouse counted	388	442	542	461	759	478	297	354	416	396	--
Average grouse per ground (all strutting grounds)	15	19	19	17	25	20	9	11	13	13	--
% change from previous year - comparable grounds	+13	+12	-3	-13	+51	-25	-48	+27	+17	-3	--
Southeastern Region											
CARBON											
No. strutting grounds counted	8	2	5	9	5	--	--	6	1	1	--
Total male grouse counted	77	65	134	140	41	--	--	2	0	16	--
County average (all strutting grounds)	10	33	27	16	8	--	--	3	--	16	--
% change from previous year - comparable grounds	--	+48	+83	-10	-64	--	--	--	--	+100	--
EMERY											
No. strutting grounds counted	3	--	1	2	1	--	--	--	2	--	--
Total male grouse counted	2	--	13	33	12	--	--	--	9	--	--
County average (all strutting grounds)	1	--	13	17	12	--	--	--	5	--	--
% change from previous year - comparable grounds	--	--	--	+23	-25	--	--	--	--	--	--

Table 1 (continued)

Region and County	Year										
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
SAN JUAN											
No. strutting grounds counted	6	6	6	4	5	4	5	4	4	6	4
Total male grouse counted	137	115	98	117	96	67	41	63	47	59	57
County average	23	19	16	29	18	17	8	16	12	10	14
%change from previous year - comparable grounds	-19	-9	-14	+22	-17	+1	-33	+65	-25	+52	-14
REGIONAL TOTALS											
No. strutting grounds counted	17	8	12	15	11	4	5	10	7	7	4
Total male grouse counted	216	180	245	290	149	67	41	65	56	75	57
Average grouse per ground	13	23	20	19	14	17	8	7	8	11	14
%change from previous year - comparable grounds	-19	+21	+20	+4	-37	+1	-33	+58	-28	+34	-14
STATE TOTALS											
No. strutting grounds counted	142	119	131	136	138	120	116	154	121	113	43
Total male grouse counted	2,482	2,296	2,460	2,855	2,802	2,808	2,148	2,469	2,089	1,711	664
Average grouse per ground	18	19	19	21	20	23	19	16	17	15	15
%change from previous year - comparable grounds	+17	-4	+2	+6	-15	-13	-20	-9	-1	-8	-18

*No counts because of snow conditions.

Table 2. Sage grouse summer inventory summary, 1984.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Adults w/o Yng	Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr				
	# Ad	Yng		Ad	Yng						Veh. Horse	Walk		Total			
Northern Region																	
Box Elder	8	8	46	5.75	0	0	53	61	46	75	50	13	42	0	55	195	
Cache	0	0	0	---	0	2	0	0	2	---	20	1	18	0	19	11	
Davis	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Morgan	0	0	0	---	0	0	0	0	0	---	15	1	47	0	48	---	
Rich	25	25	98	3.92	10	25	40	75	123	164	1,066	61	0	39	100	198	
Summit	0	0	0	---	0	0	0	0	0	---	260	8	37	11	56	---	
Weber	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
REGIONAL TOTALS	33	33	144	4.36	10	27	93	136	171	126	1,411	84	144	50	278	110	
Central Region																	
Juab	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Salt Lake	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sanpete	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Tooele	3	3	10	3.33	0	0	7	10	10	100	172	14	0	5	19	105	
Utah	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Wasatch	10	10	49	4.90	0	0	18	28	49	175	111	22	31	10	63	122	
REGIONAL TOTALS	13	13	59	4.54	0	0	25	38	59	155	283	36	31	15	82	118	
Southern Region																	
Beaver	1	1	4	4.00	0	0	0	1	4	400	40	3	0	0	3	167	
Garfield	4	4	16	4.00	2	5	9	15	21	140	69	14	0	0	14	257	
Iron	2	2	7	3.50	7	8	15	24	15	63	0	0	15	0	15	260	
Kane	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Millard	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Piute	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sevier	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Washington	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Wayne	4	4	20	5.00	5	19	36	45	39	411	180	22	0	0	22	381	
REGIONAL TOTALS	11	11	47	4.27	14	32	60	85	79	92	289	39	15	0	54	304	
Northeastern Region																	
Daggett	8	8	37	4.63	5	18	9	22	55	250	122	14	9	2	25	308	
Duchesne	13	13	49	3.77	48	45	4	65	94	145	290	24	3	8	35	454	
Uintah	3	3	9	3.00	37	35	26	66	44	67	118	13	11	11	35	314	
REGIONAL TOTALS	24	24	95	3.96	90	98	39	153	193	126	530	51	23	21	95	364	
Southeastern Region																	
Carbon	3	3	13	4.33	3	6	2	8	19	238	60	6.5	0	0	6.5	415	
Emery	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Grand	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
San Juan	1	1	5	5.00	0	0	0	1	5	500	91	6.5	0	4	10.5	57	
REGIONAL TOTALS	4	4	18	4.50	3	6	2	9	24	267	151	13	0	4	17	194	
STATE TOTALS	85	85	363	4.27	117	163	219	421	526	125	2,664	223	213	90	526	180	

Table 3. Trend of sage grouse young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region												
Box Elder	119	106	250	75	125	81	84	68	127	135	75	
Cache	161	329	486	450	--	0	300	122	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	131	64	71	35	414	66	89	120	--	240	--	
Rich	153	94	106	81	273	101	33	85	85	--	164	
Summit	275	52	247	106	316	221	74	114	80	67	--	
Weber	--	--	200	0	--	--	--	--	--	--	--	
REGIONAL TOTALS	131	102	170	77	194	99	67	82	91	145	126	116
Central Region												
Juab	--	--	--	76	46	262	204	245	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	89	280	414	257	224	154	267	348	314	305	--	
Tooele	314	168	286	123	283	449	143	101	107	176	100	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	101	118	123	54	93	163	170	236	166	157	175	
REGIONAL TOTALS	141	138	187	77	112	204	171	171	209	214	155	162
Southern Region												
Beaver	219	205	181	69	156	100	142	104	32	--	400	
Garfield	143	277	174	174	176	272	383	84	128	133	140	
Iron	46	--	--	80	313	229	269	113	148	150	63	
Kane	--	--	0	--	--	57	--	--	--	1,000	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	317	67	0	--	--	--	--	--	--	--	--	
Sevier	400	0	533	0	625	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	166	545	286	115	308	288	291	263	193	104	411	
REGIONAL TOTALS	157	287	194	103	224	230	235	154	130	98	92	181
Northeastern Region												
Daggett	266	51	190	169	198	169	200	230	369	88	250	
Duchesne	161	120	161	53	199	127	248	235	305	240	145	
Uintah	446	107	249	235	269	279	401	253	183	375	67	
REGIONAL TOTALS	321	97	206	154	226	191	297	242	237	265	126	224
Southeastern Region												
Carbon	185	116	214	46	164	400	--	64	--	--	238	
Emery	0	--	--	--	--	--	--	--	--	--	--	
Grand	--	400	25	3	--	71	--	--	--	--	--	
San Juan	82	47	22	24	94	--	400	350	--	57	500	
REGIONAL TOTALS	100	63	68	25	142	223	450	83	57	57	267	135
STATE TOTALS	160	120	171	87	181	175	163	142	179	202	125	158

Table 4. Trend of sage grouse mean brood size, 1974-84.

Region and County	Year													Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984			
<u>Northern Region</u>														
Box Elder	4.07	3.81	5.59	4.36	4.76	4.32	3.36	3.97	3.92	5.00	5.75			
Cache	4.62	5.00	6.25	4.50	--	--	1.00	3.50	--	--	--			
Davis	--	--	--	--	--	--	--	--	--	4.20	--			
Morgan	4.75	3.80	4.25	3.50	6.44	4.00	5.60	5.14	--	--	--			
Rich	3.91	4.00	6.04	3.83	5.24	4.58	3.36	3.67	4.45	--	3.92			
Summit	5.00	3.75	5.00	4.50	5.77	5.00	3.78	3.67	2.67	3.33	--			
Weber	--	--	2.00	--	--	--	--	--	--	--	--			
REGIONAL TOTALS	4.17	4.03	5.45	4.17	5.20	4.52	3.61	3.94	4.00	4.25	4.36	4.33		
<u>Central Region</u>														
Juab	--	--	--	4.50	3.33	4.25	5.00	2.00	--	--	--			
Salt Lake	--	--	--	--	--	--	--	--	--	--	--			
Sanpete	4.00	4.00	5.67	3.20	4.57	6.44	5.58	4.80	6.36	5.83	--			
Tooele	5.25	5.50	5.07	4.17	5.13	5.64	4.09	3.00	3.33	4.33	3.33			
Utah	--	--	--	--	--	--	--	--	--	--	--			
Wasatch	4.24	3.86	4.70	3.27	4.90	4.90	4.09	3.83	4.81	3.14	4.90			
REGIONAL TOTALS	4.49	4.22	4.98	3.44	4.82	5.18	4.41	3.44	5.32	4.37	4.54	4.46		
<u>Southern Region</u>														
Beaver	3.64	3.90	4.95	3.57	4.29	4.00	4.14	5.50	4.00	--	4.00			
Garfield	5.41	4.18	3.50	4.00	4.00	4.39	5.00	4.50	3.43	3.43	4.00			
Iron	6.33	--	--	3.00	5.50	4.68	4.12	3.57	6.40	3.00	3.50			
Kane	--	--	--	--	--	--	--	--	--	5.00	--			
Millard	--	--	--	--	--	--	--	--	--	--	--			
Plute	5.67	1.00	--	--	--	--	--	--	--	--	--			
Sevier	4.00	--	5.33	--	6.25	--	--	--	--	--	--			
Washington	--	--	--	--	--	--	--	--	--	--	--			
Wayne	4.70	5.45	3.95	4.40	4.56	4.74	4.60	3.96	4.43	3.67	5.00			
REGIONAL TOTALS	4.54	4.27	4.18	4.00	4.55	4.61	4.48	3.93	4.52	3.62	4.27	4.27		
<u>Northeastern Region</u>														
Daggett	4.93	3.25	4.55	4.80	5.05	5.10	4.75	4.11	5.13	5.80	4.63			
Duchesne	3.82	3.60	4.11	3.56	4.00	4.73	4.42	3.91	5.32	4.59	3.77			
Uintah	5.06	4.69	5.21	4.48	4.87	4.67	5.55	5.27	4.95	5.13	3.00			
REGIONAL TOTALS	4.82	4.24	4.70	4.30	4.94	4.79	5.05	4.50	5.10	5.00	3.96	4.74		
<u>Southeastern Region</u>														
Carbon	3.92	2.67	5.05	4.14	5.17	4.67	--	--	--	--	4.33			
Emery	--	--	--	--	--	--	--	--	--	--	--			
Grand	--	4.00	3.00	--	--	5.00	--	--	--	--	--			
San Juan	6.65	3.50	--	3.29	--	--	--	3.50	--	4.00	5.00			
REGIONAL TOTALS	5.47	3.17	4.77	3.71	5.17	3.25	--	3.50	--	4.00	4.50	4.13		
STATE TOTALS	4.57	4.15	4.89	3.99	4.97	4.77	4.51	4.05	4.85	4.58	4.27	4.53		

Table 5. Trend of sage grouse observed per 100 hours, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
Northern Region												
Box Elder	459	187	457	670	452	1,835	575	571	238	90	195	
Cache	250	261	410	29	--	0	154	232	--	--	11	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	514	140	433	218	160	412	427	471	77	93	--	
Rich	428	452	724	580	838	952	393	648	188	--	198	
Summit	188	109	268	361	369	226	111	135	100	81	--	
Weber	--	--	12	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	398	204	429	461	400	545	315	440	144	82	110	342
Central Region												
Juab	--	0	0	580	255	588	206	380	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	85	86	263	255	594	743	319	303	426	214	--	
Tooele	665	257	781	311	265	776	710	627	207	203	105	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	529	520	1,353	1,253	767	652	360	147	362	41	122	
REGIONAL TOTALS	402	329	740	618	556	695	410	347	342	111	118	455
Southern Region												
Beaver	460	188	555	428	242	89	920	613	62	767	167	
Garfield	603	112	226	211	545	468	229	480	291	300	257	
Iron	241	--	--	771	220	1,315	342	1,085	315	71	260	
Kane	--	--	233	0	--	588	--	--	--	275	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	833	62	100	--	--	--	--	--	--	--	--	
Sevier	500	0	950	83	207	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	335	209	491	240	444	494	338	538	783	612	381	
REGIONAL TOTALS	413	134	348	265	380	617	346	653	429	392	304	398
Northeastern Region												
Daggett	381	132	352	575	637	1,274	489	800	300	467	308	
Duchesne	196	84	347	446	392	258	446	574	845	433	454	
Uintah	459	386	716	513	397	705	474	398	1,036	866	314	
REGIONAL TOTALS	358	217	473	509	427	673	483	507	800	631	364	508
Southeastern Region												
Carbon	146	49	147	283	295	200	5	219	--	--	415	
Emery	11	0	--	0	0	--	--	--	--	--	--	
Grand	--	500	1,125	550	71	240	--	--	--	--	--	
San Juan	856	321	304	341	194	--	100	50	--	50	57	
REGIONAL TOTALS	360	128	220	332	237	210	36	141	--	50	194	190
STATE TOTALS	387	196	428	445	407	621	374	444	401	258	180	396

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunter pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	73	2,578	2,070	0.80	16.89	18.95
Cache	33	974	527	0.54	6.38	4.83
Davis	16+	568	101	0.18	3.72	0.92
Morgan	16	893	284	0.32	5.85	2.60
Rich	28	852	426	0.50	5.58	3.90
Summit	24	872	203	0.23	5.71	1.86
Weber	10	548	365	0.67	3.59	3.34
REGIONAL TOTALS	200	7,288	3,979	0.55	47.74	36.43
<u>Central Region</u>						
Juab	4+	121	40	0.33	0.79	0.37
Salt Lake	2+	81	20	0.25	0.53	0.18
Sanpete	6+	223	142	0.64	1.46	1.30
Tooele	12+	304	162	0.53	1.99	1.48
Utah	22+	710	548	0.77	4.65	5.02
Wasatch	21	730	203	0.28	4.78	1.86
REGIONAL TOTALS	67	2,172	1,116	0.51	14.23	10.22
<u>Southern Region</u>						
Beaver	4	142	182	1.29	0.93	1.67
Garfield	23	791	1,055	1.33	5.18	9.66
Iron	6	142	142	1.00	0.93	1.30
Kane	0	0	0	0.00	0.00	0.00
Millard	5+	121	81	0.67	0.79	0.74
Piute	9	324	466	1.44	2.12	4.27
Sevier	8	243	162	0.67	1.59	1.48
Washington	1+	20	0	0.00	0.13	0.00
Wayne	28	649	812	1.25	4.25	7.44
REGIONAL TOTALS	84	2,436	2,903	1.19	15.96	26.58
<u>Northeastern Region</u>						
Daggett	8	385	60	0.16	2.25	0.55
Duchesne	12	568	284	0.50	3.84	2.60
Uintah	52	1,786	1,745	0.98	11.70	15.98
REGIONAL TOTALS	72	2,740	2,091	0.76	17.95	19.15
<u>Southeastern Region</u>						
Carbon	6+	304	101	0.33	1.99	0.92
Emery	5+	284	426	1.50	1.86	3.90
Grand	0	0	0	0	0	0
San Juan	0+	0	0	0	0	0
REGIONAL TOTALS	11	588	527	0.90	3.85	4.83
Unknown Counties	1	40	304	7.50	0.26	2.78
STATE TOTALS	435	15,266	10,921	0.72	100	100

*Total hunter trips from questionnaire returns.

+Closed season - Counties hunted were either reported incorrectly, or hunters were hunting illegally.

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	1.12	1.27	1.41	1.26	0.78	0.88	0.80
Cache	0.43	0.74	0.61	0.40	0.50	0.47	0.54
Davis	0.53	0.00	0.27	0.22*	0.36*	0.45*	0.18*
Morgan	0.69	0.68	0.57	0.74	0.30	0.15	0.32
Rich	0.87	0.76	0.53	0.53	0.51	0.44	0.50
Summit	0.80	0.77	0.48	0.38	0.32	0.50	0.23
Weber	0.84	0.58	0.85	0.16	0.39	0.47	0.67
REGIONAL TOTALS	0.80	0.87	0.94	0.76	0.56	0.58	0.55
<u>Central Region</u>							
Juab	0.86	1.24	0.94	1.14*	0.17	0.36*	0.33*
Salt Lake	0.38*	0.87*	0.64*	0.75*	2.08*	0.50*	0.25*
Sanpete	0.55	0.59	0.56	1.40*	0.31*	0.33*	0.64*
Tooele	0.54*	0.69*	0.86	0.54	0.86*	0.30*	0.53*
Utah	0.74	0.90	0.57	0.64	0.50*	1.08*	0.77*
Wasatch	0.71	0.67	0.58	0.50	0.54	0.65	0.28
REGIONAL TOTALS	0.69	0.76	0.64	0.68	0.62	0.63	0.51
<u>Southern Region</u>							
Beaver	1.12	1.06	0.86	1.06	1.24	0.95	1.29
Garfield	1.09	1.24	1.20	1.34	1.12	1.33	1.33
Iron	0.71	0.50	0.82	0.92	0.92	1.35	1.00
Kane	3.00	0.00	0.00	0.71	0.00	--	0.00
Millard	0.50	0.00	0.70	0.00	1.00*	1.88*	0.67*
Piute	0.46	0.92	0.79	2.00	0.93	1.30	1.44
Sevier	1.07	0.55	0.58	0.45	0.85	0.67	0.67
Washington	2.00*	2.00*	1.75	0.00	5.50*	--	0.00*
Wayne	0.94	1.49	1.19	1.42	1.22	1.26	1.25
REGIONAL TOTALS	0.99	1.11	0.96	1.17	1.21	0.16	1.19
<u>Northeastern Region</u>							
Daggett	1.15	1.28	0.77	0.84	1.00	1.04	0.16
Duchesne	1.14	1.26	0.70	1.00	0.85	1.31	0.50
Uintah	1.21	1.21	0.94	1.01	1.16	1.15	0.98
REGIONAL TOTALS	1.18	1.23	0.82	0.97	1.04	1.17	0.76
<u>Southeastern Region</u>							
Carbon	0.93	0.82	0.53	0.19*	0.44*	0.27*	0.33*
Emery	1.14	0.92	1.26	1.00*	0.00*	0.08*	1.50*
Grand	1.33	0.00	1.50	0.38	0.25	--	0.00
San Juan	1.37	0.25	0.17	0.00	1.50*	1.00*	0.00*
REGIONAL TOTALS	1.03	0.77	0.69	0.28	0.47	0.26	0.90
Unknown counties	0.55	1.95	1.25	0.22	2.00	--	7.50
Mixed counties	2.40	0.00	0.00	0.00	0.00	--	--
Illegal areas (Total)	0.75	0.00	0.00	0.00	(0.62)*	(0.60)*	(0.60)*
STATE TOTALS	0.87	0.92	0.85	0.85	0.79	0.81	0.72

*Closed season.

Table 8. Percentage distribution of sage grouse harvest by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	14.04	15.08	31.07	23.29	18.19	15.56	18.95
Cache	4.71	6.59	3.06	1.87	3.84	4.56	4.83
Davis	0.62	0.00	0.60	0.27*	0.50*	2.86*	0.92*
Morgan	2.39	2.37	1.19	2.68	1.36	0.44	2.60
Rich	7.41	10.91	5.74	4.95	4.33	3.48	3.90
Summit	4.94	6.33	3.50	2.95	2.35	3.13	1.86
Weber	4.55	1.80	1.64	0.40	1.86	1.52	3.34
REGIONAL TOTALS	38.66	43.13	46.80	36.41	32.43	31.55	36.43
<u>Central Region</u>							
Juab	0.93*	1.34*	1.12*	2.14*	0.12*	0.35*	0.37*
Salt Lake	0.23*	1.34*	0.67*	1.61*	3.09*	0.71*	0.18*
Sanpete	1.39	1.80	1.34	0.94*	1.11*	1.42*	1.30*
Tooele	1.00*	0.57	3.28	2.54	1.49*	0.62*	1.48*
Utah	5.48	4.84	3.80	4.55*	2.85*	5.72*	5.02*
Wasatch	8.64	6.18	5.96	1.74	3.22	1.34	1.86
REGIONAL TOTALS	17.67	16.06	16.17	13.52	11.88	10.17	10.22
<u>Southern Region</u>							
Beaver	1.39	0.87	2.38	4.55	2.60	1.87	1.67
Garfield	5.40	4.32	5.29	14.86	9.28	10.46	9.66
Iron	1.16	0.26	1.04	1.61	2.85	3.13	1.30
Kane	0.23	0.00	0.00	0.67	0.00	0.00	0.00
Millard	0.15	0.00	0.52	0.00	0.62*	2.68*	0.74*
Piute	0.46	1.13	1.64	0.80	1.73	2.32	4.27
Sevier	2.24	1.03	2.09	1.34	2.72	2.86	1.48
Washington	0.77*	0.10*	0.52*	0.00	4.08*	0.00*	0.00*
Wayne	3.55	6.07	5.07	6.29	9.53	9.21	7.44
REGIONAL TOTALS	15.35	13.79	18.55	30.12	33.42	32.54	26.58
<u>Northeastern Region</u>							
Daggett	2.39	3.29	1.27	4.28	1.36	2.14	0.55
Duchesne	5.56	6.28	4.92	4.15	5.69	5.72	2.60
Uintah	10.73	9.68	7.60	10.31	13.49	16.99	15.98
REGIONAL TOTALS	18.67	19.25	13.79	18.74	20.55	24.85	19.15
<u>Southeastern Region</u>							
Carbon	4.40	4.27	2.24	0.40*	0.50*	0.53*	0.92*
Emery	1.93	1.24	1.79	0.13*	0.00*	0.09*	3.90*
Grand	0.31	0.00	0.22	0.40	0.12	--	0.00
San Juan	0.85	0.15	0.07	0.00	0.37*	0.27*	0.00*
REGIONAL TOTALS	7.48	5.66	4.32	0.94	0.99	0.89	4.83
Unknown counties	1.23	2.11	0.37	0.27	0.74	0.00	2.78
Mixed counties	0.93	0.00	0.00	0.00	0.00	0.00	0.00
Illegal areas	(2.93)	(2.78)	(2.31)	(10.04)*	(17.95)*	(15.25)*	(14.83)*
STATE TOTALS	100	100	100	100	100	100	100

*Closed season.

Table 9. Percentage distribution of sage grouse hunting pressure by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	10.92	10.96	17.48	15.74	18.40	14.33	16.89
Cache	9.58	8.16	4.23	3.99	6.07	7.89	6.38
Davis	1.01	0.00	1.89	1.03*	1.08*	5.14*	3.72*
Morgan	3.02	3.23	1.77	3.08	3.62	2.39	5.85
Rich	7.37	13.19	9.15	7.98	6.75	6.44	5.58
Summit	5.36	7.64	6.18	6.61	5.77	5.07	5.71
Weber	4.69	2.85	1.64	2.17	3.72	2.60	3.59
REGIONAL TOTALS	41.96	46.03	42.33	40.59	45.40	43.87	47.74
<u>Central Region</u>							
Juab	0.94*	1.00*	1.01*	1.60*	0.59*	0.79*	0.79*
Salt Lake	0.54*	1.42*	0.88*	1.82*	1.17*	1.15*	0.53*
Sanpete	2.21	2.80	2.02	0.57*	2.84*	3.55*	1.46*
Tooele	1.61*	0.76*	3.22	3.99	1.37*	1.66*	1.99*
Utah	6.43	4.98	5.62	6.04*	4.50*	4.27*	4.65*
Wasatch	10.59	8.49	8.77	2.96	4.70	1.66	4.78
REGIONAL TOTALS	22.32	19.45	21.51	16.99	15.17	13.09	14.23
<u>Southern Region</u>							
Beaver	1.07	0.76	2.33	3.65	1.66	1.59	0.93
Garfield	4.29	3.23	3.72	9.46	6.56	6.37	5.18
Iron	1.41	0.47	1.07	1.48	2.45	1.88	0.93
Kane	0.07	0.00	0.00	0.80	0.00	0.65	0.00
Millard	0.27	0.28	0.63	0.00	0.49*	1.15*	0.79*
Piute	0.87	1.14	1.77	0.34	1.47	1.45	2.12
Sevier	1.81	1.80	3.03	2.51	2.54	3.47	1.59
Washington	0.34*	0.05*	0.25*	0.00	0.59*	0.14*	0.13*
Wayne	4.15	3.28	3.75	3.76	6.16	5.93	4.25
REGIONAL TOTALS	13.40	11.48	16.40	22.01	21.92	22.64	15.96
<u>Northeastern Region</u>							
Daggett	1.81	2.37	1.39	4.33	1.08	1.66	2.25
Duchesne	4.22	4.60	5.93	3.53	5.28	3.54	3.84
Uintah	7.71	7.40	6.88	3.67	9.20	11.95	11.70
REGIONAL TOTALS	13.74	14.37	14.20	16.53	15.56	17.15	17.95
<u>Southeastern Region</u>							
Carbon	4.09	4.79	3.60	1.82*	0.88*	1.59*	1.99*
Emery	1.47	1.23	1.20	0.11*	0.20*	0.94*	1.86*
Grand	0.20	0.14	0.12	0.91	0.39	0.00	0.00
San Juan	0.54	0.57	0.38	0.00	0.20*	0.22*	0.00*
REGIONAL TOTALS	6.30	6.74	5.30	2.85	1.66	2.75	3.85
Unknown counties	1.94	1.93	0.25	1.03	0.29	0.50	0.26
Mixed counties	0.34	0.00	0.00	0.00	0.00	0.00	0.00
Illegal areas	3.42	0.00	0.00	(12.99)*	(13.91)*	(20.60)*	(17.91)*
STATE TOTALS	100	100	100	100	100	100	100

*Closed season.

Table 10. Statewide summary of sage grouse harvest statistics, 1951-84.

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	3,793	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	1,509	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
1979	16,927	28,280	30,682	0.92	1.67
1980	15,219	22,770	26,893	0.85	1.50
1981	10,083	15,857	18,617	0.85	1.57
1982	8,997	12,383	15,663	0.79	1.38
1983	9,201	14,949	18,467	0.81	1.63
1984	8,283	10,921	15,266	0.72	1.32
<hr/>					
TOTALS (1963-1984)	238,426	331,127	392,059	18.48	30.99
<hr/>					
AVERAGES (1963-1983)	10,959	15,247	17,943	0.85	1.41

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

**Estimated.

***Totals and indices based on indiscrete data.

Table 11. Sage grouse field bag check summary, 1984.

Region and County	ALL HUNTS					COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hr	Birds/Hunter
<u>Northern Region</u>											
Box Elder	224	595	3,766	490	13	224	595	3,766	490	13	0.82
Cache	5	11	56	2	4	5	11	56	2	4	0.18
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	4	8	17	0	--	2	4	12	0	--	--
Rich	31	66	218	37	17	31	66	218	37	17	0.56
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	4	9	36	4	11	4	9	36	4	11	0.44
REGIONAL TOTALS	264	681	4,076	533	13	264	681	4,076	533	13	0.78
<u>Central Region</u>											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
<u>Southern Region</u>											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	90	177	1,342	140	10	58	133	1,120	125	11	0.94
REGIONAL TOTALS	90	177	1,342	140	10	58	133	1,120	125	11	0.94
<u>Northeastern Region</u>											
Daggett	8	12	36	10	28	4	6	12	4	33	0.67
Duchesne	6	15	56	15	27	3	6	11	5	45	0.83
Uintah	64	124	393	97	25	49	109	351	87	25	0.80
REGIONAL TOTALS	78	151	485	122	25	56	121	374	96	26	0.79
<u>Southeastern Region</u>											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	432	1,009	5,903	795	13	378	935	5,570	754	14	0.81

Table 12. Sage grouse hunter success trend determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	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/Hunter
<u>Northern Region</u>												
Box Elder	38	1.40	29	1.22	22	1.05	13	0.78	16	1.05	13	0.82
Cache	7	0.27	3	0.13	4	0.15	2	0.05	4	0.13	4	0.18
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	7	0.22	--	--	--	--	--	--	--	--	--	--
Rich	14	0.58	7	0.33	5	0.24	7	0.28	13	0.53	17	0.56
Summit	11	0.34	6	0.20	21	0.43	--	--	--	--	--	--
Weber	--	--	6	0.27	--	--	--	--	--	--	11	0.44
REGIONAL TOTALS	25	0.93	18	0.82	19	0.86	12	0.66	15	0.94	13	0.78
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	68	1.00	58	0.95	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	32	0.73	41	0.85	--	--	--	--	--	--	--	--
REGIONAL TOTALS	32	0.73	58	0.95	58	0.95	--	--	--	--	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	65	1.83	--	--	41	2.00	72	1.88	--	--	--	--
Iron	73	1.90	36	0.84	18	0.18	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	20	1.12	39	2.11	30	1.76	15	0.90	25	1.35	11	0.94
REGIONAL TOTALS	28	1.34	36	1.78	30	1.71	20	1.06	25	1.35	11	0.94
<u>Northeastern Region</u>												
Daggett	40	1.31	28	1.04	41	0.93	30	0.97	33	1.00	33	0.67
Duchesne	72	1.44	--	--	--	--	22	0.50	60	1.25	45	0.83
Uintah	41	1.19	28	1.49	23	0.73	34	1.20	34	0.89	25	0.80
REGIONAL TOTALS	41	1.23	28	1.23	25	0.75	33	1.13	35	0.93	26	0.79
<u>Southeastern Region</u>												
Carbon	11	0.42	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	20	0.50	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	12	0.43	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	27	1.01	21	0.92	21	0.91	14	0.74	18	0.99	14	0.81

Table 13. Sex and age composition of harvested sage grouse, 1984.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	297	44	70	114	74	109	183	161	261
Cache	4	1	3	4	0	0	0	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	34	1	10	11	6	17	23	209	230
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	335	46	83	129	80	126	206	160	248
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	118	16	17	33	37	48	85	258	500
Iron	28	5	7	12	8	8	16	133	229
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	268	46	75	121	65	82	147	121	196
REGIONAL TOTALS	414	67	99	166	110	138	248	149	250
Northeastern Region									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	71	12	14	26	23	22	45	173	321
REGIONAL TOTALS	71	12	14	26	23	22	45	173	321
Southeastern Region									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	820	125	196	321	213	286	499	155	255

Table 14. Sex and age composition of harvested sage grouse from 1981-84.

Region and County	1981						1982						1983						1984						Averages 1979-83												
	Sex Ratio %		Young/100H		n		Sex Ratio %		Young/100H		n		Sex Ratio %		Young/100H		n		Sex Ratio %		Young/100H		n		Sex Ratio %		Young/100H		n								
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F							
Northern Region																																					
Box Elder	31	69	76	53	385	38	62	73	45	358	41	59	138	95	297	40	60	261	161																		
Cache	12	42	58	175	140	4	100	0	100	6	67	33	400	200	4	25	75																				
Davis																																					
Morgan																																					
Rich	40	35	65	89	67	34	29	71	183	183	29	55	45	163	81	34	21	79	230	209																	
Summit	6	17	83																																		
Weber																																					
REGIONAL TOTALS	632	32	68	76	54	423	38	62	82	52	393	42	58	141	95	335	38	62	248	160	510	39	61	107	70												
Central Region																																					
Juab																																					
Salt Lake																																					
Sanpete																																					
Tooele	30	27	73	80	67																																
Utah																																					
Wasatch																																					
REGIONAL TOTALS	30	27	73	80	67																																
Southern Region																																					
Beaver																																					
Garfield	207	44	56	291	184	193	31	69	214	172	179	39	61	276	184	118	45	55	500	258																	
Iron	18	67	33	233	64	21	38	62	82	75	11	27	73	800	267	28	46	54	229	133																	
Kane																																					
Millard																																					
Piute																																					
Sevier																																					
Washington																																					
Wayne	299	47	53	364	215	268	40	60	328	231	243	41	59	358	242	268	42	58	196	121																	
REGIONAL TOTALS	524	47	53	329	193	482	36	64	254	194	433	39	61	325	216	414	43	57	250	149	512	42	58	280	184												
Northeastern Region																																					
Daggett	23	48	52	113	64	38	34	66	157	138																											
Duchesne	6	17	83	200	200																																
Uintah	227	42	58	275	199	254	47	53	327	243	174	44	56	297	200	71	49	51	321	173																	
REGIONAL TOTALS	256	42	58	252	178	292	46	54	293	224	174	44	56	297	200	71	49	51	321	173	294	41	59	268	193												
Southeastern Region																																					
Carbon																																					
Emery																																					
Grand																																					
San Juan																																					
REGIONAL TOTALS																																					
STATE TOTALS	1442	39	61	157	106	1197	39	61	179	125	1000	43	57	228	152	820	41	59	255	155	1435	41	59	183	122												

n = wing sample size.

FOREST GROUSE

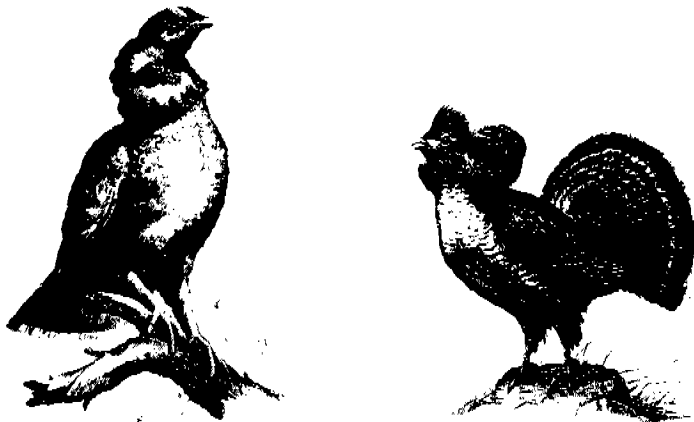
SUMMARY

Judging from harvest statistics for the fall of 1983, the 1984 breeding populations of both ruffed and blue grouse were lower than average, making the third consecutive year of below average breeding populations. Production of ruffed grouse could not be estimated because no observations were reported. The lack of ruffed grouse observed during brood surveys suggested a significant decrease in abundance in 1984 compared to 1983. Harvest data confirmed this conclusion.

Production of blue grouse was also down considerably from 1983 and the 10-year average. Blue grouse observed per 100 hours of effort was 30 percent below average. A total of 33 forest grouse broods were observed during 1984 compared with 69 in 1983 and 116 in 1982.

Harvest statistics indicated lower density of forest grouse. Total harvest decreased from 30,088 in 1983 to 20,396 in 1984, a 32 percent decrease. Total hunters also decreased from 13,414 in 1983 to 11,511 in 1984, and days afield decreased from 34,530 to 27,244.

Field bag check data confirmed the decreased success shown by the questionnaire. Limited blue grouse wing data, however, indicated an increase in both young per 100 adults and young per 100 hens, in the Central region, but the Northern Region showed a decline in the production indices.



Brood Counts

Ruffed Grouse

Results of the annual random brood survey for 1984 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 1984 compared to 1983 and the previous 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total ruffed grouse observed	0	-100	-100
Young per 100 adults	--	--	--
Mean brood size	--	--	--
Ruffed grouse observed per 100 hours	--	--	--
Total hours effort	305	39	-65

Harvest statistics for 1983 indicated a below average breeding population for 1984.

Effort on brood surveys continued to decrease significantly, and was 39 percent less than 1982 and 45 percent below average.

No ruffed grouse were observed during the 1984 summer inventory period, consequently, grouse observed per 100 hours and mean brood size could not be estimated for 1984.

Blue Grouse

Results of the annual random brood survey for 1984 are shown in Table 5 of this section. Long-term trends of young-adult ratios, mean brood size and blue grouse observed per 100 hours are found in Tables 6-8. Survey results for 1984 compared to 1983 and the 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total blue grouse observed	168	-60	-73
Young per 100 adults	190	-30	-23
Mean brood size	3.18	-26	-24
Blue grouse observed per 100 hours	55	-34	-30
Total hours effort (forest grouse)	305	-39	-65

Harvest statistics for 1983 indicated the blue grouse breeding population for 1984 was below average.

All indications from the 1984 summer surveys on blue grouse were that production was well below 1983, and 23 percent below the average.

Total observations declined 60 percent, partially the result of decreased effort. The number of grouse observed per 100 hours of effort decreased from 1983 and was 30 percent below average.

Wing samples collected at checking stations were limited, but indicated a slightly increased production rate in the Central Region, and a reduced reproduction in the Northern Region.

Harvest

Hunter Questionnaire

Results of the 1984 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 1984 compared to 1983 and the 21-year (1963-83) average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Forest grouse hunters	11,511	-14	-23
Forest grouse harvested	20,396	-32	-43
Hunter-days afield	27,244	-21	-23
Forest grouse per hunter-day	0.75	-14	-25
Forest grouse per hunter	1.77	-21	-22
Percent ruffed grouse	33.2	-12	-15
Percent blue grouse	62.0	+10	+14
Percent unidentified	4.8	-19	-29

Results from the harvest questionnaire confirmed significantly lower forest grouse population levels as implied by summer surveys. Total harvest continued to drop from the record harvest of 1978. Hunter success (grouse per hunter-day) was 25 percent below average, and the number of grouse harvested per hunter was 22 percent below average. Hunter pressure decreased considerably from 1983, and was 23 percent below the 21-year average.

Field Bag Checks

A summary of field bag check data for 1983 is found in Table 15. Hunter success trends determined via this method are shown in Table 16. Results of the 1984 survey compared to 1983 and the 10-year (1974-83) average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	412	-52	-77
Total hours hunted	1,520	-52	-78
Forest grouse per hunter (complete hunts)	0.54	-2	+4
Forest grouse bagged per 100 hours	14	0	-7
Average hours per hunter-day (complete hunts)	3.83	-4	-7
Hours hunted per grouse bagged (complete hunts)	7.1	-3	-15

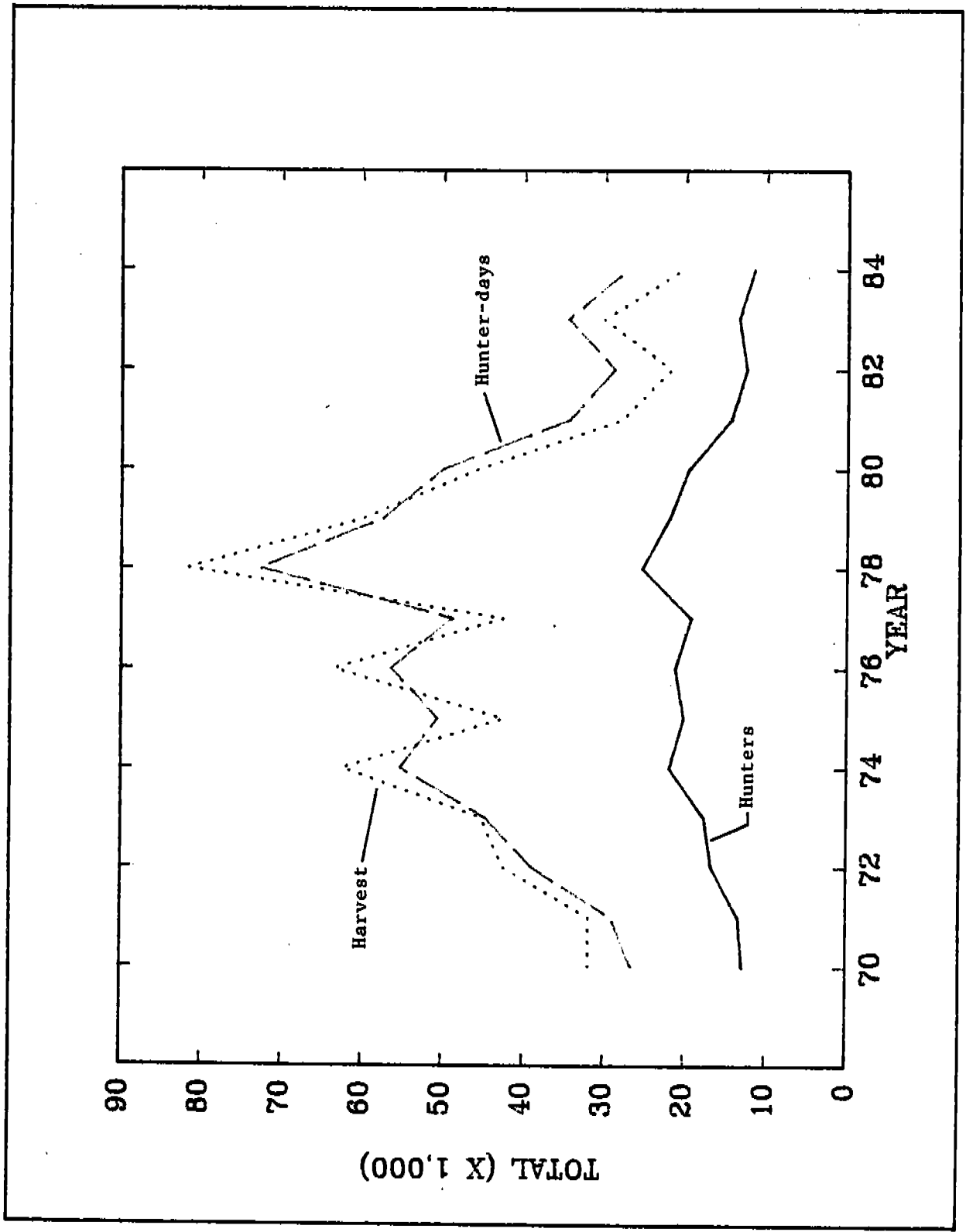


Figure 1. Statewide trends of forest grouse harvest statistics.

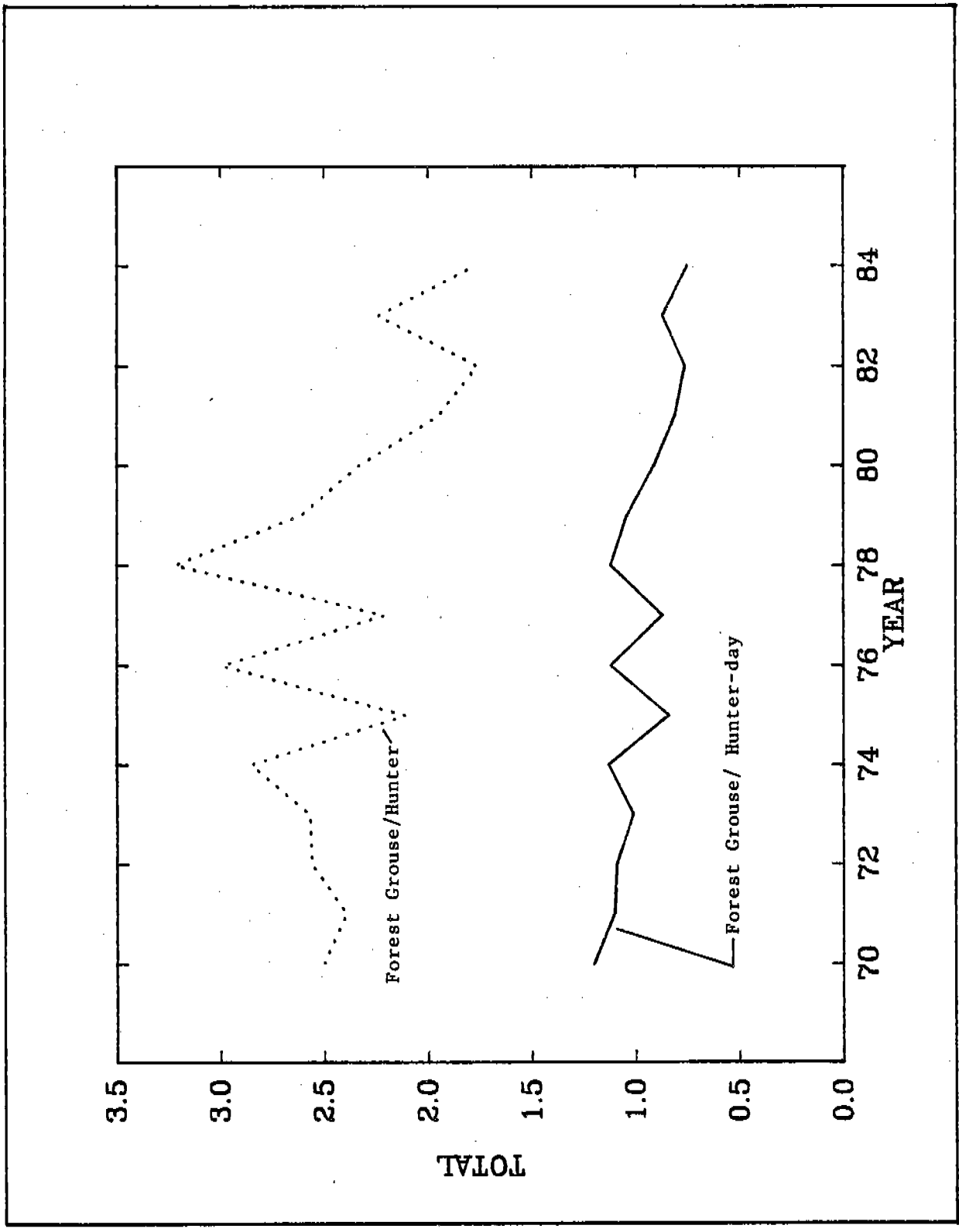


Figure 2. Statewide trends of forest grouse harvest statistics.

Table 1. Ruffed grouse summer inventory, 1984.

Region and County	Distinct broods		Mean # Ad Yng	Brood	Mixed Yng & Adults		Adults w/o Yng	Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr	
	Ad	Yng			Ad	Yng						Veh. Horse	Walk Total		
<u>Northern Region</u>															
Box Elder	0	0	0	0	0	0	0	1	0	--	216	10	0	14	24
Cache	0	0	0	0	0	0	0	1	0	--	140	26	28	8	62
Davis	0	0	0	0	0	0	0	0	0	--	124	12	0	7	19
Morgan	0	0	0	0	0	0	0	0	0	--	120	4	0	0	4
Rich	0	0	0	0	0	0	0	0	0	--	0	0	0	0	0
Summit	0	0	0	0	0	0	0	0	0	--	15	1	47	0	48
Weber	0	0	0	0	0	0	0	0	0	--	0	0	0	0	0
REGIONAL TOTALS	0	0	0	0	0	0	0	0	0	--	615	53	75	29	157
<u>Central Region</u>															
Juab	0	0	0	0	0	0	0	0	0	--	60	2	0	2	4
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0	0	0	0	0	0	0	0	0	--	234	16	0	0	16
Wasatch	0	0	0	0	0	0	0	0	0	--	70	10	0	0	10
REGIONAL TOTALS	0	0	0	0	0	0	0	0	0	--	364	28	0	2	30
<u>Southern Region</u>															
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	0	0	0	0	0	0	0	0	0	--	0	0	25	0	25
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	0	0	0	0	0	0	0	--	0	0	25	0	25
<u>Northeastern Region</u>															
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>															
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	0	0	0	0	0	0	0	0	0	--	979	81	100	31	212

Table 2. Trend of ruffed grouse young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	0	250	250	--	--	--	--	--	--	--	300	--
Cache	300	329	300	300	262	450	138	--	--	--	700	--
Davis	--	--	--	--	--	1,100	--	--	--	--	--	--
Morgan	400	--	500	--	100	400	600	--	--	--	200	--
Rich	--	317	300	--	--	--	--	--	--	--	--	--
Summit	500	217	250	475	400	500	200	200	--	--	--	--
Weber	--	--	--	400	--	500	500	267	--	--	--	--
REGIONAL TOTALS	369	286	245	364	260	460	217	250	--	286	--	304
<u>Central Region</u>												
Juab	400	500	100	--	--	--	--	--	--	--	--	--
Salt Lake	125	--	167	0	--	--	200	92	--	--	--	--
Sanpete	195	233	387	289	462	506	373	390	476	475	--	--
Tooele	--	--	--	--	--	--	--	--	300	--	--	--
Utah	313	57	56	150	300	280	217	300	275	--	--	--
Wasatch	--	--	--	--	--	300	--	--	--	300	--	--
REGIONAL TOTALS	221	164	273	246	424	416	295	282	414	392	--	313
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	200	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	500	233	--	575	300	400	600	500	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	147	233	--	575	300	400	600	500	--	--	--	394
<u>Northeastern Region</u>												
Daggett	--	--	500	--	--	240	--	475	--	--	--	--
Duchesne	333	600	124	67	300	450	--	700	--	--	--	--
Uintah	600	--	500	--	600	--	300	--	--	--	--	--
REGIONAL TOTALS	400	600	195	67	343	300	300	520	--	--	--	341
<u>Southeastern Region</u>												
Carbon	480	200	350	300	--	--	--	--	--	--	--	--
Emery	400	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	467	200	350	300	--	--	--	--	--	--	--	329
STATE TOTALS	267	241	244	298	345	398	294	311	404	353	--	316

Table 3. Trend of ruffed grouse mean brood size, 1974-84.

Region and County	Year										Average 1974-83	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983		1984
<u>Northern Region</u>												
Box Elder	--	5.00	2.50	--	--	--	--	--	--	--	--	3.00
Cache	5.00	3.83	3.00	4.00	4.33	5.14	3.67	--	--	--	--	7.00
Davis	--	--	--	--	--	9.00	--	--	--	--	--	--
Morgan	4.00	--	5.00	--	1.00	4.89	6.00	--	--	--	--	5.00
Rich	--	4.75	3.00	--	--	--	--	--	--	--	--	--
Summit	5.00	3.00	4.00	4.75	4.00	5.00	4.00	2.00	--	--	--	--
Weber	--	--	--	4.00	--	5.00	5.00	4.00	--	--	--	--
REGIONAL TOTALS	4.54	4.00	3.08	4.25	3.88	5.20	4.33	3.33	--	5.00	--	4.18
<u>Central Region</u>												
Juab	4.00	5.00	2.00	--	--	--	--	--	--	--	--	--
Salt Lake	4.00	--	5.00	--	--	--	2.00	2.20	--	--	--	--
Sanpete	3.00	4.50	5.36	4.44	5.11	5.79	5.14	5.47	5.47	4.75	--	--
Tooele	--	--	--	--	--	--	--	--	4.00	--	--	--
Utah	4.25	4.00	2.00	3.00	4.00	4.67	3.25	3.00	--	--	--	9.00
Wasatch	--	--	--	--	--	3.00	--	--	--	--	--	--
REGIONAL TOTALS	3.44	4.50	4.94	4.08	4.83	5.20	4.25	4.57	5.13	5.22	--	4.62
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	2.00	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	5.00	2.33	--	5.75	3.00	4.80	6.00	5.00	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4.40	2.33	--	5.75	3.00	4.80	6.00	5.00	--	--	--	4.47
<u>Northeastern Region</u>												
Daggett	--	--	5.00	--	--	4.00	--	4.75	--	--	--	--
Duchesne	3.33	6.00	3.50	2.00	4.50	4.50	--	7.00	--	--	--	--
Uintah	6.00	--	5.00	--	6.00	--	6.00	--	--	--	--	--
REGIONAL TOTALS	4.00	6.00	4.10	2.00	4.80	4.20	6.00	5.20	--	--	--	4.44
<u>Southeastern Region</u>												
Carbon	4.80	2.00	3.50	3.00	--	--	--	--	--	--	--	--
Emery	4.00	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4.67	2.00	3.50	3.00	4.46	5.06	4.52	4.57	5.13	5.15	--	3.29
STATE TOTALS	4.09	3.87	4.12	4.26	4.46	5.06	4.52	4.57	5.13	5.15	--	4.52

Table 4. Trend of ruffed grouse observed per 100 hours, 1974-84.

Region and County	Year												Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984		
<u>Northern Region</u>													
Box Elder	2	54	50	--	--	--	--	--	--	--	29	--	
Cache	34	45	13	50	25	18	25	--	3	--	6	--	
Davis	0	0	10	--	--	60	--	--	--	--	--	--	
Morgan	136	0	33	--	8	149	20	--	--	--	57	--	
Rich	--	--	27	--	--	--	--	--	--	--	--	--	
Summit	185	46	100	144	61	600	21	--	--	--	--	--	
	--	--	0	111	--	16	17	31	--	--	--	--	
REGIONAL TOTALS	49	41	20	49	18	38	19	10	1	12	26	--	
<u>Central Region</u>													
Juab	250	27	40	--	--	--	--	--	--	--	--	--	
Salt Lake	30	0	20	4	--	2	150	70	--	--	--	--	
Sanpete	124	69	181	125	203	270	200	515	293	271	--	--	
Tooele	0	0	0	0	--	--	--	--	880	--	--	--	
Utah	73	32	19	25	30	39	37	14	38	3	--	--	
Wasatch	--	0	0	--	--	48	3	--	--	86	--	--	
REGIONAL TOTALS	71	23	64	56	99	73	47	98	144	63	74	--	
<u>Southern Region</u>													
Beaver	0	--	--	--	--	--	--	--	--	--	--	--	
Garfield	38	0	--	0	--	--	--	--	--	--	--	--	
Iron	0	0	--	0	--	--	--	--	--	--	--	--	
Kane	--	0	--	0	--	--	--	--	--	--	--	--	
Millard	0	--	--	0	--	--	--	--	--	--	--	--	
Piute	--	0	--	0	--	--	--	--	--	--	--	--	
Sevier	8	2	--	12	2	15	3	2	--	--	--	--	
Washington	0	0	--	0	--	--	--	--	--	--	--	--	
Wayne	0	--	--	0	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	8	2	--	9	2	15	3	2	--	--	6	--	
<u>Northeastern Region</u>													
Daggett	0	0	20	0	--	85	--	164	--	--	--	--	
Duchesne	30	11	47	9	46	48	--	12	--	--	--	--	
Uintah	16	0	62	0	11	--	350	--	--	--	--	--	
REGIONAL TOTALS	20	5	44	4	21	26	350	26	--	--	62	--	
<u>Southeastern Region</u>													
Carbon	53	33	12	7	--	9	--	--	--	--	--	--	
Emery	42	0	--	0	--	33	--	--	--	--	--	--	
Grand	--	0	--	--	--	--	--	--	--	--	--	--	
San Juan	0	0	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	26	11	7	3	--	12	--	--	--	--	12	--	
STATE TOTALS	28	12	25	23	29	37	20	27	66	19	29	--	

Table 5. Blue grouse summer inventory summary, 1984.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Total Adults w/o Yng	Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort			Birds/100 Hr	
	# Ad	Yng		Ad	Yng						Veh.	Horse	Walk		Total
Northern Region															
Box Elder	1	1	7	0	0	1	2	7	350	216	10	0	14	24	38
Cache	0	0	0	0	0	0	0	0	--	140	26	28	8	62	--
Davis	2	2	11	0	4	4	6	15	250	124	12	0	7	19	110
Morgan	2	2	6	0	0	0	2	6	300	120	4	0	0	4	200
Rich	0	0	0	0	0	0	0	0	--	0	0	0	0	0	--
Summit	1	1	5	0	0	0	1	5	500	15	1	47	0	48	12
Weber	0	0	0	0	0	0	0	0	--	0	0	0	0	0	--
REGIONAL TOTALS	6	6	29	0	4	5	11	33	300	615	53	75	29	157	28
Central Region															
Juab	1	1	4	0	0	0	1	4	400	60	2	0	2	4	125
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0	0	0	0	0	0	0	0	--	234	16	0	0	16	--
Wasatch	0	0	0	0	0	0	0	0	--	70	10	0	0	10	--
REGIONAL TOTALS	1	1	4	0	0	0	1	4	400	364	28	0	2	30	17
Southern Region															
Beaver	3	3	10	0	0	1	4	10	250	60	4	0	2	6	233
Garfield	9	9	29	0	0	3	12	29	241	80	6	0	23	29	141
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	3	3	8	0	0	5	8	8	100	60	3	12	0	15	107
Piute	1	1	4	0	0	1	2	4	200	30	3	0	0	3	200
Sevier	4	4	8	0	0	6	10	8	80	0	0	25	0	25	72
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	20	20	59	0	0	16	36	59	164	230	16	37	25	78	122
Northeastern Region															
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region															
Carbon	2	2	6	0	0	0	2	6	300	--	15*	--	--	15	53
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	0	0	0	1	1	3	4	1	25	--	10*	--	--	10*	50
San Juan	4	4	7	0	0	0	4	7	175	--	15*	--	--	15*	73
REGIONAL TOTALS	6	6	13	1	1	3	10	14	140	--	40*	--	--	40*	60
STATE TOTALS	33	33	105	1	5	24	58	110	190	1,209	137	112	56	305	55

*Estimated

Table 6. Trend of blue grouse young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	236	100	429	--	400	380	600	360	--	125	350	
Cache	357	356	331	100	322	167	83	254	--	467	--	
Davis	300	0	150	320	500	100	600	--	--	300	250	
Morgan	300	130	341	117	230	0	233	200	--	--	300	
Rich	--	167	500	--	--	--	300	--	--	--	--	
Summit	--	143	333	333	560	325	400	389	--	--	500	
Weber	625	0	400	400	425	280	425	221	400	--	--	
REGIONAL TOTALS	305	194	333	167	357	205	217	271	400	220	300	267
<u>Central Region</u>												
Juab	--	500	--	--	200	200	124	300	--	400	400	
Salt Lake	300	25	333	238	160	230	350	200	38	--	--	
Sanpete	--	--	325	260	89	275	--	--	471	--	--	
Tooele	179	86	227	82	108	225	141	138	--	138	--	
Utah	222	0	300	27	266	169	279	88	100	200	--	
Wasatch	333	400	400	--	800	214	--	--	200	250	--	
REGIONAL TOTALS	218	192	277	120	156	200	167	153	317	156	400	196
<u>Southern Region</u>												
Beaver	500	--	--	--	--	200	--	200	214	700	250	
Garfield	--	400	100	300	380	375	--	--	340	300	241	
Iron	150	--	--	--	200	233	340	--	--	--	--	
Kane	--	--	--	--	400	--	--	--	--	--	--	
Millard	450	--	--	700	567	475	--	--	--	267	--	
Plute	--	--	200	--	--	--	--	387	235	--	100	
Sevier	320	233	106	86	214	100	179	155	350	100	200	
Washington	350	--	500	--	600	400	--	500	238	367	80	
Wayne	400	--	275	567	--	--	--	--	--	400	--	
REGIONAL TOTALS	313	246	142	146	288	158	193	253	245	237	164	222
<u>Northeastern Region</u>												
Daggett	567	--	487	367	343	154	336	442	469	500	--	
Duchesne	300	350	431	380	567	220	409	257	382	340	--	
Uintah	250	300	525	350	500	460	354	380	238	311	--	
REGIONAL TOTALS	311	320	461	372	486	202	366	371	381	402	--	367
<u>Southeastern Region</u>												
Carbon	243	167	321	500	225	100	350	200	--	700	300	
Emery	--	--	--	300	--	--	--	--	--	--	--	
Grand	43	200	110	300	--	--	--	100	--	--	25	
San Juan	242	200	155	100	380	250	200	300	--	100	175	
REGIONAL TOTALS	188	189	209	269	255	140	275	208	--	200	140	215
STATE TOTALS	284	195	281	181	278	188	219	274	297	272	190	247

Table 7. Trend of blue grouse mean brood size, 1974-84.

Region and County	Year										Average 1974-83	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983		1984
<u>Northern Region</u>												
Box Elder	5.06	3.00	5.75	--	4.00	3.80	6.00	3.60	--	5.00	7.00	--
Cache	4.95	5.30	4.48	3.40	4.46	2.50	3.75	3.67	--	4.33	--	--
Davis	--	--	4.00	3.67	5.00	3.50	6.00	--	--	3.00	5.50	--
Morgan	4.62	3.25	4.45	2.80	3.83	--	3.00	2.00	--	--	3.00	--
Rich	--	5.00	5.00	--	--	--	3.00	--	--	--	--	--
Summit	--	2.75	5.00	5.00	5.60	4.33	4.00	3.89	--	--	5.00	--
Weber	6.25	--	6.00	4.00	4.25	3.50	4.25	3.57	4.00	--	--	--
REGIONAL TOTALS	5.00	4.25	4.67	3.56	4.55	3.63	3.90	3.65	4.00	4.20	4.83	4.14
<u>Central Region</u>												
Juab	--	5.00	--	--	4.00	2.00	3.67	4.00	--	4.00	4.00	--
Salt Lake	6.00	1.00	5.00	4.75	2.67	3.29	3.50	--	--	--	--	--
Sanpete	--	--	3.25	4.33	4.00	2.75	--	--	5.44	--	--	--
Tooele	4.40	3.50	3.45	2.50	4.40	4.20	3.58	3.20	--	3.83	--	--
Utah	5.00	--	4.29	1.50	3.13	3.13	3.00	7.00	3.00	4.00	--	--
Wasatch	5.00	4.00	4.00	--	8.00	5.00	--	--	3.00	5.00	--	--
REGIONAL TOTALS	4.83	3.40	3.97	3.64	3.61	3.30	3.37	3.89	5.05	4.00	4.00	3.91
<u>Southern Region</u>												
Beaver	5.00	--	--	--	--	5.00	--	4.00	2.60	7.00	3.33	--
Garfield	--	6.00	--	6.00	4.75	5.00	--	--	3.40	3.00	3.22	--
Iron	3.00	--	--	--	2.00	3.50	4.25	--	--	--	--	--
Kane	--	--	--	--	4.00	--	--	--	--	4.00	--	--
Millard	4.50	--	--	7.00	5.67	6.33	--	--	3.64	--	2.67	--
Piute	--	--	2.00	--	--	--	--	4.67	3.50	--	4.00	--
Sevier	5.89	3.82	3.17	4.29	4.50	3.29	4.95	3.44	4.04	2.50	2.00	--
Washington	3.50	--	5.00	--	6.00	4.00	--	5.00	--	3.67	--	--
Wayne	4.00	--	5.50	6.00	--	--	--	--	--	4.00	--	--
REGIONAL TOTALS	5.31	4.00	3.50	4.90	4.65	4.04	4.82	4.15	3.70	3.58	2.95	4.27
<u>Northeastern Region</u>												
Daggett	5.67	--	4.88	3.67	4.00	4.00	7.20	4.45	4.91	4.33	--	--
Duchesne	4.22	7.00	4.60	4.22	5.30	3.00	5.00	3.60	3.88	3.40	--	--
Uintah	5.00	4.50	5.25	3.50	5.00	5.75	3.70	4.75	2.71	5.60	--	--
REGIONAL TOTALS	4.71	5.33	4.78	3.94	4.83	3.95	4.90	4.35	4.00	4.63	--	4.54
<u>Southeastern Region</u>												
Carbon	3.40	3.33	4.25	4.75	4.50	2.00	3.50	2.00	--	7.00	3.00	--
Emery	--	--	--	3.00	--	--	--	--	--	--	--	--
Grand	1.50	4.00	3.67	6.00	--	--	--	2.50	--	--	--	--
San Juan	4.83	3.50	3.40	4.00	6.00	5.00	4.00	3.00	--	4.00	1.75	--
REGIONAL TOTALS	3.77	3.57	3.88	4.57	5.40	3.50	3.67	2.60	--	5.50	2.17	4.05
STATE TOTALS	4.88	4.05	4.29	4.00	4.44	3.69	4.20	3.97	4.06	4.29	3.18	4.19

Table 8. Trend of blue grouse observed per 100 hours, 1974-84.

Region and County	Year												Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984		
<u>Northern Region</u>													
Box Elder	273	46	132	--	39	800	58	230	--	64	38		
Cache	271	124	75	62	41	7	44	74	--	14	--		
Davis	80	10	52	84	188	140	92	7	--	33	110		
Morgan	400	35	417	173	127	--	86	30	--	4	200		
Rich	--	--	40	--	--	--	--	--	--	--	--		
Summit	8	83	93	81	400	850	18	293	--	--	12		
Weber	--	125	62	167	42	51	58	174	71	4	--		
REGIONAL TOTALS	274	80	94	87	65	30	57	121	20	15	28	84	
<u>Central Region</u>													
Juab	0	27	0	--	86	38	336	73	--	29	125		
Salt Lake	27	14	98	112	111	70	450	36	48	14	--		
Sanpete	0	0	27	31	65	33	--	--	281	--	--		
Tooele	144	108	354	172	1,080	557	248	271	--	344	--		
Utah	64	118	54	23	96	176	104	52	36	32	--		
Wasatch	433	36	250	--	46	88	3	--	53	50	--		
REGIONAL TOTALS	57	29	91	56	113	109	122	55	127	94	17	85	
<u>Southern Region</u>													
Beaver	300	--	--	--	--	107	--	46	220	133	239		
Garfield	25	56	16	53	86	61	--	--	--	--	141		
Iron	167	--	--	0	150	333	275	--	--	--	--		
Kane	--	0	--	0	250	--	--	--	--	122	--		
Millard	122	--	--	133	250	2,300	--	--	248	15	107		
Piute	--	0	75	0	--	--	--	557	225	--	200		
Sevier	40	21	34	28	38	46	68	20	48	50	72		
Washington	129	0	55	0	--	125	--	800	--	117	--		
Wayne	--	--	375	2,000	0	--	--	--	--	--	--		
REGIONAL TOTALS	47	21	40	35	56	61	74	41	74	80	122	53	
<u>Northeastern Region</u>													
Daggett	182	0	157	88	100	420	600	736	389	632	--		
Duchesne	130	14	105	84	148	209	130	75	126	51	--		
Uintah	78	27	86	20	19	44	256	308	54	239	--		
REGIONAL TOTALS	112	15	112	63	83	150	220	228	138	232	--	135	
<u>Southeastern Region</u>													
Carbon	44	35	77	44	46	19	35	17	--	80	53		
Emery	0	0	--	40	--	33	--	--	--	--	--		
Grand	25	33	68	62	6	--	--	--	--	--	50		
San Juan	158	53	108	24	99	54	46	218	--	100	73		
REGIONAL TOTALS	56	39	81	38	46	29	38	128	--	90	60	61	
STATE TOTALS	91	33	81	52	106	68	93	93	91	83	55	79	

Table 9. Summary of effort expended on forest grouse brood counts, 1984.

Region and County	Vehicle Miles Traveled	Hours Effort Expended			Total
		Vehicle	Horseback	Walking	
<u>Northern Region</u>					
Box Elder	216	10	0	14	24
Cache	140	26	28	8	62
Davis	124	12	0	7	19
Morgan	120	4	0	0	4
Rich	0	0	0	0	0
Summit	15	1	47	0	48
Weber	0	0	0	0	0
REGIONAL TOTALS	615	53	75	29	157
<u>Central Region</u>					
Juab	60	2	0	2	4
Salt Lake	--	--	--	--	--
Sanpete	--	--	--	--	--
Tooele	--	--	--	--	--
Utah	234	16	0	0	16
Wasatch	70	10	0	0	10
REGIONAL TOTALS	364	28	0	2	30
<u>Southern Region</u>					
Beaver	60	4	0	2	6
Garfield	80	6	0	23	29
Iron	--	--	--	--	--
Kane	--	--	--	--	--
Millard	60	3	12	0	15
Piute	30	3	0	0	3
Sevier	0	0	25	0	25
Washington	--	--	--	--	--
Wayne	--	--	--	--	--
REGIONAL TOTALS	230	16	37	25	78
<u>Northeastern Region</u>					
Daggett	--	--	--	--	--
Duchesne	--	--	--	--	--
Uintah	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--
<u>Southeastern Region</u>					
Carbon	--	15	--	--	15
Emery	--	--	--	--	--
Grand	--	10	--	--	10
San Juan	--	15	--	--	15
REGIONAL TOTALS	--	40	--	--	40
STATE TOTALS	1,209	137	112	56	305

Table 10. Summary of forest grouse hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged				Birds per Hunter-day	% of Pressure	% of Harvest
			Ruffed	Blue	Unident.	Total			
Northern Region									
Box Elder	23	1,157	223	446	21	690	0.60	4.25	3.38
Cache	99	4,182	1,400	1,806	0	3,206	0.76	15.35	15.72
Davis	37	1,380	446	466	1	913	0.66	5.07	4.48
Morgan	31	1,339	223	365	0	588	0.44	4.91	2.88
Rich	20	893	446	324	1	771	0.86	3.28	3.78
Summit	24	933	304	203	0	507	0.54	3.42	2.49
Weber	58	2,639	548	1,055	0	1,603	0.60	9.69	7.86
REGIONAL TOTALS	292	12,525	3,593	4,669	23	8,278	0.66	45.97	40.59
Central Region									
Juab	7	568	0	243	0	243	0.43	2.08	1.19
Salt Lake	17	730	60	852	1	913	1.25	2.68	4.48
Sanpete	30	1,441	406	954	61	1,421	0.99	5.29	6.97
Tooele	15	507	60+	142	1	203	0.40	1.86	1.00
Utah	77	3,227	1,218	1,360	142	2,720	0.84	11.84	13.34
Wasatch	34	1,238	243	263	21	527	0.43	4.54	2.58
REGIONAL TOTALS	180	7,714	1,989	3,816	224	6,029	0.78	28.31	29.56
Southern Region									
Beaver	10	406	121+	304	1	426	1.05	1.49	2.09
Garfield	10	426	20+	223	41	284	0.67	1.56	1.39
Iron	15	548	40+	203	81	324	0.59	2.01	1.59
Kane	5	182	0+	121	0	121	0.67	0.67	0.59
Millard	7	223	40+	101	1	142	0.64	0.82	0.70
Piute	13	893	81	1,015	40	1,136	1.27	3.28	5.57
Sevier	31	1,218	182	548	163	893	0.73	4.47	4.38
Washington	0	0	0+	0	0	0	0.00	0.00	0.00
Wayne	5	243	81+	0	0	81	0.33	0.89	0.40
REGIONAL TOTALS	96	4,141	568	2,517	325	3,410	0.82	15.20	16.72
Northeastern Region									
Daggett	11	385	60	101	21	182	0.47	1.41	0.89
Duchesne	13	487	60	243	21	324	0.67	1.79	1.59
Uintah	28	1,258	142	1,035	365	1,542	1.23	4.62	7.56
REGIONAL TOTALS	52	2,131	263	1,380	407	2,050	0.96	7.82	10.05
Southeastern Region									
Carbon	4	81	0	0	0	0	0.00	0.30	0.00
Emery	7	406	304	60	1	365	0.90	1.49	1.79
Grand	4	101	0+	162	0	162	1.60	0.37	0.79
San Juan	4	121	60+	20	1	81	0.67	0.44	0.40
REGIONAL TOTALS	19	710	365	243	2	609	0.86	2.61	2.99
Unknown Counties	1	20	0	20	0	20	1.00	0.07	0.10
Mixed Counties	0	0	0	0	0	0	0.00	0.00	0.00
STATE TOTALS	640	27,244	6,780	12,647	969	20,396	0.75	100	100

*Total hunter trips from questionnaire returns.

+Outside of known distributional limits; probable incorrect identification of blue grouse.

Table 11. Summary of forest grouse bagged per hunter-day by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	0.79	1.20	1.35	0.68	0.87	0.60
Cache	1.24	0.96	0.87	0.78	1.04	0.76
Davis	0.94	0.74	0.66	0.55	0.98	0.66
Morgan	1.08	0.50	0.59	0.73	1.01	0.44
Rich	0.90	0.73	0.17	0.66	0.65	0.86
Summit	0.93	0.72	0.73	0.81	0.75	0.54
Weber	1.07	0.90	0.75	0.81	0.84	0.60
REGIONAL TOTALS	1.08	0.86	0.77	0.74	0.92	0.66
<u>Central Region</u>						
Juab	1.63	1.21	1.07	0.71	0.77	0.43
Salt Lake	1.17	1.12	0.32	0.86	0.84	1.25
Sanpete	0.96	0.73	0.86	0.70	0.60	0.99
Tooele	0.98	1.03	0.89	1.07	0.97	0.40
Utah	1.11	1.09	0.85	0.77	0.85	0.84
Wasatch	0.93	0.65	0.81	0.55	0.76	0.43
REGIONAL TOTALS	1.05	0.95	0.82	0.75	0.78	0.78
<u>Southern Region</u>						
Beaver	1.64	0.89	0.61	1.00	1.13	1.05
Garfield	0.64	0.91	1.08	0.50	1.09	0.67
Iron	0.78	0.73	0.94	0.73	1.03	0.59
Kane	0.86	1.00	0.79	0.53	0.05	0.67
Millard	1.44	1.56	1.04	0.78	0.54	0.64
Piute	0.74	1.10	1.40	0.70	1.16	1.27
Sevier	1.14	1.26	0.61	0.82	1.03	0.73
Washington	0.45	0.00	0.50	0.00	0.42	0.00
Wayne	0.95	0.67	0.40	0.56	0.46	0.34
REGIONAL TOTALS	1.11	1.16	0.80	0.75	0.89	0.82
<u>Northeastern Region</u>						
Daggett	0.69	0.55	0.92	1.15	1.00	0.47
Duchesne	0.99	0.71	1.25	0.75	0.99	0.67
Uintah	0.93	0.87	1.20	0.93	0.98	1.23
REGIONAL TOTALS	0.90	0.76	1.07	0.91	0.98	0.96
<u>Southeastern Region</u>						
Carbon	0.73	0.88	0.72	0.50	0.48	0.00
Emery	0.52	0.83	0.93	0.79	0.70	0.90
Grand	0.57	0.00	1.53	0.50	0.25	1.60
San Juan	0.40	1.00	1.00	1.00	0.25	0.67
REGIONAL TOTALS	0.61	0.87	0.98	0.69	0.54	0.86
Unknown Counties	1.00	0.00	1.67	0.67	1.33	1.00
STATE TOTALS	1.04	0.91	0.81	0.76	0.87	0.75

Table 12. Percentage distribution of forest grouse harvest by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	1.63	4.73	4.41	4.79	4.31	3.38
Cache	21.94	18.23	19.25	18.02	22.58	15.72
Davis	4.04	3.47	2.51	3.03	5.73	4.48
Morgan	2.87	2.01	5.10	3.17	3.42	2.88
Rich	3.40	3.13	0.53	3.73	2.76	3.78
Summit	5.76	5.59	6.47	4.15	3.78	2.49
Weber	10.17	5.67	6.54	9.71	8.58	7.86
REGIONAL TOTALS	49.81	42.83	44.82	46.59	51.16	49.59
<u>Central Region</u>						
Juab	1.39	1.71	2.21	1.06	1.60	1.19
Salt Lake	3.21	3.43	0.91	2.53	2.80	4.48
Sanpete	6.27	3.80	3.35	4.57	4.89	6.97
Tooele	1.43	2.42	2.51	4.15	3.06	1.00
Utah	12.31	16.70	17.43	12.03	10.67	13.34
Wasatch	5.50	4.81	4.11	3.80	3.69	2.58
REGIONAL TOTALS	30.11	32.87	30.52	28.15	26.71	29.56
<u>Southern Region</u>						
Beaver	0.44	0.63	1.75	0.42	0.80	2.09
Garfield	0.34	0.37	1.07	0.21	1.64	1.39
Iron	0.51	1.12	1.29	1.69	1.64	1.59
Kane	0.15	0.37	0.84	0.70	0.04	0.59
Millard	3.33	2.91	2.05	0.99	0.31	0.70
Piute	0.56	0.82	1.60	2.18	0.98	5.57
Sevier	6.49	7.98	2.89	6.26	4.71	4.38
Washington	0.12	0.00	0.08	0.00	0.22	0.00
Wayne	0.44	0.15	0.15	0.35	0.27	0.40
REGIONAL TOTALS	12.38	14.35	11.72	12.81	10.61	16.72
<u>Northeastern Region</u>						
Daggett	0.75	0.86	2.74	2.67	0.84	0.89
Duchesne	2.36	2.16	1.14	3.24	3.78	1.59
Uintah	1.51	3.58	2.28	3.80	3.73	7.56
REGIONAL TOTALS	4.62	6.60	6.16	9.71	8.35	10.05
<u>Southeastern Region</u>						
Carbon	1.53	1.68	1.60	0.70	0.71	0.00
Emery	0.85	1.49	1.98	0.77	1.38	1.79
Grand	0.51	0.00	1.75	0.28	0.09	0.79
San Juan	0.10	0.19	1.07	0.84	0.13	0.40
REGIONAL TOTALS	2.99	3.35	6.39	2.60	2.30	2.99
Unknown Counties	0.10	0.00	0.38	0.14	0.89	0.10
STATE TOTALS	100	100	100	100	100	100

Table 13. Percentage distribution of forest grouse hunting pressure by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	2.16	3.60	2.66	5.33	4.30	4.25
Cache	18.41	17.24	17.95	17.58	18.86	15.35
Davis	4.46	4.28	3.09	4.16	5.11	5.07
Morgan	2.76	3.67	7.05	3.30	2.94	4.91
Rich	3.96	3.91	2.54	4.26	3.72	3.28
Summit	6.44	7.04	7.18	3.89	4.41	3.42
Weber	9.91	5.71	7.12	9.11	8.87	9.69
REGIONAL TOTALS	48.10	45.46	47.59	47.63	48.22	45.97
<u>Central Region</u>						
Juab	0.89	1.29	1.67	1.12	1.82	2.08
Salt Lake	2.87	2.79	2.29	2.24	2.90	2.68
Sanpete	6.82	4.76	3.16	4.95	7.09	5.29
Tooele	1.52	2.14	2.29	2.93	2.75	1.86
Utah	11.51	13.97	16.71	11.77	10.96	11.84
Wasatch	6.19	6.73	4.15	5.22	4.22	4.54
REGIONAL TOTALS	29.79	13.69	30.26	28.24	29.74	28.31
<u>Southern Region</u>						
Beaver	0.28	0.65	2.35	0.32	0.62	1.49
Garfield	0.56	0.37	0.80	0.32	1.31	1.56
Iron	0.68	1.39	1.11	1.76	1.39	2.01
Kane	0.18	0.34	0.87	1.01	0.85	0.67
Millard	2.41	1.70	1.61	0.96	0.50	0.82
Piute	0.79	0.68	0.93	2.34	0.74	3.28
Sevier	5.96	5.78	3.84	5.75	3.99	4.47
Washington	0.28	0.20	0.12	0.05	0.46	0.00
Wayne	0.48	0.20	0.31	0.48	0.50	0.89
REGIONAL TOTALS	11.61	11.32	11.94	13.00	10.38	15.20
<u>Northeastern Region</u>						
Daggett	1.14	1.43	2.41	1.76	0.74	1.41
Duchesne	2.48	2.79	0.74	3.25	3.33	1.79
Uintah	1.70	3.74	1.55	3.09	3.33	4.62
REGIONAL TOTALS	5.32	7.96	4.70	8.10	7.40	7.82
<u>Southeastern Region</u>						
Carbon	2.18	1.73	1.79	1.07	1.20	0.30
Emery	1.70	1.63	1.73	0.75	1.70	1.49
Grand	0.94	0.00	0.93	0.43	0.31	0.37
San Juan	0.25	0.17	0.87	0.64	0.46	0.44
REGIONAL TOTALS	5.07	3.54	5.32	2.88	3.67	2.61
Unknown Counties	0.10	0.03	0.19	0.16	0.57	0.07
STATE TOTALS	100	100	100	100	100	100

Table 15. Forest grouse field bag check summary, 1984.

Region and County	ALL HUNTS				COMPLETE HUNTS			
	Total Parties	Total Hunters	Total Hours	Total Birds/100 Hr	Total Hunts	Total Hunters	Total Hours	Total Birds/100 Hr
<u>Northern Region</u>								
Box Elder	4	10	26	4	4	10	26	4
Cache	20	45	168	25	20	45	168	25
Davis	45	107	381	64	40	94	356	63
Morgan	--	--	--	--	--	--	--	--
Rich	7	14	63	8	7	14	63	8
Summit	--	--	--	--	--	--	--	--
Weber	28	50	198	4	28	50	198	4
REGIONAL TOTALS	104	226	836	102	99	213	811	101
<u>Central Region</u>								
Juab	9	22	59	13	9	22	59	13
Salt Lake	--	--	--	--	--	--	--	--
Sanpete*	1	2	6	1	1	2	6	1
Tooele	--	--	--	--	--	--	--	--
Utah*	42	93	387	36	42	93	387	36
Wasatch	--	--	--	--	--	--	--	--
REGIONAL TOTALS	52	117	452	50	52	117	452	50
<u>Southern Region</u>								
Beaver	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--
Millard	4	6	9	8	4	6	9	8
Piute	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4	6	9	8	4	6	9	8
<u>Northeastern Region</u>								
Daggett	--	--	--	--	--	--	--	--
Duchesne	15	21	63	18	12	13	58	15
Uintah	9	31	125	38	8	28	119	35
REGIONAL TOTALS	24	52	188	56	20	41	177	50
<u>Southeastern Region</u>								
Carbon	4	11	35	0	3	10	34	0
Emery	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4	11	35	0	3	10	34	0
STATE TOTALS	188	412	1,520	216	178	387	1,483	209
								14
								0.54

*Includes data from Southeastern Region.

Table 16. Forest grouse hunter success trend determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	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	29	2.00	--	--	4	0.25	12	0.40	13	0.40	4	0.10
Cache	16	0.66	6	0.27	11	0.52	8	0.32	10	0.41	15	0.56
Davis	43	1.22	42	1.00	12	0.33	13	0.44	21	0.83	18	0.67
Morgan	--	--	--	--	--	--	33	1.00	29	2.00	--	--
Rich	10	0.32	2	0.07	8	0.30	2	0.10	2	0.09	13	0.57
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	8	0.36	6	0.24	7	0.27	1	0.04	7	0.28	2	0.08
REGIONAL TOTALS	14	0.58	6	0.25	10	0.43	7	0.28	11	0.45	13	0.47
<u>Central Region</u>												
Juab	--	--	81	1.86	--	--	59	1.63	--	--	22	0.59
Salt Lake	0	0.00	--	--	--	--	--	--	--	--	--	--
Sanpete	28	0.53	20	1.25	50	1.00	--	--	--	--	17	0.50
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	17	0.64	11	0.51	12	0.55	14	0.70	15	0.62	9	0.39
Wasatch	100	1.00	--	--	--	--	18	0.31	15	0.70	--	--
REGIONAL TOTALS	89	0.63	12	0.56	12	0.55	15	0.71	15	0.63	11	0.43
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	22	0.31	--	--	--	--	--	--	9	0.33	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	0	0.00	--	--	16	0.40	--	--	--	--	--	--
Millard	97	2.43	--	--	--	--	7	0.25	3	0.14	89	1.33
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	31	1.04	--	--	9	0.64	88	3.00	--	--	--	--
Washington	150	3.00	--	--	--	--	--	--	--	--	--	--
Wayne	17	0.50	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	39	1.05	--	--	10	0.56	58	2.00	5	0.20	89	1.33
<u>Northeastern Region</u>												
Daggett	38	1.31	54	1.60	--	--	56	1.25	55	1.75	--	--
Duchesne	30	0.73	0	0.00	17	0.50	20	0.50	--	--	26	1.15
Uintah	70	0.97	--	--	34	1.69	19	0.61	14	0.59	29	1.25
REGIONAL TOTALS	44	1.12	39	1.26	32	1.49	21	0.65	24	0.92	28	1.22
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	0	0.00	--	--	100	1.00	--	--	100	2.00	--	--
San Juan	0	0.00	--	--	50	1.00	--	--	--	--	--	--
REGIONAL TOTALS	0	0.00	--	--	83	1.00	--	--	100	2.00	--	--
STATE TOTALS	17	0.64	8	0.35	11	0.51	12	0.49	14	0.55	14	0.54

Table 17. Sex and age composition of harvested blue grouse, 1984.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total ¹		
Northern Region									
Box Elder	26	11	4	15	--	--	11	73	275
Cache ²	--	--	--	--	--	--	--	--	--
Davis	48	7	7	14	--	--	34	243	486
Morgan	--	--	--	--	--	--	--	--	--
Rich ²	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber ²	38	12	7	19	--	--	19	10	271
REGIONAL TOTALS	112	30	18	48	--	--	64	133	356
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	34	3	6	9	11	8	25	280	420
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	34	3	6	9	11	8	25	280	420
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	146	33	24	57	11	8	89	156	371

¹Includes unclassified juveniles.

²Combined data from Cache, Rich and Weber counties considered as one population of blue grouse.

QUAIL

SUMMARY

The 1984 breeding populations of California and Gambel's quail were slightly higher than 1983, but considerably less than average.

However, production of Gambel's quail decreased from 1983, and was well below average. Likewise, quail observation trends remain below average in most areas of the state.

Statewide harvest statistics, when compared to 1983, showed a decrease in total hunters and total harvest. Hunter success (birds per hunter-day) remained below average statewide, except in Washington County. An increase in hunter days afield and total harvest of Gambel's quail was reported in Washington County.



Brood Counts

Results of the annual random brood counts for 1984 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 1984 compared to 1983 and the previous 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total quail observed	141	-67	-80
Young per 100 adults	213	-48	-13
Mean brood size	5.06	-48	-29
Quail observed per 100 hours	297	-28	-49
Total hours effort	47.5	-55	-61

Harvest statistics for 1983 indicated a slightly higher breeding population of quail statewide; breeding populations of California quail increased in the Northern, Northeastern and Southern regions. Gambel's quail in Washington County showed a slight increase in breeding population.

Gambel's quail call counts on the west slope of Beaver Dam Mountains were discontinued in 1980.

Brood counts indicated poor production of both California and Gambel's quail. Production decreased significantly from 1983 and was well below average.

Harvest

Results of the annual hunter questionnaire for 1984 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 1984 season to 1983 and the previous 25-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Quail hunters	3,654	-9	-45
Quail harvested	8,303	-26	-56
Hunter-days afield	9,805	-4	-41
Quail per hunter-day	0.85	-23	-25
Quail per hunter	2.27	-19	-20

Harvest for 1984 decreased 26 percent from 1983 and 56 percent below average.

Hunter success and total harvest for Washington County (Gambel's quail) increased 29 percent and 41 percent, respectively from 1983. Hunter-days afield also increased 9 percent. Approximately 46 percent of the statewide harvest of quail was taken in Washington County during 1983 compared to 24 percent in 1983 and nearly 21 percent in 1982.

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

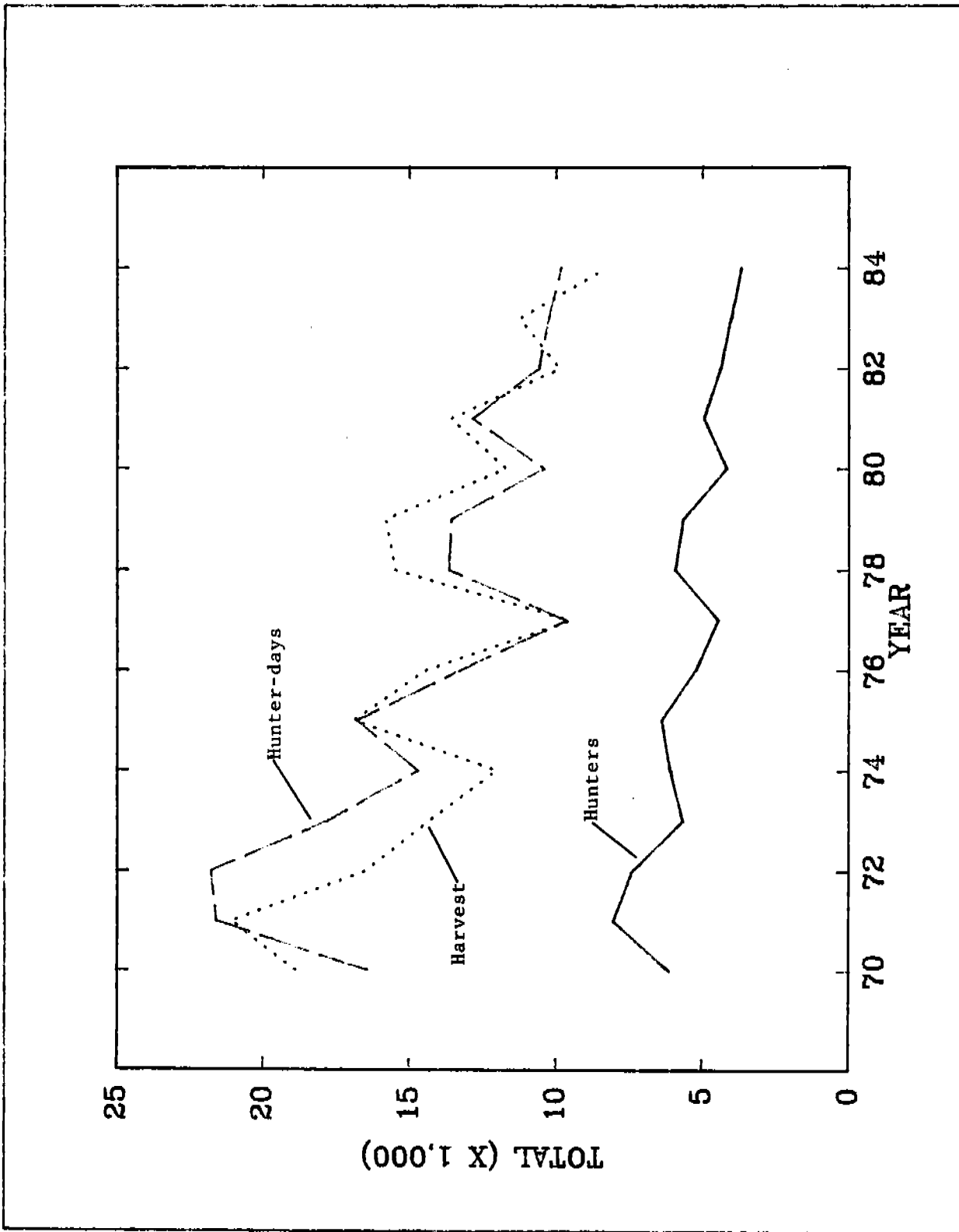


Figure 1. Statewide trend of quail harvest statistics.

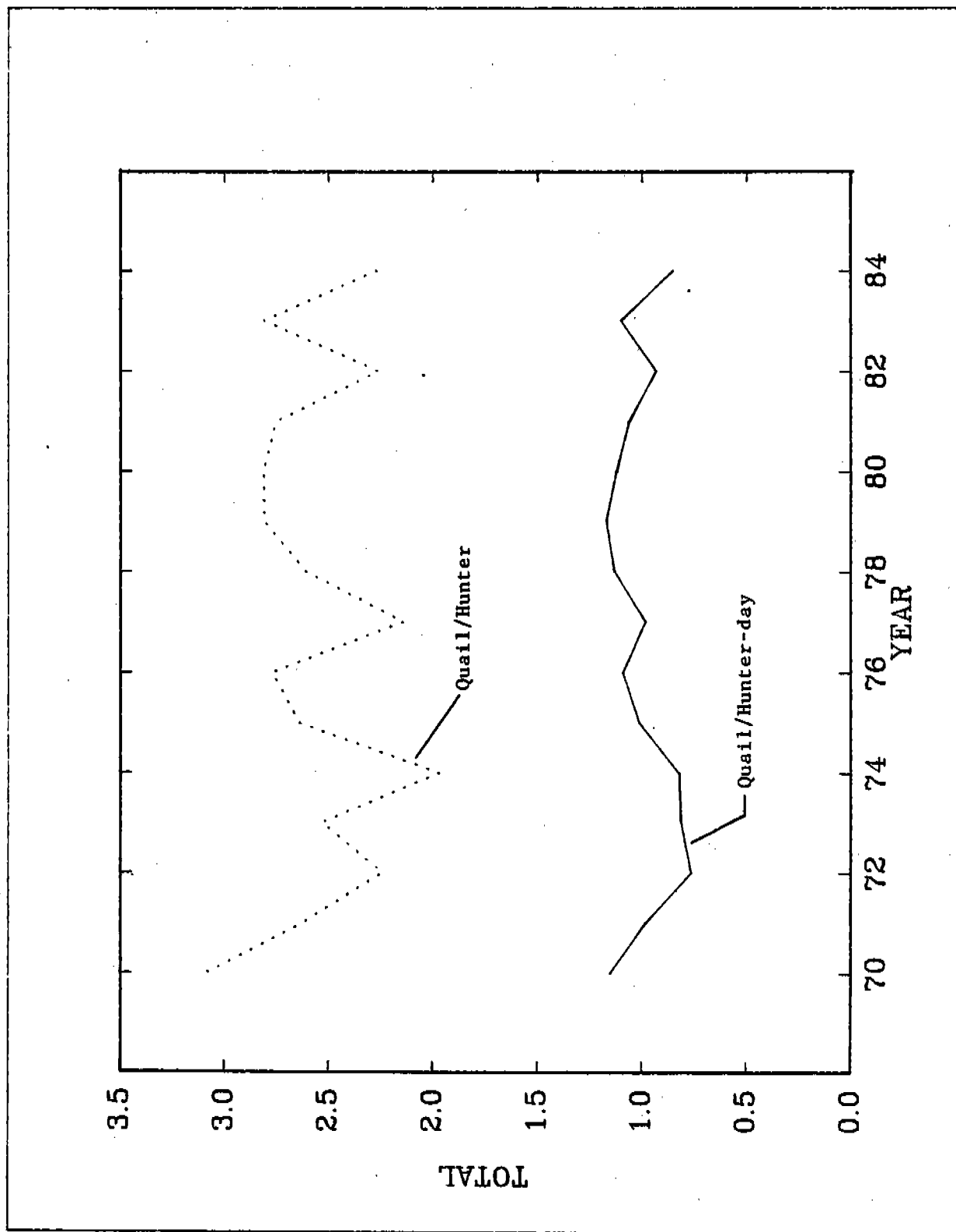


Figure 2. Statewide trend of quail harvest statistics.

Table 1. Quail summer inventory summary, 1984.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Total Adults	Total Yng	Total Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr
	# Ad	Yng		Ad	Yng					Veh. Horse	Walk Total	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>												
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	0	0	0	0	0	0	0	0	82	8	0	8
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>												
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	1	1	4.00	0	0	3	4	133	86	4.5	0	177
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	35	69	178	6	23	10	41	224	180	19	0	380
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>												
	36	70	182	5.06	6	23	13	213	348	31.5	0	297

*Waterhole count

Table 2. Trend of quail young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	--	--	440	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	196	94	35	--	--	--	--
Morgan	640	--	300	--	--	500	--	--	--	550	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	217	0	133	--	233	--	--	--	125	--	--
REGIONAL TOTALS	640	217	180	133	--	209	94	128	--	130	--	216
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	175	154	97	86	77	256	400	67	40	40	--	--
Sanpete	175	300	580	230	300	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	250	229	64	80	44	240	714	100	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	200	188	108	95	127	245	656	72	40	40	--	177
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	113	50	146	98	47	204	156	540	300	133	133	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	700	--	--	250	--	--	--
Washington	273	580	199	149	555	301	93	226	152	624	224	--
Wayne	86	--	244	238	1,250	--	--	550	--	--	--	--
REGIONAL TOTALS	171	429	190	146	317	283	114	439	162	544	213	280
<u>Northeastern Region</u>												
Daggett	525	450	600	0	--	--	--	--	--	--	--	--
Duchesne	333	314	0	129	190	340	114	583	600	--	--	--
Uintah	438	475	323	383	800	653	338	305	411	--	--	--
REGIONAL TOTALS	431	411	265	122	336	517	282	367	286	--	--	335
<u>Southeastern Region</u>												
Carbon	--	--	450	--	650	--	--	--	--	--	--	--
Emery	109	0	--	0	19	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	300	--	--	--	--
San Juan	--	--	--	41	--	40	--	--	--	--	--	--
REGIONAL TOTALS	109	0	450	38	89	40	--	300	--	--	--	171
STATE TOTALS	248	360	163	112	272	285	155	311	134	412	213	245

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

Table 3. Trend of quail mean brood size from 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	--	--	11.00	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	6.75	5.00	1.33	--	--	--	--
Morgan	9.00	--	--	--	--	5.00	--	--	--	11.00	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	3.75	--	--
REGIONAL TOTALS	9.00	--	--	--	--	6.40	5.00	6.85	--	5.20	--	6.49
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	5.00	6.80	7.00	6.40	2.00	4.60	4.00	--	--	3.00	--	--
Sanpete	4.00	6.00	5.80	4.33	4.75	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	6.67	7.00	2.50	4.00	4.00	4.00	5.00	3.00	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5.29	6.56	5.64	5.78	3.44	4.43	4.50	3.00	--	3.00	--	4.63
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	7.00	8.00	10.20	6.67	6.25	11.25	5.63	8.54	--	3.00	4.00	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	7.00	--	--	--	--	--	--
*Washington	5.17	10.84	6.08	7.83	11.80	8.51	5.22	6.42	6.00	13.50	5.09	--
*Wayne	9.00	--	9.00	13.00	--	--	--	5.50	--	--	--	--
REGIONAL TOTALS	6.30	10.63	7.40	8.07	10.21	8.86	5.45	7.97	6.00	11.17	5.06	8.21
<u>Northeastern Region</u>												
Daggett	5.25	4.50	6.00	--	--	--	--	--	--	--	--	--
Duchesne	5.00	--	--	3.43	6.86	6.00	4.00	9.00	--	--	--	--
Uintah	11.00	10.00	3.55	7.67	8.00	6.34	3.55	12.80	6.17	--	--	--
REGIONAL TOTALS	6.73	6.86	3.67	4.70	7.53	6.17	3.59	11.71	6.17	--	--	6.35
<u>Southeastern Region</u>												
Carbon	--	--	9.00	--	--	--	--	--	--	--	--	--
Emery	5.00	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	4.50	--	--	--	--
San Juan	--	--	--	4.50	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5.00	--	9.00	4.50	--	--	--	4.50	--	--	--	7.67
STATE TOTALS	6.20	9.16	5.58	6.25	7.55	8.08	4.52	8.09	6.05	9.71	5.06	7.12

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

Table 4. Trend of quail observed per 100 hours, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	--	--	1,800	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	956	729	525	--	--	--	--
Morgan	925	--	1,200	--	--	600	--	--	--	222	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	238	22	350	--	1,000	--	--	--	825	--	--
REGIONAL TOTALS	925	238	140	350	350	927	729	891	511	511	589	589
<u>Central Region</u>												
Juab	--	--	0	--	--	--	--	--	--	--	--	--
Salt Lake	550	592	2,838	2,092	575	1,067	167	63	527	1,400	--	--
Sanpete	138	480	262	236	400	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	400	383	512	90	217	1,700	900	75	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	267	513	1,041	805	378	1,429	296	258	414	247	565	565
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	1,067	1,600	2,867	1,088	867	1,340	1,536	3,911	800	350	177	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	50	800	--	--	1,400	--	--	--
*Washington	194	1,143	632	596	750	2,741	675	275	771	605	380	--
*Wayne	300	14	517	645	333	--	--	650	--	--	--	--
REGIONAL TOTALS	254	917	729	702	667	1,951	867	1,053	691	580	357	841
<u>Northeastern Region</u>												
Daggett	208	157	41	--	--	--	--	--	--	--	--	--
Duchesne	325	153	43	240	310	209	79	205	27	42	--	--
Uintah	1,950	460	715	483	563	890	613	708	328	100	--	--
REGIONAL TOTALS	739	226	241	350	398	443	314	406	123	58	330	330
<u>Southeastern Region</u>												
Carbon	0	--	220	--	1,500	--	--	--	--	--	--	--
Emery	343	17	--	67	950	--	--	--	--	--	--	--
Grand	0	--	--	--	--	--	--	400	--	--	--	--
San Juan	--	--	0	238	0	127	--	--	--	--	--	--
REGIONAL TOTALS	343	17	110	206	425	127	--	400	--	--	233	233
STATE TOTALS	364	549	571	588	530	1,193	541	720	408	411	297	588

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

Table 5. Summary of quail hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-Days Afield	Birds Bagged	Birds Per Hunter-Day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	7	385	81	0.21	3.93	0.98
Cache	2	60	0	0.00	0.61	0.00
Davis	20	1,177	507	0.43	12.00	6.11
Morgan	1**	40	0	0.00	0.41	0.00
Rich	0	0	0	0.00	0.00	0.00
Summit	0	0	0	0.00	0.00	0.00
Weber	6	284	182	0.64	2.90	2.19
REGIONAL TOTALS	36	1,948	771	0.40	19.87	9.29
<u>Central Region</u>						
Juab	2	121	40	0.33	1.23	0.48
Salt Lake	7	385	121	0.32	3.93	1.46
Sanpete	2	60	0	0.00	0.61	0.00
Tooele	5	365	81	0.22	3.72	0.98
Utah	45	1,867	1,522	0.82	19.04	18.33
Wasatch	2	81	101	1.25	0.83	1.22
REGIONAL TOTALS	63	2,882	1,867	0.65	29.39	22.49
<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	2	40	60	1.50	0.41	0.72
Kane	0	0	0	0.00	0.00	0.00
Millard	11	649	649	1.00	6.62	7.82
Piute	1	81	40	0.50	0.83	0.48
Sevier	2	142	121	0.86	1.45	1.46
Washington	38	1,948	3,857	1.98	19.87	46.45
Wayne	1	20	0	0.00	0.20	0.00
REGIONAL TOTALS	55	2,882	4,730	1.64	29.39	56.97
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	6	487	40	0.08	4.97	0.48
Uintah	22	1,238	893	0.72	12.63	10.76
REGIONAL TOTALS	28	1,725	933	0.54	17.59	11.24
<u>Southeastern Region</u>						
Carbon	4	284	0	0.00	2.90	0.00
Emery	2	60	0	0.00	0.61	0.00
Grand	1	20	0	0.00	0.20	0.00
San Juan	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	7	365	0	0.00	3.72	0.00
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	189	9,805	8,303	0.85	100	100

*Total hunter-trips from questionnaire returns.

**Closed to quail hunting in 1984.

Table 6. Summary of quail bagged per hunter-day by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	0.43	0.60	0.07	0.25	0.50	0.21
Cache	--	0.50	0.00	1.67	1.40	0.00
Davis	0.96	0.80	0.97	0.53	1.00	0.43
Morgan	0.95	0.00	0.40	0.00	2.50	0.00
Rich	0.00	0.00	0.00	0.67	0.00	0.00
Summit	2.37	2.50	0.00	0.00	0.29	0.00
Weber	0.89	0.88	0.67	1.11	1.08	0.64
REGIONAL TOTALS	0.89	0.77	0.59	0.79	0.94	0.40
<u>Central Region</u>						
Juab	3.00	2.75	0.00	1.60	2.00	0.33
Salt Lake	1.48	1.54	0.88	1.13	1.00	0.32
Sanpete	0.90	0.00	0.00	0.00	0.75	0.00
Tooele	0.00	0.00	0.30	0.00	2.00	0.22
Utah	1.14	1.31	0.84	0.81	0.86	0.82
Wasatch	--	0.00	1.67	0.00	2.67	1.25
REGIONAL TOTALS	1.23	1.37	0.79	0.86	0.96	0.65
<u>Southern Region</u>						
Beaver	0.00	0.00	2.00	0.00	0.00	0.00
Garfield	2.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.00	0.00	1.50
Kane	0.00	0.00	1.16	0.00	0.00	0.00
Millard	--	1.08	1.16	1.97	1.33	1.00
Piute	0.00	0.00	2.00	0.00	0.00	0.50
Sevier	0.63	0.00	2.00	0.14	0.00	0.86
Washington	2.04	1.45	1.99	1.19	1.53	1.98
Wayne	2.62	0.00	1.20	1.00	3.00	0.00
REGIONAL TOTALS	1.96	1.43	1.77	1.27	1.50	1.64
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	4.50	0.00
Duchesne	0.77	0.74	1.07	1.05	1.46	0.08
Uintah	0.83	0.84	0.74	0.64	0.70	0.72
REGIONAL TOTALS	0.80	0.81	0.84	0.83	1.11	0.54
<u>Southeastern Region</u>						
Carbon	0.46	0.82	0.69	0.89	0.40	0.00
Emery	0.45	0.55	0.75	0.67	0.76	0.00
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.00	0.00	3.00	1.33	0.00	0.00
REGIONAL TOTALS	0.42	0.60	0.76	0.85	0.67	0.00
Unknown counties	1.16	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	1.17	1.12	1.06	0.93	1.10	0.85

Table 7. Percentage distribution of quail harvest by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	1.66	1.74	0.31	0.62	1.54	0.98
Cache	--	0.15	0.00	1.55	0.83	0.00
Davis	8.74	7.98	5.47	2.95	9.03	6.11
Morgan	1.93	0.00	0.31	0.00	0.59	0.00
Rich	0.00	0.00	0.00	0.31	0.00	0.00
Summit	1.75	0.73	0.00	0.00	0.23	0.00
Weber	4.69	6.10	2.50	9.47	4.87	2.19
REGIONAL TOTALS	18.77	16.69	8.59	14.91	17.09	9.29
<u>Central Region</u>						
Juab	0.55	1.60	0.00	1.24	0.23	0.48
Salt Lake	11.59	5.37	3.59	5.59	4.16	1.46
Sanpete	0.83	0.00	0.00	0.00	0.71	0.00
Tooele	0.00	0.00	0.47	0.00	1.42	0.98
Utah	21.34	17.85	20.16	22.98	13.66	18.33
Wasatch	--	0.00	0.78	0.00	0.94	1.22
REGIONAL TOTALS	34.31	24.82	25.00	29.81	21.12	22.49
<u>Southern Region</u>						
Beaver	0.00	0.00	0.31	0.00	0.00	0.00
Garfield	0.18	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.00	0.00	0.72
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	--	1.89	7.81	9.16	1.89	7.82
Piute	0.00	0.00	0.31	0.00	0.00	0.48
Sevier	0.46	0.00	0.16	0.16	0.00	1.46
Washington	25.48	43.83	40.78	20.81	24.37	46.45
Wayne	1.93	0.00	0.94	0.47	0.71	0.00
REGIONAL TOTALS	28.06	45.72	50.31	30.59	26.97	56.97
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	4.28	0.00
Duchesne	3.68	2.90	4.53	10.09	16.16	0.48
Uintah	5.34	6.82	7.03	7.30	12.24	10.76
REGIONAL TOTALS	9.02	9.72	11.56	17.39	32.68	11.24
<u>Southeastern Region</u>						
Carbon	1.20	1.31	3.13	3.88	0.23	0.00
Emery	0.46	1.74	0.94	2.17	1.89	0.00
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.00	0.00	0.47	1.24	1.08	0.00
REGIONAL TOTALS	1.66	3.05	4.53	7.30	2.10	0.00
Unknown counties	8.18	0.00	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, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	4.51	3.26	4.46	2.32	3.39	3.93
Cache	--	0.33	0.17	0.87	0.64	0.61
Davis	10.63	11.26	5.95	5.22	9.93	12.00
Morgan	2.36	1.47	0.83	0.29	0.25	0.41
Rich	0.11	0.00	0.00	0.43	0.00	0.00
Summit	0.86	0.33	0.00	0.43	0.91	0.00
Weber	6.12	7.83	3.97	7.97	4.96	2.90
REGIONAL TOTALS	24.59	24.47	15.37	17.54	20.08	19.87
<u>Central Region</u>						
Juab	0.21	0.65	1.65	0.72	0.13	1.23
Salt Lake	9.13	3.92	4.30	4.64	4.57	3.93
Sanpete	1.08	0.00	0.00	0.00	1.04	0.61
Tooele	0.32	0.16	1.65	0.58	0.78	3.72
Utah	21.91	15.33	25.45	26.52	13.37	19.04
Wasatch	--	0.33	0.50	0.00	0.39	0.83
REGIONAL TOTALS	32.66	20.39	33.55	32.46	24.28	29.39
<u>Southern Region</u>						
Beaver	0.21	0.00	0.17	0.14	0.00	0.00
Garfield	0.11	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.14	0.00	0.41
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	--	1.96	7.11	4.35	1.56	6.62
Piute	0.11	0.00	0.17	0.00	0.00	0.83
Sevier	0.86	0.00	0.17	1.01	0.39	1.45
Washington	14.61	33.93	21.65	16.38	17.51	19.87
Wayne	0.86	0.00	0.83	0.43	0.25	0.20
REGIONAL TOTALS	16.75	35.89	30.08	22.46	19.72	29.39
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	1.56	0.00
Duchesne	5.59	4.40	4.46	8.99	12.14	4.97
Uintah	7.52	9.14	10.08	10.58	19.20	12.63
REGIONAL TOTALS	13.10	13.54	14.55	19.57	32.90	17.59
<u>Southeastern Region</u>						
Carbon	3.01	1.79	4.79	4.06	0.64	2.90
Emery	1.18	3.59	1.32	3.04	2.74	0.61
Grand	0.43	0.00	0.00	0.00	0.13	0.20
San Juan	0.00	0.33	0.17	0.87	0.00	0.00
REGIONAL TOTALS	4.62	5.71	6.28	7.97	3.51	3.72
Unknown counties	8.27	0.00	0.17	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 9. Statewide summary of quail harvest statistics, 1951-1984.

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	--	--	--	0.17	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
1979	5,632	15,821	13,550	1.17	2.81
1980	4,156	11,690	10,400	1.12	2.81
1981	4,946	13,586	12,843	1.06	2.75
1982	4,368	9,870	10,575	0.93	2.26
1983	4,012	11,248	10,232	1.10	2.81
1984	3,654	8,303	9,805	0.85	2.27
<hr/>					
TOTALS (1959-84)	170,729	480,210	425,230	1.13	2.81
<hr/>					
AVERAGES (1959-83)	6,683	18,876	16,617	1.14	2.82

Table 10. Gambel's quail call count trend on the west slope of the Beaver Dam Mountains, Washington County, 1971-80. Annual call count surveys were conducted from 1962-79. Vegetative studies were discontinued in 1977.

Index	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980*
Mean calls per station	1.57	0.36	0.06	0.00	2.55	0.76	0.25	0.97	5.20	--*
Mean quail calling per station	0.37	0.11	0.03	0.00	0.40	0.13	0.03	0.19	0.53	--*
Mean total calls route	23.50	5.30	1.00	0.00	38.20	11.40	3.75	14.60	78.00	--*
Mean total quail calling route	5.50	1.70	0.40	0.00	6.00	2.00	0.50	2.80	8.00	--*

*Discontinued.

Table 11. Gambel's quail long period waterhole count trend on the west slope of the Beaver Dam Mountains, Washington County, 1973-84. These counts have been conducted since 1962.

Index	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total young	0	24	145	61	--	67	253	72	37	85	114	166
Total adults	0	6	20	53	--	29	77	52	25	33	14	86
Total quail	0	30	165	114	17	86	330	124	62	118	128	252
Young per 100 adults	--	400	725	115	--	353	329	138	148	258	814	193

HUNGARIAN PARTRIDGE

SUMMARY

Harvest data for 1983 indicated that 1984 breeding population densities were slightly improved over 1983. The total lack of brood data allowed no estimates of Hun densities for 1984.

The 1984 hunt indicated decreased hunting pressure on Huns when compared to 1983. The number of hunters afield and Huns harvested also decreased in 1984. The hunter-days afield decreased 53 percent. Total hunters, days afield and harvest remained significantly below the long-term average. Hunter success was 53 percent below the long-term average.



Brood Counts

Results of the annual random brood counts for 1984 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 1984 compared to 1983 and the previous 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total Huns observed	0	100	-100
Young per 100 adults	--	100	-100
Mean brood size	--	100	-100
Huns observed per 100 hours	--	100	-100
Total hours effort	221	268	+166

Harvest data for 1983 indicated a below average breeding population for 1984.

The hours of effort increased 268 percent from 1983, and 166 percent above average. No hungarian partridge were observed during the summer inventory counts, therefore, no data comparisons could be made.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1984 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 1984 season compared to 1983 and the previous 25-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Hungarian partridge hunters	1,523	-47	-62
Hungarian partridge harvest	1,360	-79	-85
Hunter-days afield	3,309	-53	-67
Huns per hunter-day	0.41	-56	-53
Huns per hunter	0.89	-60	-60

Hungarian partridge hunting pressure decreased 53 percent, while success decreased 56 percent during 1984 as compared to 1983. Harvest was 85 percent below the 25-year average and the lowest on record since 1959.

Field Bag Checks

Results of the survey for 1984 are shown in Table 10. Hunter success trends determined via this method are shown in Table 11. Indices obtained for 1984 compared to 1983 and the previous 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	--	--	--
Total hours hunted	--	--	--
Huns per hunter (complete hunts)	--	--	--
Huns bagged per 100 hours	--	--	--
Average hours per hunter-day (complete hunts)	--	--	--
Hours hunted per Hun bagged (complete hunts)	--	--	--

No field bag check data was submitted in 1984.

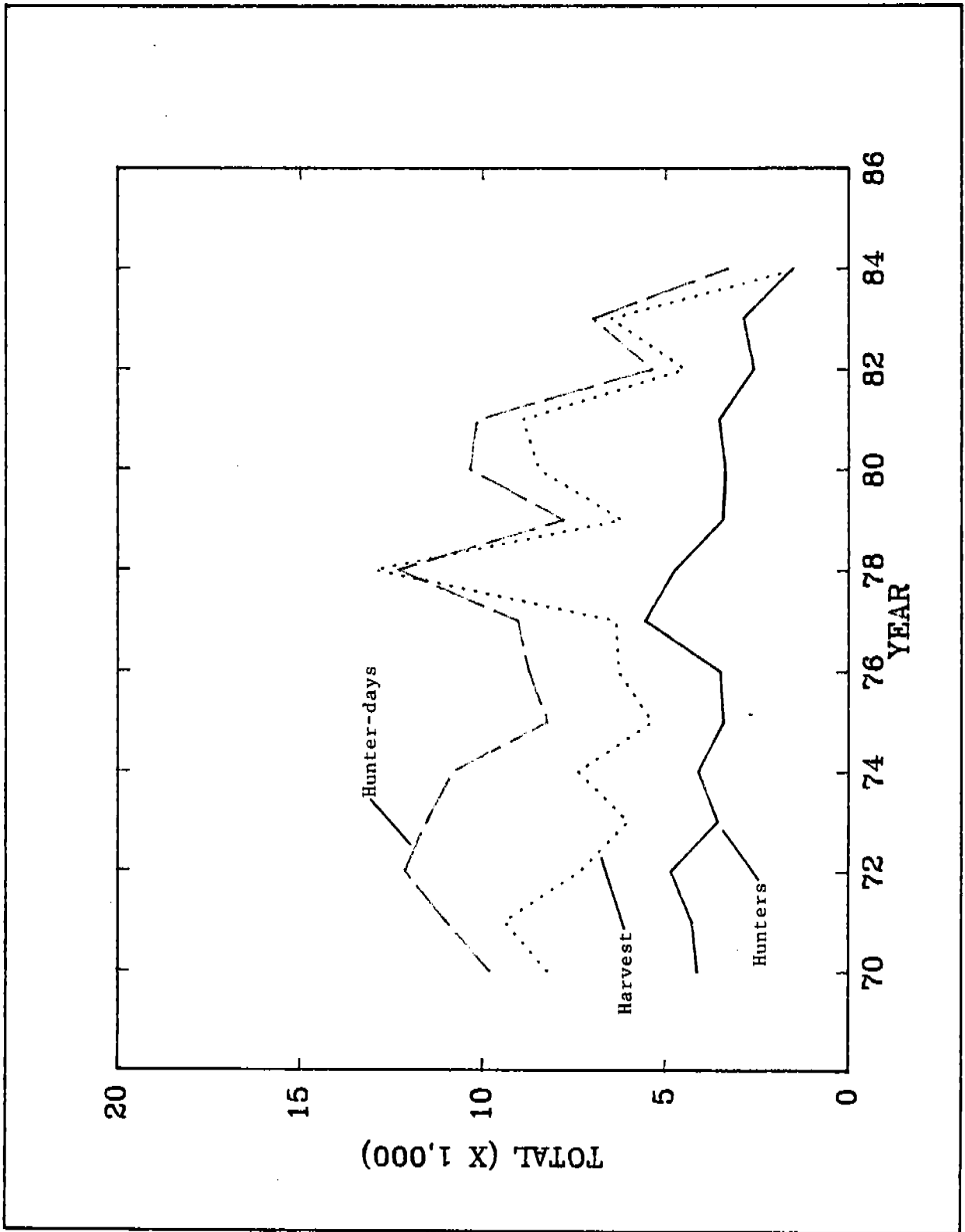


Figure 1. Statewide trend of Hungarian partridge harvest statistics.

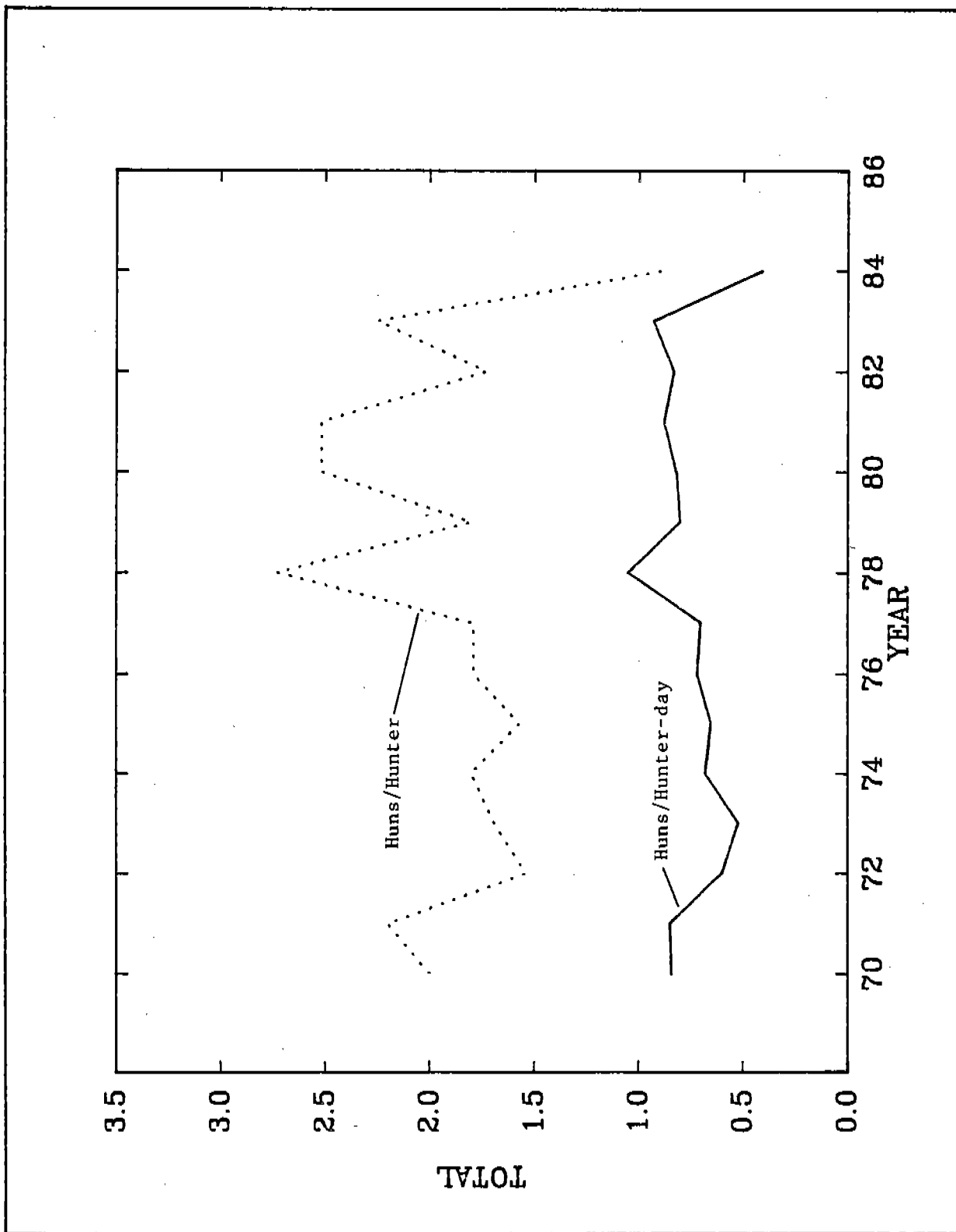


Figure 2. Statewide trend of Hungarian partridge statistics.

Table 1. Hungarian partridge summer inventory summary, 1984.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Total Adults	Total Yng	Total Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr
	# Ad	Yng		Ad	Yng					w/o Yng	Adults	
<u>Northern Region</u>												
Box Elder	0	0	--	0	0	0	0	--	514	31	26	85
Cache	0	0	--	0	0	--	--	--	160	16	16	32
Davis	0	0	--	0	0	--	--	--	0	0	7	7
Morgan	0	0	--	0	0	--	--	--	15	1	47	48
Rich	0	0	--	0	0	--	--	--	126	12	0	12
Summit	0	0	--	0	0	--	--	--	0	0	37	37
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	--	0	0	0	0	--	815	60	126	221
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<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	0	0	0	0	0	0	0	0	815	60	126	221

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 2. Trend of Hungarian partridge young per 100 adults, 1974-84.

Region and County	Year										Average 1974-83	
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983		1984
<u>Northern Region</u>												
Box Elder	775	600	421	467	580	840	688	671	409	400	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	675	--	533	--	--	--	700	300	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	755	600	431	467	580	840	691	600	409	400	--	577
<u>Central Region</u>												
Juab	--	--	--	--	--	500	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	233	173	--	--	--	--	--	--	--	--
Tooele	--	--	550	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	0	--	--	--	--	--
Wasatch	800	--	20	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	800	--	200	173	--	500	--	--	--	--	--	418
<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	757	600	328	369	580	780	633	600	409	400	--	546

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 3. Trend of Hungarian partridge mean brood size from 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	11.22	13.44	10.22	10.77	11.60	8.40	11.00	12.00	11.25	10.67	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	13.50	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	7.00	6.00	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	11.64	13.44	10.22	10.77	11.60	8.40	9.50	10.80	11.25	10.67	--	10.83
<u>Central Region</u>												
Juab	--	--	--	--	--	5.00	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	8.00	--	2.00	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	8.00	--	2.00	--	--	5.00	--	--	--	--	--	5.00
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
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	11.33	13.44	9.40	10.77	11.60	7.83	9.50	10.80	11.25	10.67	--	10.66

Table 4. Trend of Hungarian partridge observed per 100 hours, 1974-84.

Region and County	Year										Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	
<u>Northern Region</u>											
Box Elder	80	262	184	109	203	235	154	570	144	67	--
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	1,900	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	97	262	205	109	151	174	158	639	144	67	--
<u>Central Region</u>											
Juab	--	--	--	--	--	600	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	400	820	--	--	--	--	--	--	--
Tooele	--	--	2,600	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	450	--	120	--	--	0	33	--	--	--	--
REGIONAL TOTALS	450	--	371	820	--	200	17	--	--	--	372
<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	101	262	238	131	151	177	144	565	144	67	--

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	50	2,436	1,075	0.44	73.62	79.04
Cache	8	263	40	0.15	7.95	2.94
Davis	3	60	0	0.00	1.81	0.00
Morgan	1	121	0	0.00	3.66	0.00
Rich	1	20	0	0.00	0.60	0.00
Summit	0	0	0	0.00	0.00	0.00
Weber	4	121	121	1.00	3.66	8.90
REGIONAL TOTALS	67	3,024	1,238	0.41	91.39	91.0
<u>Central Region</u>						
Juab	0	0	0	0.00	0.00	0.00
Salt Lake	2	40	20	0.50	1.21	1.47
Sanpete	0	0	0	0.00	0.00	0.00
Tooele	2	121	0	0.00	3.66	0.00
Utah	1	40	81	2.00	1.21	5.96
Wasatch	1	20	20	1.00	0.60	1.47
REGIONAL TOTALS	6	223	121	0.55	6.74	8.90
<u>Southern Region</u>						
Beaver	1	40	0	0.00	1.21	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	0	0	0	0.00	0.00	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	40	0	0.00	1.21	0.00
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	1	0	0	0.00	0.00	0.00
Uintah	1	20	0	0.00	0.60	0.00
REGIONAL TOTALS	2	20	0	0.00	0.60	0.00
<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	0	0	0	0.00	0.00	0.00
San Jaun	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	0	0	0	0.00	0.00	0.00
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	76	3,309	1,360	0.41	100	100

*Total hunter-trips from questionnaire returns.

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	0.94	0.88	1.31	0.83	0.99	0.44
Cache	0.93	0.77	0.60	1.03	0.80	0.15
Davis	0.76	1.50	0.00	5.00	0.29	0.00
Morgan	1.36	2.25	0.50	1.40	0.75	0.00
Rich	0.56	1.00	0.50	2.00	0.94	0.00
Summit	0.50	1.00	1.50	0.00	0.00	--
Weber	0.32	1.00	0.00	1.00	1.36	1.00
REGIONAL TOTALS	0.90	0.88	1.10	0.89	0.93	0.41
<u>Central Region</u>						
Juab	0.00	0.00	1.20	0.00	0.00	--
Salt Lake	0.00	1.00	0.06	0.00	0.00	0.50
Sanpete	0.00	0.00	0.00	0.00	0.00	--
Tooele	0.50	0.60	0.09	0.00	1.91	0.00
Utah	1.00	0.28	0.25	0.00	0.13	2.00
Wasatch	0.13	0.68	0.40	0.00	1.77	1.00
REGIONAL TOTALS	0.27	0.48	0.18	0.00	0.96	0.55
<u>Southern Region</u>						
Beaver	0.00	2.50	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	--
Iron	0.00	0.00	0.00	1.00	0.00	--
Kane	0.00	0.00	0.00	0.00	0.00	--
Millard	0.00	0.00	0.00	0.00	1.00	--
Piute	0.00	0.00	0.00	0.00	0.00	--
Sevier	0.00	0.00	0.00	0.00	0.50	--
Washington	0.00	2.50	0.00	0.00	0.00	--
Wayne	0.00	0.00	0.00	0.00	0.00	--
REGIONAL TOTALS	0.00	1.00	0.00	1.00	0.60	0.00
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	0.00	--
Duchesne	0.00	1.20	1.00	0.00	0.00	0.00
Uintah	0.00	0.00	1.00	2.00	0.00	0.00
REGIONAL TOTALS	0.00	1.20	1.00	1.33	0.00	0.00
<u>Southeastern Region</u>						
Carbon	0.00	1.00	0.00	0.00	0.00	--
Emery	0.00	0.00	1.00	0.00	0.00	--
Grand	0.00	0.00	0.00	0.00	0.00	--
San Juan	0.00	0.00	0.00	0.00	0.00	--
REGIONAL TOTALS	0.00	1.00	1.00	0.00	0.00	--
Unknown counties	0.65	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	0.80	0.82	0.88	0.83	0.93	0.41

Table 7. Percentage distribution of Hungarian partridge harvest by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	62.44	73.75	78.81	74.66	67.61	79.04
Cache	18.54	9.82	13.81	11.64	14.39	2.94
Davis	3.76	0.60	0.00	1.71	0.40	0.00
Morgan	4.46	1.80	0.71	7.19	1.23	0.00
Rich	1.17	0.20	0.48	1.37	3.27	0.00
Summit	0.23	0.40	0.71	0.00	0.00	0.00
Weber	1.65	0.20	0.00	1.71	3.07	8.90
<u>REGIONAL TOTALS</u>	<u>92.25</u>	<u>86.77</u>	<u>94.52</u>	<u>98.29</u>	<u>89.97</u>	<u>91.03</u>
<u>Central Region</u>						
Juab	0.00	0.00	1.43	0.00	0.00	0.00
Salt Lake	0.00	0.20	0.24	0.00	0.00	1.47
Sanpete	0.00	0.00	0.00	0.00	0.00	0.00
Tooele	1.17	2.40	1.43	0.00	4.30	0.00
Utah	2.11	2.61	1.19	0.00	0.40	5.96
Wasatch	1.41	4.61	0.48	0.00	4.72	1.47
<u>REGIONAL TOTALS</u>	<u>4.69</u>	<u>9.82</u>	<u>4.76</u>	<u>0.00</u>	<u>9.42</u>	<u>8.90</u>
<u>Southern Region</u>						
Beaver	0.00	1.00	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.34	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.00	0.00	0.00	0.40	0.00
Piute	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.00	0.00	0.00	0.00	0.20	0.00
Washington	0.00	1.00	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.00</u>	<u>2.00</u>	<u>0.00</u>	<u>0.34</u>	<u>0.60</u>	<u>0.00</u>
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	0.00	1.20	0.24	0.00	0.00	0.00
Uintah	0.00	0.00	0.24	1.37	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.00</u>	<u>1.20</u>	<u>0.48</u>	<u>1.37</u>	<u>0.00</u>	<u>0.00</u>
<u>Southeastern Region</u>						
Carbon	0.00	0.20	0.00	0.00	0.00	0.00
Emery	0.00	0.00	0.24	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
<u>REGIONAL TOTALS</u>	<u>0.00</u>	<u>0.20</u>	<u>0.24</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Unknown counties	3.05	0.00	0.00	0.00	0.00	0.00
<u>STATE TOTALS</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Table 8. Percentage distribution of Hungarian partridge hunting pressure by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	53.08	68.58	52.72	74.65	63.43	73.62
Cache	15.89	10.47	20.08	9.40	16.80	7.95
Davis	3.93	0.33	0.21	0.28	1.33	1.81
Morgan	2.62	0.65	1.26	4.27	1.51	3.66
Rich	1.68	0.16	0.84	0.57	3.24	0.60
Summit	0.37	0.33	0.42	1.14	1.14	0.00
Weber	4.11	0.16	0.21	1.42	2.10	3.66
REGIONAL TOTALS	81.68	80.69	75.73	91.75	89.56	91.39
<u>Central Region</u>						
Juab	0.37	0.16	1.05	0.00	1.14	0.00
Salt Lake	0.19	0.16	3.35	0.28	0.00	1.21
Sanpete	1.12	0.00	0.00	0.00	0.37	0.00
Tooele	1.87	3.27	13.60	3.99	2.10	3.66
Utah	1.68	7.53	4.18	1.99	3.04	1.21
Wasatch	8.60	5.56	1.05	0.85	2.47	0.60
REGIONAL TOTALS	13.83	16.69	23.22	7.12	9.13	6.74
<u>Southern Region</u>						
Beaver	0.00	0.33	0.00	0.00	0.19	1.21
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.28	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.33	0.00	0.00	0.37	0.00
Piute	0.00	0.65	0.00	0.00	0.00	0.16
Sevier	0.00	0.00	0.00	0.00	0.37	0.00
Washington	0.00	0.33	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.00	1.64	0.00	0.28	0.93	1.21
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.28	0.00	0.00
Duchesne	0.37	0.82	0.21	0.00	0.00	0.00
Uintah	0.00	0.00	0.21	0.57	0.00	0.60
REGIONAL TOTALS	0.37	0.82	0.42	0.85	0.00	0.60
<u>Southeastern Region</u>						
Carbon	0.19	0.16	0.00	0.00	0.19	0.00
Emery	0.00	0.00	0.21	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	0.38	0.16	0.21	0.00	0.19	0.00
Unknown counties	3.74	0.00	0.42	0.00	0.19	0.00
STATE TOTALS	100	100	100	100	100	100

Table 9. Statewide summary of Hungarian partridge harvest statistics, 1955-84.

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	5,557	6,360	9,058	0.70	1.79
1978	4,743	12,969	12,328	1.05	2.73
1979	3,435	6,200	7,787	0.80	1.80
1980	3,359	8,466	10,366	0.82	2.52
1981	3,545	8,916	10,147	0.88	2.52
1982	2,590	4,475	5,379	0.83	1.73
1983	2,889	6,506	6,998	0.93	2.25
1984	1,523	1,360	3,309	0.41	0.89
TOTAL (1959-84)	101,551	222,383	255,235	0.87	2.19
AVERAGES (1959-83)	4,001	8,841	10,077	0.88	2.21

Table 10. Hungarian partridge field bag check summary, 1984.

Region and County	ALL HUNTS			COMPLETE HUNTS		
	Total Parties	Total Hunters	Total Hours	Total Complete Hunts	Total Hunters	Total Hours
			Total Birds 100 Hr		Total Birds 100 Hr	Birds/ Hunter
<u>Northern Region</u>						
Box Elder	--	--	--	--	--	--
Cache	--	--	--	--	--	--
Davis	--	--	--	--	--	--
Morgan	--	--	--	--	--	--
Rich	--	--	--	--	--	--
Summit	--	--	--	--	--	--
Weber	--	--	--	--	--	--
REGIONAL TOTALS						
<u>Central Region</u>						
Juab						
Salt Lake						
Sanpete						
Tooele						
Utah						
Wasatch						
REGIONAL TOTALS						
<u>Southern Region</u>						
Beaver						
Garfield						
Iron						
Kane						
Millard						
Plute						
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						

N O D A T A

N O T A P P L I C A B L E

N O T A P P L I C A B L E

N O T A P P L I C A B L E

Table 11. Hungarian partridge hunter success trend determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	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	4	0.13	13	0.36	30	1.11	32	1.33	17	0.62	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4	0.13	13	0.36	30	1.11	32	1.33	17	0.62	--	--
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<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	4	0.13	13	0.36	30	1.11	32	1.33	17	0.62	--	--

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

WILD TURKEY

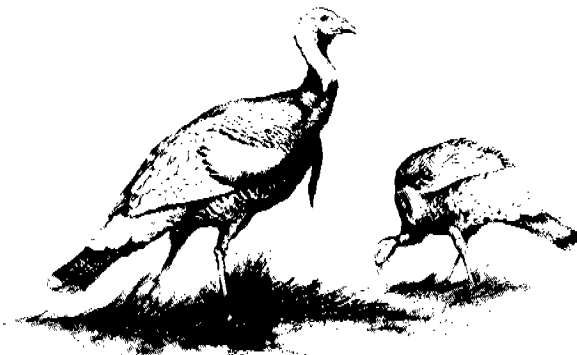
SUMMARY

Turkey populations improved considerably on all units during the past year, and the increasing numbers were reflected in the reported observations and the annual harvest.

Hunter success and turkey observation data for the 1984 spring and fall seasons indicated that the East Zion area had another year of increasing turkey population. The Boulder Mountains and La Sal Mountains also indicated a growing population. However, the remaining units of the state were closed to hunting.

Spring hunting pressure was up from 1983 and hunter success was up 19 percent. Similarly, fall hunting pressure was up 76 percent and hunter success was up 14 percent. A total of 71 turkeys were harvested in 1984 compared to 29 taken in 1983. Observations of turkey increased in 1984, with most observations made on the East Zion area.

Precipitation in south-central Utah was slightly below normal in May and above normal in June, July and August, while temperatures were slightly below normal. The effect on production has not been determined because of limited data, however, production appeared to be good.



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. Spring harvest data for 1984 indicated improved breeding populations on all units. Harvest increased significantly from 1983. Fair reproductive success was also evident from the 1983 and 1984 fall harvest statistics.

During 1984, six turkey broods having a total of 32 young were observed in Garfield County, indicating a mean of 5.33 young per brood. Eighteen adult turkeys were also observed during the inventory period.

Harvest

Spring Gobbler Season

Results of the 1984 spring season are shown in Table 1 of this section. The trend of these data since the first spring season in 1967 is shown in Table 2. The 1984 spring season compared to 1983 and the previous 17-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Permits sold	190	+107	+36
Hunters afield	169	+145	+32
Turkeys harvested	43	+207	+258
Hunter-days afield	482	+199	+52
Percent hunter success	25	+19	+150
Turkeys bagged per hunter-day	0.09	0	+125
Percent of hunters who observed turkeys	72	+31	+100

Permit sales and hunters afield increased from 1983 and were well above average. The total harvest also increased from 14 in 1983 to 43 in 1984, 258 percent above the 16 year average. The proportion of hunters who reported having observed turkeys increased 31 percent above the 1983 level and 100 percent above average. The East Zion unit again accounted for 65 percent of the hunting pressure based on hunter-days afield.

Approximately 15 percent of the turkey hunters used rifles during the spring turkey season, and 17 percent of the turkeys harvested were taken with a rifle. A few hunters used archery tackle but were unsuccessful.

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

Fall Season

Results of the 1984 fall season are shown in Table 3 of this section. Area data are shown in Tables 4-9. The statewide summary of fall harvest statistics is presented in Table 10. The 1984 fall season compared to 1983 and the previous 21-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Permits sold	97	+59	-28
Hunters afield	86	+76	-30
Turkeys harvested	28	+87	-22
Hunter-days afield	193	+72	-27
Percent hunter success	32	+14	+45
Turkeys bagged per hunter-day	0.14	+8	0
Percent of hunters who observed turkeys	49	0	+36

Approximately 8 percent of the turkey hunters used rifles during the fall hunt but none of the turkeys killed during the fall hunt were killed with a rifle. No hunters hunted with bow and arrow and muzzle loading rifles. Shotguns were the most popular weapon for turkey hunters.

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

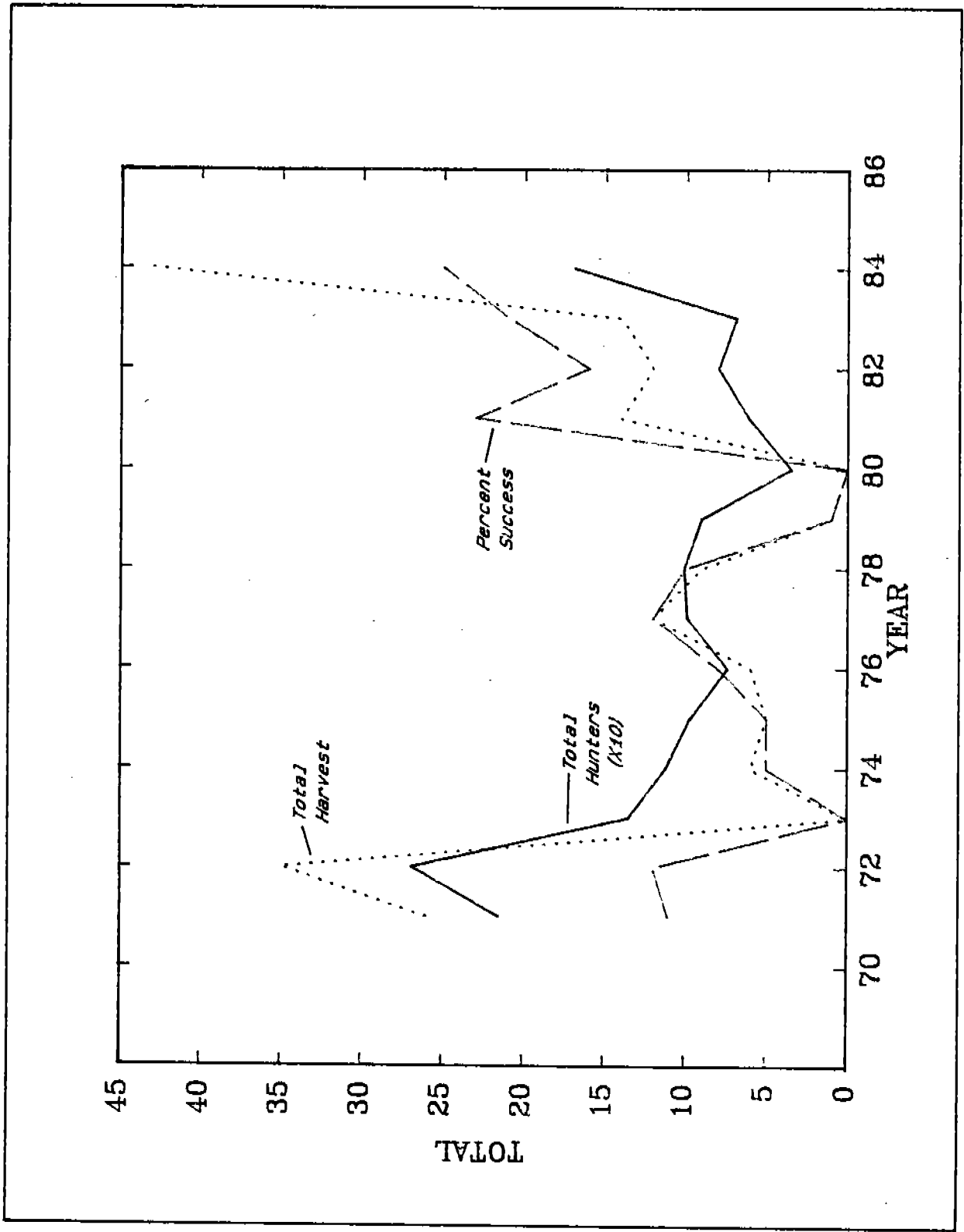


Figure 1. Wild turkey gobbler harvest trends for spring seasons.

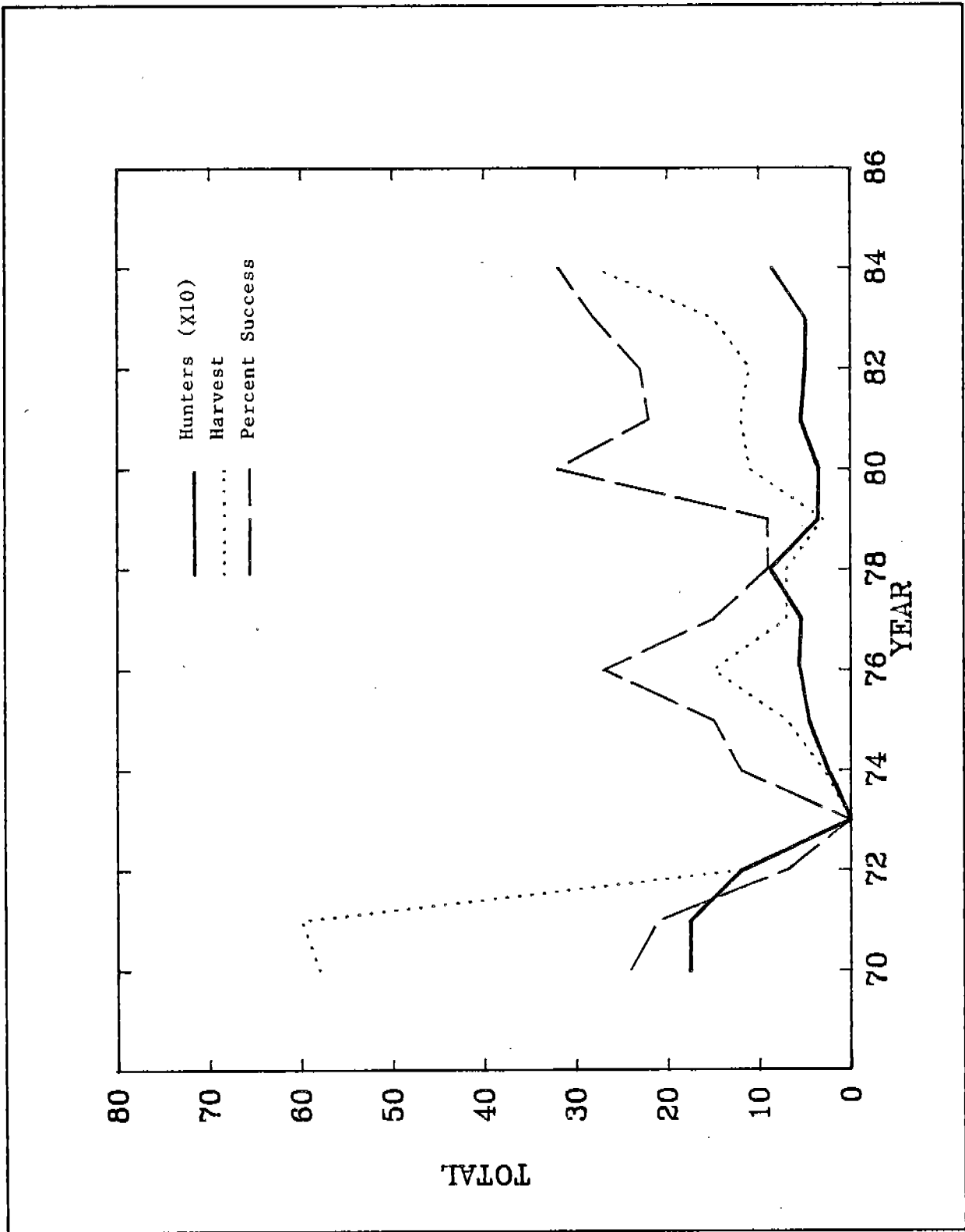


Figure 2. Wild turkey harvest trends for fall seasons.

Table 1. Summary of the 1984 spring turkey season.

Data	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
Permits sold															190	--
No hunts															14	21
Hunters afield	C		73	108	22	33	16	24	C				3	4	114	169
Hunter-days	L		211	313	57	85	47	70	L				10	15	325	482
Turkeys bagged	O		20	30	6	9	3	4	O				0	0	29	43
Percent success	S		27	--	27	--	19	--	S				--	0	--	25
Turkeys bagged per hunter-day	E		0.09	--	0.11	--	0.06	--	E				--	--	0.09	--
Reported crippling loss (loss/100 bagged)	D		0	--	0	--	0	--	D				0	--	0	--
Turkeys observed	S		414	--	89	--	106	--	S				2	--	611	--
Gobblers	E		133	--	27	--	34	--	E				0	--	194	--
Hens	A		202	--	49	--	48	--	A				2	--	301	--
Unidentified	S		79	--	13	--	24	--	S				0	--	116	--
Number of hunters who saw turkeys	O		51	--	16	--	14	--	O				1	--	82	--
Percent of hunters who saw turkeys	N		70	--	73	--	88	--	N				33	--	72	--

Projection factor = 1.4843

Table 2. Summary of turkey harvest statistics for spring gobbler seasons, 1967-84.

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield						
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	
	1979	35		1	95		4	0.01		11	
	1980	35		0	84		0	0.00		17	
	1981	39		13	94		32	0.14		68	
	1982	62		11	134		18	0.08		70	
	1983	48		12	122		25	0.10		68	
	1984	108		30	313		27	0.09		70	
	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	
1979		5		0	10		0	0.00		0	
1980					NO SEASON						
1981					NO SEASON						
1982					NO SEASON						
1983		6		1	7		20	0.17		40	
1984		33		9	85		27	0.11		73	

Table 2 (continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per		Percent of Hunters Observing	Total Permits**
		Afield			Afield	Hunter-day		Hunter-day	Turkeys		
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					N O	S E A S O N				
	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	
	1979	34		0	74		0	0.00		7	
	1980					N O	S E A S O N				
1981	18		1	31		6	0.03		24		
1982	18		1	50		6	0.02		35		
1983	12		1	27		10	0.10		30		
1984	24		4	70		19	0.06		88		
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		0	
	1979					N O	S E A S O N			50	
	1980					N O	S E A S O N				
	1981					N O	S E A S O N				
	1982					N O	S E A S O N				
	1983					N O	S E A S O N				
	1984					N O	S E A S O N				

Table 2 (continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield						
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				
	1979	3	0	15	0	0.00	0				
	1980	0	0	0	0	0.00	0				
	1981	2	0	2	0	0.00	0				
1982	0	0	0	0	0.00	0					
1983	3	0	5	0	0.00	0					
1984***	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				
	1979	8	0	17	0	0.00	0				
	1980			N O	S E A S S O N						
	1981			N O	S E A S S O N						
	1982			N O	S E A S S O N						
	1983			N O	S E A S S O N						
	1984			N O	S E A S S O N						
MIXED UNITS	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				
	1979	6	0	27	0	0.00	20				
	1980	0	0	0	0	0.00	0				

Table 2 (continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing Turkeys	Total Permits**	
		Afield			Afield							
MIXED UNITS (cont'd.)	1981	1		0	2		0	0.00		100		
	1982	0		0	0		0	0.00		0		
	1983	0		0	0		0	0.00		0		
	1984	4		0	15		0	0.00		33		
STATE TOTALS	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					N O S E A S O N						
	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	
	1979	90		1	237		1	0.01		8	113	
	1980	35		0	84		0	0.00		17	40	
	1981	60		14	129		23	0.11		53	83	
	1982	80		12	184		16	0.07		62	91	
	1983	69		14	161		21	0.09		55	92	
	1984	169		43	482		25	0.09		72	190	
	STATE TOTALS (1967-84)		2,211	238	5,570		11		0.04		---	2,434
	STATE AVERAGES (1967-83)		128	12	318		10		0.04		36	140

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

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

***Note the Pine Valley Mountains Unit was closed by emergency action to protect 94 Rio Grande turkeys released on the area in February 1984.

Table 3. Summary of the 1984 fall turkey season.

Data	Blue Mtn.-												STATE TOTALS			
	Pine Valley		Elk Ridge		Boulder Mtns.		East Zion		LaSal		Unknown		Rep't	Calc	Rep't	Calc
Permits sold														97		--
No hunts															8	11
Hunters afield	1*	1	C	L	0	85	64	85							65	86
Hunter-days	1	1	L	0	0	191	144	191							145	193
Turkeys bagged	0	0	S	0	S	28	21	28							21	28
Percent success	0	--	E	E	D	--	33	--							32	--
Turkeys bagged per hunter-day	0	--	D			0.15	0.15	--							0.14	--
Reported crippling loss (loss/100 bagged)	0	--	S	S	E	--	14	--							14	--
Turkeys observed	0	--	E	A	A	--	380	--							380	--
Number of hunters who saw turkeys	0	--	S	S	O	--	32	--							32	--
Percent of hunters who saw turkeys	0	--	N	N	N	--	50	--							49	--

Projection factor = 1.3288

*Hunter reported hunting closed units.

Table 4. Summary of Boulder Mountain wild turkey harvest data for fall hunts from 1969-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success*	Percent		Turkeys/ Hunter-Day	Cripples/ 100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield				Bagging 2 Turkeys					
1969	45		103		0	0	0.00	0	0	0	0	
1970	24		77		2	8	0.03	0	0	16	10	
1971	20		46		0	0	0.00	0	0	0	0	
1972	7		17		0	0	0.00	0	0	0	0	
1973**	--		--		--	--	--	--	--	--	--	
1974**	--		--		--	--	--	--	--	--	--	
1975	13		36		0	0	0.00	0	0	0	0	
1976	4		10		0	0	0.00	0	0	0	0	
1977	2		5		0	0	0.00	0	0	0	0	
1978	0		0		0	0	0.00	0	0	0	0	
1979	--		--		--	--	--	--	--	--	--	
1980	3		6		0	0	0.00	0	0	0	0	
1981	0		0		0	0	0.00	0	0	0	0	
1982**	--		--		--	--	--	--	--	--	--	
1983**	--		--		--	--	--	--	--	--	--	
1984	--		--		--	--	--	--	--	--	--	

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

**Closed Season.

Table 5. Summary of East Zion wild turkey harvest data for fall hunts from 1969-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success*	Percent Bagging		Turkeys/ Hunter-Day	Cripples/ 100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield				2 Turkeys					
1969	137		374		35	16	10		0.09	19	426	25
1970	87		203		43	32	16		0.21	5	469	40
1971	90		229		39	27	16		0.17	6	264	31
1972	59		154		10	12	4		0.06	12	96	22
1973**	--		--		--	--	--		--	--	--	--
1974**	--		--		--	--	--		--	--	--	--
1975	13		18		6	46	--		0.33	0	36	44
1976	31		57		13	42	--		0.23	8	137	50
1977	22		34		5	25	--		0.16	0	33	26
1978	47		107		6	14	--		0.06	40	130	32
1979	19		36		3	18	--		0.09	0	50	29
1980	19		31		10	50	--		0.32	43	97	50
1981	34		62		12	36	--		0.20	56	136	48
1982	49		131		11	23	--		0.09	10	185	47
1983	48		106		15	31	--		0.14	0	303	50
1984	96		215		31	33	--		0.15	14	380	50

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

**Closed Season.

Table 6. Summary of LaSal Mountain wild turkey harvest data for fall hunts from 1969-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success*	Percent Bagging		Turkeys/Hunter-Day	Cripples/100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield				2 Turkeys	Turkeys				
1969	17		51		1	7	0		0.02	0	40	7
1970	18		30		3	11	6		0.10	0	15	20
1971	13		27		5	18	18		0.18	0	25	27
1972	31		70		2	4	4		0.02	0	63	27
1973**	--		--		--	--	--		--	--	--	--
1974	20		6		2	10	--		0.03	100	61	38
1975	9		33		1	11	--		0.03	0	21	67
1976	15		49		2	13	--		0.04	0	45	15
1977	24		78		1	6	--		0.02	0	13	10
1978	26		93		1	5	--		0.01	0	201	50
1979	15		33		0	0	--		0.00	0	11	8
1980	12		33		1	11	--		0.04	0	30	44
1981	20		48		0	0	--		0.00	0	0	0
1982**	--		--		--	--	--		--	--	--	--
1983**	--		--		--	--	--		--	--	--	--
1984**	--		--		--	--	--		--	--	--	--

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

**Closed Season.

Table 7. Summary of Beaver Mountain wild turkey harvest data for fall hunts from 1970-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success*	Percent		Turkeys/ Hunter-Day	Cripples/ 100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield				Bagging 2 Turkeys	Bagging				
1970	30		87		7	15	8	0.08	0	48	31	
1971	13		24		5	18	18	0.20	0	64	46	
1972	6		12		0	0	0	0.00	0	11	40	
1973**	--		--		--	--	--	--	--	--	--	
1974**	--		--		--	--	--	--	--	--	--	
1975	5		13		0	0	--	0.00	0	0	0	
1976	5		18		0	0	--	0.00	0	0	0	
1977	--		--		--	--	--	--	--	--	--	
1978**	--		--		--	--	--	--	--	--	--	
1979**	--		--		--	--	--	--	--	--	--	
1980**	--		--		--	--	--	--	--	--	--	
1981**	--		--		--	--	--	--	--	--	--	
1982**	--		--		--	--	--	--	--	--	--	
1983**	--		--		--	--	--	--	--	--	--	
1984**	--		--		--	--	--	--	--	--	--	

Wild turkeys were transplanted onto the Beaver Mountain during the winter of 1967-68. The first hunting season was held in 1970. Transplants made again in 1985.

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

**Closed Season.

Table 8. Summary of Pine Valley Mountain wild turkey harvest data for fall hunts from 1970-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success*	Percent		Turkeys/ Hunter-Day	Cripples/ 100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield	Afield	Afield	Afield			Bagging 2 Turkeys	Turkeys/ Hunter-Day				
1970	6	21	3	50	0	0.14	33	16	80			
1971	32	87	11	23	12	0.13	22	98	35			
1972	11	19	0	0	0	0.00	0	0	0			
1973**	--	--	--	--	--	--	--	--	--			
1974**	--	--	--	--	--	--	--	--	--			
1975	0	0	0	0	--	0.00	0	0	0			
1976	0	0	0	0	--	0.00	0	0	0			
1977	1	2	0	0	--	0.00	0	0	0			
1978	6	8	0	0	--	0.00	0	4	80			
1979	1	1	0	0	--	0.00	0	0	0			
1980	0	0	0	0	--	0.00	0	0	0			
1981	1	4	0	0	--	0.00	0	5	100			
1982	2	5	0	0	--	0.00	0	0	0			
1983	1	2	0	0	--	0.00	0	0	0			
1984**	1	1	0	0	--	0.00	0	0	0			

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

**Closed Season.

Table 9. Summary of Blue Mountain-Elk Ridge* wild turkey harvest data for the fall hunt, 1974-84.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success	Turkeys/ Hunter Day		Cripples/ 100 Bagged	Turkeys Observed	% Hunters	
	Afield		Afield				Hunter Day	Observed			Observing	Turkeys
1974	5		9		1	20	0.11		0	20		20
1975	6		15		0	0	0.00		0	0		0
1976	1		2		0	0	0.00		0	0		0
1977	5		14		1	29	0.09		0	2		25
1978	6		11		0	0	0.00		0	0		0
1979	1		1		0	0	0.00		0	0		0
1980**	--		--		--	--	--		--	--		--
1981**	--		--		--	--	--		--	--		--
1982**	--		--		--	--	--		--	--		--
1983**	--		--		--	--	--		--	--		--
1984**	--		--		--	--	--		--	--		--

*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 in 1972 on Elk Ridge with successful results, particularly on Blue Mountain.

**Closed Season.

Table 10. Statewide summary of fall wild turkey harvest statistics, 1963-84.

Year	Permits Sold		Hunters Afield		Hunter-days Afield		Turkeys Bagged		Percent Success**		Turkeys/Hunter-Day		Crippling Loss/100 Bagged		Turkeys Observed		% Hunters Observing Turkeys		
1963	297	248	--	--	75	30	--	15	--	--	--	--	--	--	--	48	--	--	
1964	229	211	362	81	81	38	0.22	15	0.22	1,158	60	15	1,158	60	15	60	15	60	
1965	214	207	406	50	50	24	0.12	8	0.12	730	29	8	730	29	8	29	8	29	
1966*	192	187	471	43	43	23	0.09	7	0.09	756	36	7	756	36	7	36	7	36	
1967	146	135	405	40	40	30	0.10	16	0.10	748	48	16	748	48	16	48	16	48	
1968*	368	344	883	183	183	38	0.21	15	0.21	2,321	54	15	2,321	54	15	54	15	54	
1969	223	210	549	36	36	11	0.06	19	0.06	466	17	19	466	17	19	17	19	17	
1970	197	174	418	58	58	24	0.14	6	0.14	564	31	6	564	31	6	31	6	31	
1971	184	174	444	60	60	21	0.14	8	0.14	451	28	8	451	28	8	28	8	28	
1972	124	118	303	12	12	7	0.04	10	0.04	173	21	10	173	21	10	21	10	21	
1973***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1974	29	26	79	3	3	12	0.04	33	0.04	83	38	33	83	38	33	38	33	38	
1975	58	46	115	7	7	15	0.06	0	0.06	57	26	0	57	26	0	26	0	26	
1976	68	56	136	15	15	27	0.11	7	0.11	182	32	7	182	32	7	32	7	32	
1977	60	53	133	7	7	15	0.06	0	0.06	48	18	0	48	18	0	18	0	18	
1978*	102	88	223	7	7	9	0.03	33	0.03	335	38	33	335	38	33	38	33	38	
1979	46	36	71	9	9	9	0.05	0	0.05	61	19	0	61	19	0	19	0	19	
1980	43	35	69	11	11	32	0.16	38	0.16	127	44	38	127	44	38	44	38	44	
1981	63	55	114	12	12	22	0.11	56	0.11	141	32	56	141	32	56	32	56	32	
1982	56	50	136	11	11	23	0.08	10	0.08	185	47	10	185	47	10	47	10	47	
1983	61	49	112	15	15	28	0.13	0	0.13	303	49	0	303	49	0	49	0	49	
1984	97	86	193	28	28	32	0.14	14	0.14	380	49	14	380	49	14	49	14	49	
TOTALS (1963-84)	2,801	2,538	5,486	746	746	(470)	0.14	(310)	0.14	9,084	(764)	(310)	9,084	(764)	(310)	(764)	(310)	(764)	(764)
AVERAGES (1963-83)	135	123	265	36	36	22	0.14	15	0.14	435	36	15	435	36	15	36	15	36	36

*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 LaSai Mountains 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.

***Closed Season.

SHARP-TAILED GROUSE

SUMMARY

The Columbian sharp-tailed grouse is one of four species of grouse native to Utah. Sharptails were formerly abundant in the valley and foothill areas of northern and central Utah. Sharp-tailed grouse habitats were the most attractive areas for agricultural development and grazing. As a result, 'sharp-tail' habitat was directly converted to farmland or was seriously impacted by heavy grazing.

Because of habitat loss, sharptails have been extirpated from most of their former range and are now found only in extreme northern Utah, including Box Elder, Cache, Morgan and Weber counties.

In Utah, sharp-tailed grouse were completely protected from hunting from 1925-1973. Beginning in the early 1970's, field reports from various individuals and observations by Division personnel indicated that sharptails were becoming more numerous in several areas. It was felt, at this time, that limited hunting was justified. Limited hunting was legalized in 1974 and continued through 1979. However, due to a decline in observations during the 1980 spring and summer inventory period, the entire state was closed to hunting sharptails, and remained closed through 1984.

The Division has done fairly extensive fieldwork on sharptails since 1975. This work has centered on locating populations and the associated dancing grounds, evaluating habitat use, examining seasonal migration patterns and monitoring population trends.

Current management of sharptails includes counting of known dancing grounds, searches for new dancing grounds, brood counts and collection of harvest information.

Beginning in 1979, all sharptail hunters were required to obtain a free "Sharp-tailed Grouse Hunting Permit." Questionnaires were sent to all permittees following the season and results were obtained. Harvest figures are not available for the years 1974-1978, but field observations indicate that hunting pressure and harvest were fairly constant during that period and comparable to 1979.

There was no legal harvest of sharp-tailed grouse from 1980 through 1984. Populations have remained down since 1978. Severe winters and loss of habitat have severely reduced sharp-tailed grouse numbers in northern Utah.

Table 1. Summary of sharp-tailed grouse dancing ground counts, 1975-84.

County	No.	Name	Dancing Ground										
			1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Box Elder	1.	West Hills #1 (located 1977)			21	--	12	3	12	0	12	0	0
	2.	West Hills #2 (located 1977)		7	--	3	1	0	0	0	2	0	18
	3.	West Hills #3 (located 1977)		13	--	0	0	0	0	0	0	0	0
	4.	Hunsaker's Field (located 1977)		13	16	3	0	0	0	0	0	0	0
	5.	Whites Valley (located 1977)		12	--	0	0	0	6	0	0	0	2
	6.	North Whites Valley (located 1977)		10	15	--	0	0	0	0	0	0	0
	7.	Pocatello Valley #1 (located 1978)			7	4	1	9	19*	6	2	0	0
	8.	Pocatello Valley #2 (located 1978)			25	3	6	10	0	8	3	9	0
	9.	Pocatello Valley #3 (located 1978)			4	0	0	0	0	0	0	0	0
	10.	Pocatello Valley #4 (located 1978)			6	0	0	0	--	0	0	0	0
	11.	Ag. Station						3	0	0	0	0	0
Cache	1.	Bankhead Well (relocated 1975)	13	6	8	7	2	2	0	--	--	--	
	2.	Baxter Ridge (relocated 1975)	12	0	0	--	--	3	5	3	--	--	
	3.	Crow Mtn. #1 (located 1979)				0	7	4	6	3	--	--	
	4.	Crow Mtn. #2 (located 1979)					6	0	5	0	--	--	
	5.	High Creek (located 1981)							7	--	--	--	
Morgan	1.	Cottonwood #1 (located 1975)	9	9	14	6	3	--	--	--	--	--	
	2.	Cottonwood #2 (located 1975)	18	9	6	16	25	--	--	--	--	--	
	3.	Deep Creek #2						4	--	--	--	--	
Weber	1.	Monastery (located 1969)	27	10	Active	Active	3	0	0	0	--	--	
Total grounds counted			5	5	10	9	15	16	17	15	11	2	11
Total grouse counted			79	34	104	102	71	24	57	31	28	5	29
Average number of grouse/ground			15.8	6.8	10.4	11.3	4.7	1.5	3.4	2.1	2.5	2.5	2.6

*Counts for Pocatello Valley #1 and #2 were combined.

WHITE-TAILED PTARMIGAN

SUMMARY

The white-tailed ptarmigan (Lagopus leucurus) was introduced into the Uinta Mountains of northern Utah in 1976 with the release of birds captured in Colorado. The initial transplant consisted of 22 paired birds released in June 1976. A second release of 35 mixed young and adults was accomplished in September of that same year.

This successful transplant was the result of a cooperative effort of the Utah Division of Wildlife Resources, the Ashley and Wasatch National Forests of the U. S. Forest Service, and the Colorado Division of Wildlife.

The original two releases of white-tailed ptarmigan were made at a point about one-half mile southeast of Gunsight Pass and one mile east of Kings Peak in Painter Basin of the Uinta River drainage. Subsequent studies have shown that the population in Painter Basin has increased to the point that birds may be at carrying capacity. Breeding territory surveys in 1977 indicated reproduction from transplanted birds and the transplanted birds themselves had survived their first year. Presently, birds are known to exist in Henry's Fork, Yellowstone Basin, Gilbert Basin, Atwood Basin, Beaver Basin, Lake Blanchard, Smith's Fork, and Rainbow Basin. Evidence for existence of birds has been found in Rock Creek, Black's Fork, Garfield Basin, and Lake Fork. Presently, ptarmigan are believed to be distributed from Holiday Park (Weber River drainage) on the west to Greendale (Flaming Gorge) on the east. Both sightings were made in winter at unusually low elevations (7,800 ft. & 7,000 ft.).

Surveys on the ptarmigan population will continue with emphasis on documenting habitat expansion. Areas of emphasis will include Samuels Lake in the Uinta River drainage to Deadman Lake in the Dry Fork drainage. Two survey techniques will be used. A breeding territory survey will be conducted from mid- to late June. The brood survey will be conducted from mid- to late August. The technique consists of returning to areas where birds were located in the June survey and searching intensively in likely brood habitat with trained hunting dogs. Chicks will be captured, weighed, banded, and primary molt will determine approximate hatching date. Results of the last 6 years of survey data are located in Tables 1 and 2.

The ptarmigan population has now been subjected to a wide range of weather extremes. The winter of 1976-77 was extremely dry, cold and snowfree, whereas the 1978-79 winter had above average snowfall and a late spring thaw. This was followed (1979-80) by a near record late snow pack and extraordinarily dry summer. Accumulated snowfall was considerably less than normal during the winter of 1980-81 with abundant breeding territories available during the June survey. The winter snowpack of 1981-82 was extremely heavy and the 1982-83 snowpack was above average. The 1983-84 snowpack was below average.

The 1984 spring survey was conducted on Flat Top Mountain (between Henry's Fork and Smith's Fork) on June 18-19, 1984. Only one pair and one lone male were located. Snowpack was about average and snow melt was about normal for June. A good year for breeding success was anticipated. (Grandison-unpublished 1984 Annual Report).

Brood surveys were made August 26-28, 1985, in Henry's Fork, Painter Basin and Flat Top Mountain. No birds were located in Henry's Fork despite searches of known brood areas. Three broods were observed in Painter Basin and one brood was recorded and banded on Flat Top Mountain (Table 2).

Above average precipitation and abundant green forage seemed to affect distribution patterns of ptarmigan broods in 1984.

Hunter Success

Twenty-eight hunters obtained permits to hunt ptarmigan in Utah for the third season. An estimated 20 actually hunted with 36 birds reported killed. This was the second year ptarmigan were taken by Utah sportsmen. Sixty-five percent of the hunters afield saw ptarmigan and killed birds. Hunter success was 1.44 birds bagged per hunter-day.

Table 1. Summary of white-tailed ptarmigan breeding territories (pairs), 1977-84.

County	Location	(6/20-23) 1977	(6/12-19) 1978	(6/18-24) 1979	(6/12-17) 1980	(6/12-14) 1981	(6/16-17) 1982	1983	(6/18-19) 1984
Summit	Lake Blanchard					2			
Duchesne	Painter Basin	71	10 ²						
Duchesne	Gilbert Basin		2						
Duchesne	Atwood Basin								
Duchesne	Yellowstone River				2				
Summit	Henry's Fork			4					
Summit	Flat Top Mtn.								1
Summit	Beaver Creek			3	0		0		
Summit	Smith's Fork				1				
Uintah	Leidy Peak				0 ³				

¹Three territorial males were yearling birds, the result of successful reproduction by released birds in 1976. Two were spring-released birds and two were fall-released.

²An additional 4 males and 1 female were located. Birds from the June 1976 transplant are well represented in the population while only two September released birds have been located. Recruitment from the 1976 and 1977 nesting seasons was evident in the 1978 population.

³A sighting of ptarmigan was reported by a hunter in October 1979. Division Biologists reported droppings at the base of Leidy in the willow on June 25, 1981.

⁴Excessive snow cover precluded access to trail-heads during the June breeding period.

Table 2. Ptarmigan brood inventory, 1977-84.

Area:	DATE							
	8/15-19/77	8/13-19/78	8/14-24/79	8/17-29/80	8/18-31/81	8/17-30/82	8/23-30/83	8/26-28/84
<u>Painter Basin</u>								
n	7	7	7	7	12	0 ³	2 ⁴	3
mean brood	4.00	4.71	3.29	4.71	3.67		4.50	
young/100 adult hens	400	413	329	471	314		450	
hens w/o broods	0	1	0	0	2		0	
adult males	3	5	5	0	14		0	
<u>Henry's Fork</u>								
n		0	1	0	4	0	0	0
mean brood			4.00		4.50			
young/100 adult hens			400		450			
hens w/o broods			0		0			
adult males			1		0			
<u>Yellowstone</u>								
n		0	0	0	4	4	2 ⁵	1 ⁵
mean brood					4.50	4.25	3.50	6.00
young/100 adult hens					450		350	300
hens w/o broods					0		0	1
adult males					0		0	0
<u>Smith's Fork</u>								
n		0	0	0	0	0	2 ⁵	1 ⁵
mean brood							3.50	6.00
young/100 adult hens							350	300
hens w/o broods							0	1
adult males			2				0	0
<u>Atwood Basin</u>								
n		1	4.00	5.00				
mean brood			400	500				
young/100 adult hens			0	0				
hens w/o broods			3	0				
adult males			0	0				

Table 2. (continued)

		D A T E							
Area:	Statistics	8/15-19/77	8/13-19/78	8/14-24/79	8/17-29/80	3/18-31/81	8/17-30/82	8/23-30/83	8/26-28/84
<u>Flat Top Mountain</u>									
	n								
	mean brood								1
	young/100 adult hens								6.00
	hens w/o broods								
	adult males								1
<u>Little E. Fork - Black's Fork</u>									
	n								
	Mean brood								0
	young/100 adult hens								
	hens w/o broods								
	adult males								
<u>Rainbow Basin</u>									
	n								
	mean brood								1
	young/100 adult hens								4.0
	hens w/o brood								400
	adult males								0
<u>Gilbert Basin</u>									
	n								
	mean brood								2
	young/100 adult hens								5.00
	hens w/o broods								500
	adult males								0
<u>Samuel's Draw</u>									
	n								
	mean brood								1
	young/100 adult hens								4.00
	hens w/o broods								400
	adult males								0

Table 2. (continued)

Area:		D A T E						
		8/15-19/77	8/13-19/78	8/14-24/79	8/17-29/80	3/18-31/81	8/17-30/82	8/23-30/83
East F. Black's Fork		0						
n		0						
mean brood		0						
young/100 adult hens		0						
hens w/o broods		0						
adult males		0						
Lake Fork River		0						
n		0						
TOTAL		0						
n	7	7	12 ¹	11 ²	20	5	4	5
mean brood	4.00	4.71	4.50	4.73	4.00	4.20	4.00	6.00
young/100 adult hens	400	413	450	473	364	400	400	300
hens w/o brood	0	1	0	0	2	0	0	2
adult males	3	5	18	0	14	0	0	0
Total birds observed	38	46	84	63	116	20	20	--

¹Not included is observation of 2 hens with brood from Leidy Peak, some 43 miles distant from release site.

²Considerably more time spent this year than in previous years.

³After 4 days of searching.

⁴Only 3 days of searching, suspect a minimum of 5 broods present on Trail Rider Pass this year.

⁵Flat Top Mountain between Henry's Fork and Smith's Fork.

ⁿNumber of broods.

Table 3. Ptarmigan hatching chronology by year, 1978-84.

Year	Sample Size	Mean Hatching Date
1978	39	7-25
1979	21	7-13
1980	24	7-20
1981	27	7-10
1982	10	7-12 to 24
1983	4	7-20
1984	--	--

Table 4. Summary of the 1984 ptarmigan season.

Data	Henry's Fork		Black's Fork		Smith's Fork		Uinta River		Painter Basin		Atwood Basin		Gunsight Pass		Weber River		M. Heaver Creek		Gilbert Basin		Other		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	Rep't	Calc	Rep't	Calc	Rep't	Calc	
Permits issued																									
No hunts																									
Hunters afield	1				(1) ¹				10					5									28		
Hunter-days	1				1			13						5									8		
Ptarmigan bagged	0				4			16						11									25		
Percent success					100			60						80									36		
Ptarmigan bagged per hunter-day	0.00				4.00			1.23						2.20									65		
Reported crippling loss (loss/100 bagged)	0				0			0						0									1.44		
Ptarmigan observed	0				7			41						21									0		
Number of hunters who saw ptarmigan	0				1			8						4									0		
Percent of hunters who saw ptarmigan					100			80						80									83		
																							14		
																							70		

Projection factor = 1.000

() Hunted Gunsight Pass also - not added to total.

¹ Flat Top Mountain between Henry's Fork and Smith's Fork

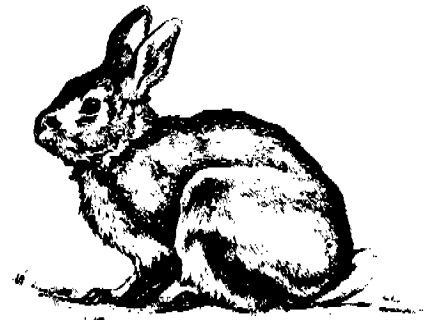
RABBITS AND HARES

SUMMARY

Cottontail Rabbits

A slightly below average but improved breeding population level for 1984 was indicated by the 1983 harvest statistics.

Summer roadside counts, however, indicated a decreased population density statewide. Harvest statistics indicated 50 percent of the harvest was from the Northeastern and Southeastern regions, with a total harvest of 14,007 cottontails by 18,616 hunters afield.



Snowshoe Hares



The 1984 snowshoe hare hunting season was the tenth held since the Legislature provided protected status to this species in 1975.

Harvest statistics for 1984 indicated increased hunter participation and hunter success. This increase may reflect an actual trend or it could be the result of identification conflicts with whitetailed jackrabbits. Although efforts have been made to educate hunters in the identification of the snowshoe hare and the whitetailed jackrabbit, it is still a potential problem which could bias the snowshoe data.

COTTONTAIL RABBIT

Roadside Counts

Results of the annual roadside counts for 1984 are shown in Table 1 of this section. The trend of cottontails observed per mile and young per 100 adults since 1974 is shown in Tables 2 and 3, respectively. Indices for 1984 compared to 1983 and the 10-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total miles driven	1,069	-45	-57
Total cottontails counted	170	-78	-82
Cottontails observed per mile	0.16	-61	-59
Young observed per 100 adults	100	+39	-6

An increased, but yet, below average breeding population for 1984 was indicated by 1983 harvest statistics. Indicated production, likewise, was 39 percent above 1983 and 6 percent below the average.

The cottontail per mile index was down in all regions of the state and was 59 percent below the average.

Harvest

Hunter Questionnaire

Results of the 1984 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 1978 are found in Tables 5-7. Trends of statewide harvest statistics are found in Table 8 and Figure 2. Results of the 1984 season compared to 1983 and the 16-year average follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Cottontail hunters	18,616	-17	-31
Cottontail harvest	14,007	-92	-93
Hunter-days afield	15,510	-84	-86
Cottontails per hunter-day	0.90	-52	-43
Cottontails per hunter	3.72	-54	-43

Total harvest, decreased significantly from 1983, likewise, there was a decrease in hunters and hunter-days afield. Total harvest plummeted to 93 percent below average and success decreased to 43 percent below average, indicating a sharply decreased population of cottontails. The winters of 1982-83 and 1983-84 appear to have had a profound effect on the rabbit population statewide. The population crash was apparent in the spring of 1984, and was confirmed by the 1984 harvest data.

Field Bag Checks

Results of the survey for 1984 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 1984 field bag check data to 1983 and the average.

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Total hunters checked	64	-53	-83
Total hours hunted	147	-57	-86
Cottontails per hunter (complete hunts)	2.06	-33	+5
Cottontails bagged per 100 hours	73	-39	+22
Hours per hunter-day (complete hunts)	2.7	+35	-16
Hours per cottontail bagged	1.3	+44	-35

Field bag check data was limited to the Northeastern and Southeastern regions. Data from other regions was not obtained.

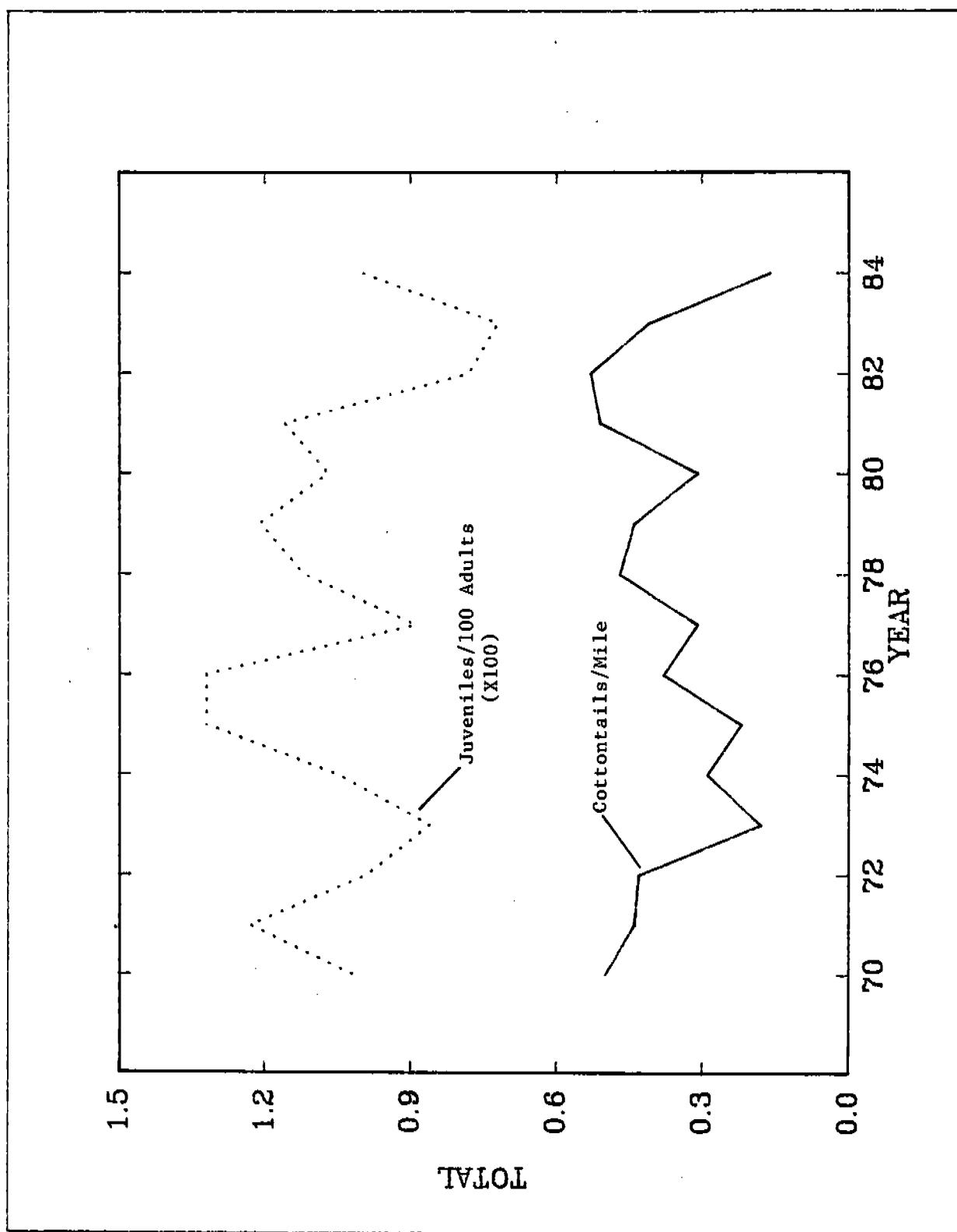


Figure 1. Cottontail rabbit population indexes trend.

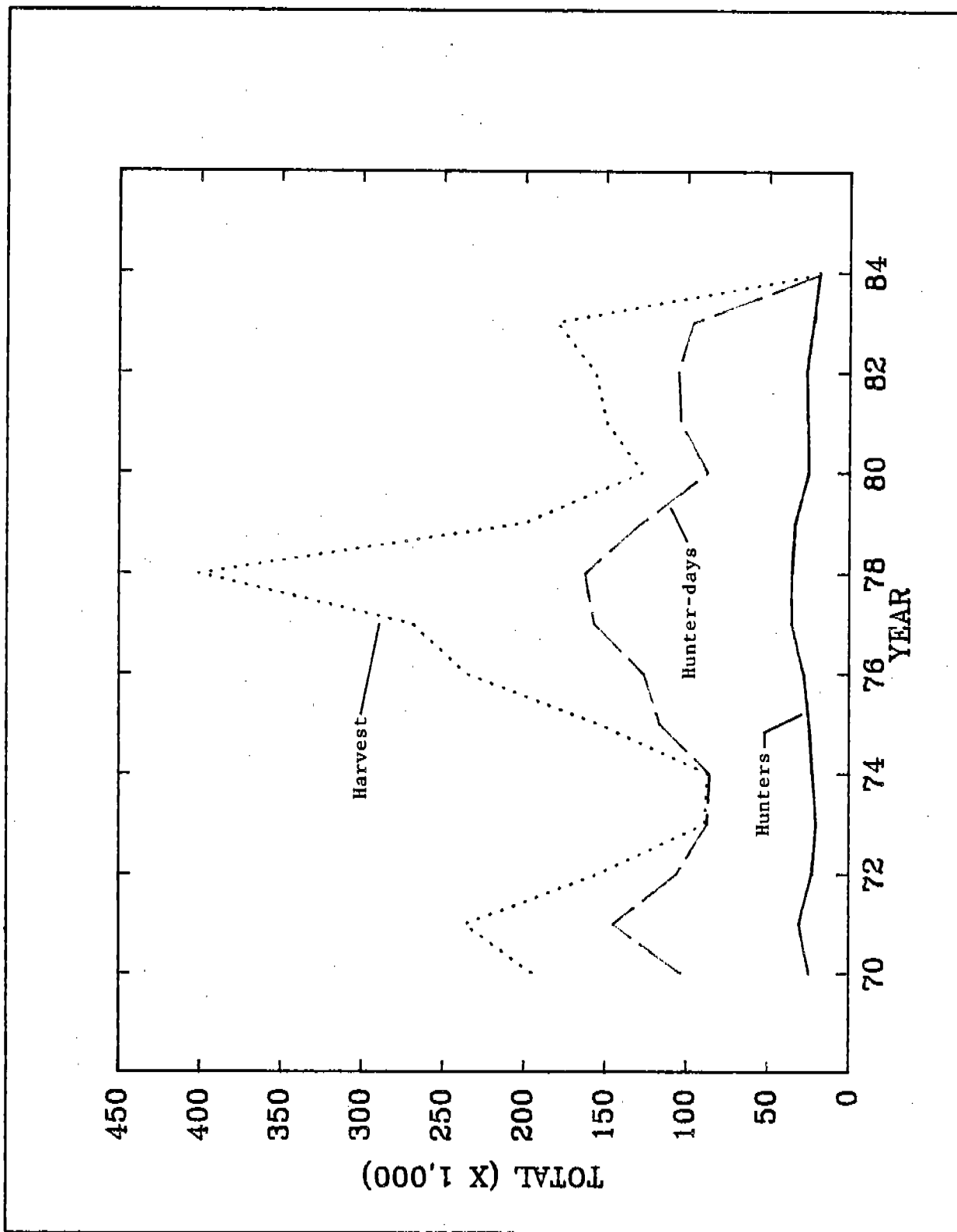


Figure 2. Cottontail rabbit harvest trend.

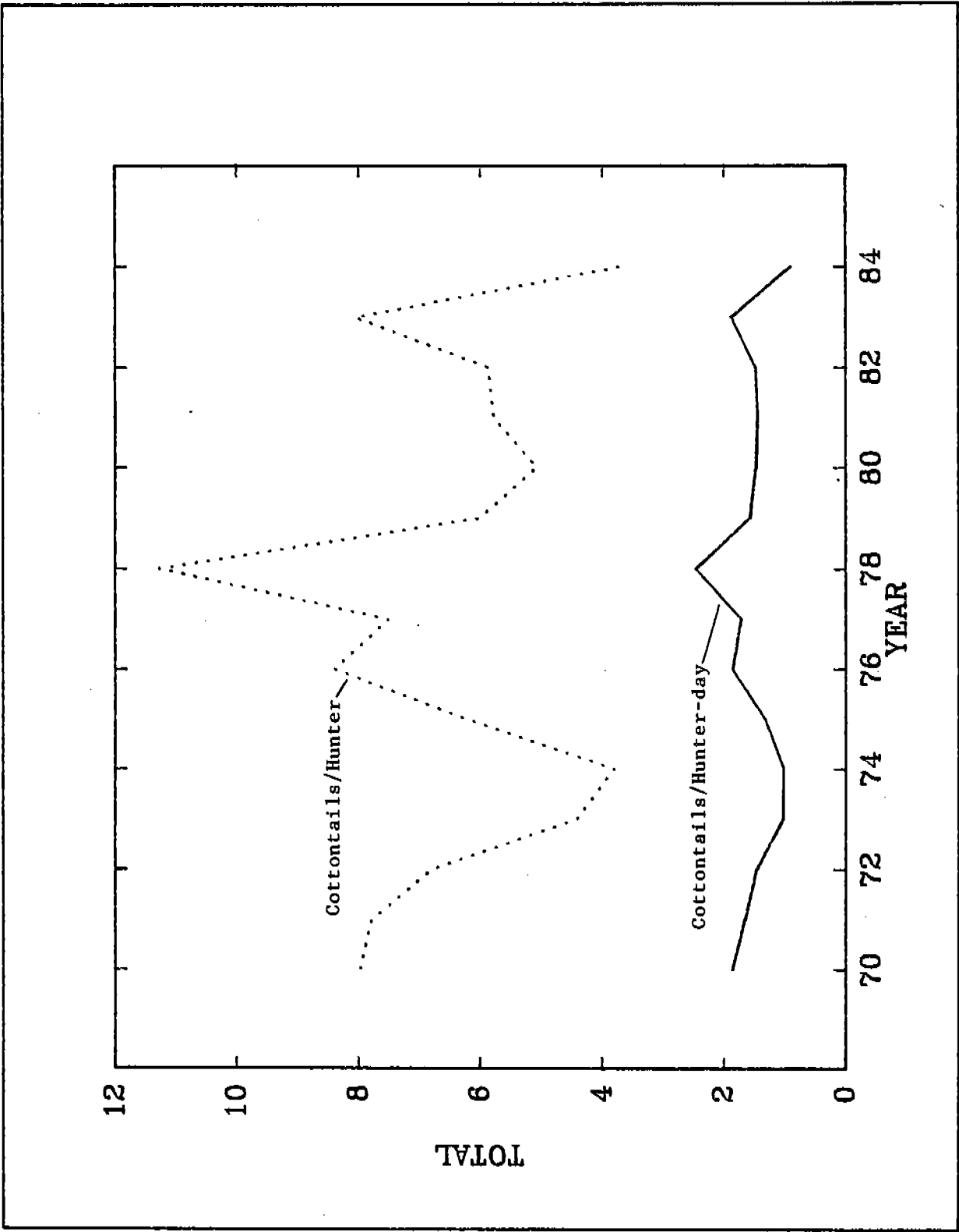


Figure 3. Cottontail rabbit harvest trend.

Table 1. Cottontail rabbit summer inventory summary, 1984.

Region and County	Miles Driven	Rabbits Observed			Total	Young Per 100 Adults	Rabbits Per Mile
		Adults	Young	Unclass.			
<u>Northern Region</u>							
Box Elder	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>							
<u>Central Region</u>							
Juab	87	0	0	0	0	0	0.00
Salt Lake	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--
Tooele	90	2	0	0	2	0	0.02
Utah	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>							
	177	2	0	0	2	0	0.01
<u>Southern Region</u>							
Beaver	90	1	0	0	1	0	0.01
Garfield*	--	--	--	--	--	--	--
Iron	30	5	2	1	8	40	0.27
Kane	--	--	--	--	--	--	--
Millard	176	4	3	0	7	75	0.04
Piute	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Wayne	60	10	38	0	48	380	0.80
<u>REGIONAL TOTALS</u>							
	356	20	43	1	64	215	0.18
<u>Northeastern Region</u>							
Daggett	160	24	8	3	35	33	0.22
Duchesne	90	18	4	3	25	22	0.28
Uintah	90	3	7	0	10	233	0.11
<u>REGIONAL TOTALS</u>							
	340	45	19	6	70	42	0.21
<u>Southeastern Region</u>							
Carbon	--	--	--	--	--	--	--
Emery	166	6	13	11	30	217	0.18
Grand	30	3	1	0	4	33	0.13
San Juan	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>							
	196	9	14	11	34	156	0.17
<u>STATE TOTALS</u>							
	1,069	76	76	18	170	100	0.16

*Includes data from Southeastern Region.

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	1.01	0.32	0.72	0.97	0.29	0.33	--	0.37	0.01	--	--	--
Cache	--	--	0.00	--	0.05	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	0.10	0.02	0.17	0.16	0.10	--	--	--	--	--	--	--
Rich	0.04	0.16	0.46	0.26	0.47	0.30	0.11	0.13	0.16	--	--	--
Summit	--	--	--	--	--	--	--	--	--	0.18	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.36	0.19	0.45	0.59	0.30	0.32	0.11	0.26	0.06	0.18	--	0.28
<u>Central Region</u>												
Juab	--	0.07	0.08	0.18	0.19	0.23	0.29	1.12	0.38	--	0.00	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	0.23	0.18	0.36	0.37	0.86	1.15	1.06	1.29	0.78	0.57	--	--
Tooele	0.06	0.04	0.16	0.19	0.21	0.51	0.26	0.13	0.10	--	0.02	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.14	0.09	0.20	0.25	0.43	0.64	0.54	0.85	0.43	0.57	0.01	0.41
<u>Southern Region</u>												
Beaver	0.33	0.04	0.20	0.11	0.22	0.22	0.06	0.19	0.12	0.04	0.01	--
Garfield	0.14	0.28	0.39	0.15	0.13	0.15	--	--	0.27	0.25	--	--
Iron	0.06	0.09	0.21	0.36	0.66	0.45	0.45	--	0.18	0.38	0.27	--
Kane	0.26	0.48	0.49	0.32	0.23	0.34	--	0.69	--	--	--	--
Millard	0.10	0.07	0.17	0.14	0.42	0.52	0.18	0.56	0.28	0.16	0.04	--
Plute	0.02	0.07	0.08	0.00	0.01	0.02	--	0.10	0.13	0.03	--	--
Sevier	0.18	0.11	0.26	0.38	0.90	0.55	0.27	0.83	0.27	0.23	--	--
Washington	1.30	0.56	0.32	0.21	0.16	0.35	0.10	0.24	0.32	0.38	--	--
Wayne	0.06	0.03	0.17	0.09	0.48	0.56	0.54	0.49	0.69	--	0.80	--
REGIONAL TOTALS	0.32	0.20	0.27	0.19	0.35	0.37	0.22	0.45	0.29	0.19	0.18	0.29
<u>Northeastern Region</u>												
Daggett	0.24	0.24	0.68	0.25	2.77	1.58	0.40	0.32	0.45	0.58	0.22	--
Duchesne	0.29	0.67	1.00	1.21	1.42	0.24	0.42	1.78	2.28	0.58	0.28	--
Uintah	0.19	0.32	1.36	0.68	1.22	0.53	0.27	0.48	1.97	2.97	0.11	--
REGIONAL TOTALS	0.24	0.43	0.98	0.67	1.75	0.84	0.36	0.81	1.46	1.21	0.21	0.88
<u>Southeastern Region</u>												
Carbon	0.15	0.18	0.18	0.10	0.12	0.12	0.15	0.12	0.10	0.11	--	--
Emery	0.08	0.04	0.27	0.26	0.21	0.28	0.16	0.41	0.18	0.23	0.18	--
Grand	0.14	0.18	0.22	0.19	0.33	0.21	0.11	0.32	0.67	0.15	0.13	--
San Juan	0.58	0.42	0.67	0.31	0.31	0.20	0.60	0.42	1.26	0.40	--	--
REGIONAL TOTALS	0.28	0.22	0.35	0.21	0.23	0.21	0.30	0.36	0.58	0.25	0.17	0.30
STATE TOTALS	0.29	0.22	0.38	0.31	0.47	0.44	0.31	0.51	0.53	0.41	0.16	0.39

Table 3. Summary of cottontail rabbits young per 100 adults, 1974-84.

Region and County	Year											Average 1974-83
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	
<u>Northern Region</u>												
Box Elder	173	144	281	103	126	100	--	77	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	0	--	200	100	--	--	--	--	--	--	--	--
Rich	0	56	100	54	130	60	67	43	63	67	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	145	120	222	96	137	85	67	71	63	67	--	107
<u>Central Region</u>												
Juab	--	67	20	100	44	13	78	102	53	--	--	0
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	50	38	256	200	217	312	352	197	209	225	--	--
Tooele	67	100	133	129	125	100	71	200	80	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	53	54	160	154	161	167	194	147	140	225	0	146
<u>Southern Region</u>												
Beaver	11	0	--	33	70	63	40	55	83	33	0	0
Garfield	56	77	103	71	64	250	--	--	38	120	--	--
Iron	100	0	70	93	33	44	23	--	57	35	40	--
Kane	200	160	87	65	56	82	--	106	--	--	--	--
Millard	82	88	63	67	88	190	96	170	94	125	75	--
Plute	0	20	75	--	--	--	--	--	--	200	--	--
Sevier	183	44	67	126	147	171	350	--	33	61	--	--
Washington	98	212	118	57	400	94	--	123	150	81	--	--
Wayne	50	0	250	225	282	214	308	287	343	--	380	--
REGIONAL TOTALS	92	120	89	86	96	139	114	184	145	82	215	115
<u>Northeastern Region</u>												
Daggett	87	77	152	48	98	123	58	104	140	66	33	--
Duchesne	146	258	177	66	167	200	61	42	37	16	22	--
Uintah	114	211	151	134	153	82	160	176	44	233	233	--
REGIONAL TOTALS	114	198	159	78	125	118	73	67	48	42	42	104
<u>Southeastern Region</u>												
Carbon	117	227	85	112	118	230	133	83	66	40	--	--
Emery	40	0	58	30	111	25	70	97	43	75	217	--
Grand	62	47	54	100	77	50	250	137	148	150	33	--
San Juan	140	150	179	120	35	30	68	105	72	43	--	--
REGIONAL TOTALS	118	124	112	84	71	46	79	103	82	54	156	87
STATE TOTALS	105	132	132	89	112	121	107	116	78	72	100	106

Table 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Cottontails Bagged	Cottontails/Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	113	5,257	3,796	0.72	7.77	5.49
Cache	14	487	345	0.71	0.72	0.50
Davis	4	142	81	0.57	0.21	0.12
Morgan	8	426	507	1.19	0.63	0.73
Rich	15	893	1,441	1.61	1.32	2.08
Summit	16	1,177	203	0.17	1.74	0.29
Weber	12	568	385	0.68	1.35	0.91
REGIONAL TOTALS	182	8,952	6,760	0.76	27.82	23.91
<u>Central Region</u>						
Juab	51	2,598	3,654	1.41	3.84	5.28
Salt Lake	20	1,806	1,583	0.88	2.67	2.29
Sanpete	23	1,177	568	0.48	1.74	0.82
Tooele	155	7,734	6,354	0.82	11.43	9.18
Utah	103	4,588	3,755	0.82	6.78	5.43
Wasatch	21	913	629	0.69	1.35	0.91
REGIONAL TOTALS	373	18,819	16,545	0.88	27.82	23.91
<u>Southern Region</u>						
Beaver	10	812	223	0.28	1.20	0.32
Garfield	6	385	324	0.84	0.57	0.47
Iron	8	852	1,258	1.48	1.26	1.82
Kane	6	649	1,421	2.19	0.96	2.05
Millard	41	2,842	2,517	0.89	4.20	3.64
Piute	3	121	81	0.67	0.18	0.12
Sevier	16	487	385	0.79	0.72	0.56
Washington	34	3,735	3,491	0.93	5.52	5.05
Wayne	13	872	1,684	1.93	1.29	2.43
REGIONAL TOTALS	137	10,759	11,388	1.06	15.91	16.46
<u>Northeastern Region</u>						
Daggett	17	1,278	1,522	1.19	1.89	2.20
Duchesne	81	5,643	9,115	1.62	8.34	13.17
Uintah	97	6,679	9,846	1.47	9.87	14.23
REGIONAL TOTALS	195	13,601	20,483	1.51	20.11	29.61
<u>Southeastern Region</u>						
Carbon	69	6,536	3,390	0.52	9.66	4.90
Emery	45	4,141	3,248	0.78	6.12	4.69
Grand	32	2,700	4,141	1.53	3.99	5.99
San Juan	19	2,131	3,227	1.51	3.15	4.66
REGIONAL TOTALS	165	15,510	14,007	0.90	22.93	20.25
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	1,052	67,643	69,186	1.02	100	100

*Total hunter trips from questionnaire returns.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	2.56	1.84	1.92	1.99	1.12	1.44	0.72
Cache	1.59	1.22	1.35	0.68	0.61	0.77	0.71
Davis	0.39	2.00	0.90	0.07	0.00	1.05	0.57
Morgan	1.74	1.10	1.09	1.46	0.95	1.65	1.19
Rich	3.77	1.94	1.79	1.87	1.03	2.28	1.61
Summit	2.32	1.20	0.56	1.21	0.87	1.44	0.17
Weber	1.73	0.83	0.58	1.10	0.70	0.56	0.68
REGIONAL TOTALS	2.43	1.60	1.61	1.65	1.00	1.43	1.76
<u>Central Region</u>							
Juab	2.90	2.23	2.15	1.73	1.43	1.21	1.41
Salt Lake	1.55	0.96	0.56	0.71	1.07	1.74	0.88
Sanpete	1.50	1.46	0.99	1.44	0.86	1.12	0.48
Tooele	2.40	1.89	1.69	1.29	1.12	1.21	0.82
Utah	1.86	1.06	1.12	0.99	0.74	1.02	0.82
Wasatch	1.42	1.00	0.80	0.82	0.80	0.49	0.69
REGIONAL TOTALS	2.15	1.57	1.51	1.26	1.06	1.16	0.88
<u>Southern Region</u>							
Beaver	2.25	1.45	0.93	1.79	2.00	1.25	0.28
Garfield	0.80	2.12	1.86	1.05	1.86	0.98	0.84
Iron	1.48	1.74	1.27	1.03	0.77	0.80	1.48
Kane	2.80	2.01	1.39	0.81	1.84	0.58	2.19
Millard	1.84	1.82	1.70	1.57	1.58	1.04	0.89
Piute	2.06	1.27	1.53	1.52	0.38	0.80	0.67
Sevier	1.55	1.40	1.22	0.97	0.87	0.66	0.79
Washington	0.93	1.33	0.95	1.03	1.53	0.92	0.93
Wayne	1.42	1.76	1.48	2.69	1.41	1.52	1.93
REGIONAL TOTALS	1.54	1.64	1.35	1.32	1.39	0.93	1.06
<u>Northeastern Region</u>							
Daggett	3.25	3.30	1.50	1.12	1.38	1.77	1.19
Duchesne	3.67	1.49	1.39	1.80	2.17	3.41	1.62
Uintah	4.33	1.64	1.16	1.41	2.18	3.09	1.47
REGIONAL TOTALS	2.11	1.20	1.30	1.53	2.13	3.12	1.51
<u>Southeastern Region</u>							
Carbon	2.26	1.06	1.05	1.42	1.61	1.73	0.52
Emery	1.69	1.26	1.36	1.30	1.38	1.61	0.78
Grand	2.12	1.27	1.62	1.56	2.44	2.27	1.53
San Juan	2.81	1.42	1.90	1.87	2.93	2.09	1.51
REGIONAL TOTALS	2.11	1.20	1.30	1.53	1.81	1.79	0.90
Unknown counties	0.83	1.46	1.00	2.60	1.35	1.78	0.00
Mixed counties	0.00	1.25	5.00	1.11	0.00	0.00	0.00
STATE TOTALS	2.46	1.57	1.47	1.44	1.48	1.88	1.02

Table 6. Percentage distribution of cottontail rabbit harvest by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	11.50	13.95	20.87	14.87	6.05	5.93	5.49
Cache	0.73	1.07	0.83	0.72	0.36	0.33	0.50
Davis	0.09	0.37	0.12	0.03	0.00	0.16	0.12
Morgan	2.74	1.90	0.84	0.82	0.38	0.64	0.73
Rich	4.96	2.89	1.75	0.80	0.36	0.96	2.08
Summit	2.88	1.95	1.16	1.66	0.65	0.83	0.29
Weber	0.67	0.61	0.40	0.62	0.38	0.11	0.56
REGIONAL TOTALS	23.58	22.73	25.96	19.50	8.19	8.95	9.77
<u>Central Region</u>							
Juab	5.16	7.79	9.35	6.79	5.76	1.95	5.28
Salt Lake	1.19	1.01	0.37	0.41	1.09	1.16	2.29
Sanpete	1.06	3.51	2.76	1.31	0.94	1.21	0.82
Tooele	10.17	16.48	21.32	10.58	10.04	6.53	9.18
Utah	6.77	7.40	6.01	5.63	3.55	3.44	5.43
Wasatch	0.80	1.18	0.88	0.59	0.73	0.17	0.91
REGIONAL TOTALS	25.15	37.37	40.69	25.32	22.10	14.44	23.91
<u>Southern Region</u>							
Beaver	0.89	0.47	1.43	0.72	0.76	0.30	0.32
Garfield	0.26	0.63	0.35	1.14	0.64	0.32	0.47
Iron	1.14	1.83	1.01	1.79	0.81	0.52	1.82
Kane	0.76	1.19	0.85	0.66	0.34	0.29	2.05
Millard	1.66	4.37	5.00	5.50	4.94	1.50	3.64
Piute	0.24	0.74	0.61	0.46	0.08	0.06	0.12
Sevier	1.15	2.14	1.84	1.94	0.79	0.48	0.56
Washington	0.93	1.70	1.12	2.06	2.99	1.49	5.05
Wayne	0.61	1.84	1.19	2.77	0.98	0.61	2.43
REGIONAL TOTALS	7.63	14.91	13.39	17.04	12.33	5.56	16.46
<u>Northeastern Region</u>							
Daggett	4.71	4.13	0.84	0.53	1.28	1.36	2.20
Duchesne	9.95	4.97	3.86	7.92	15.10	16.19	13.17
Uintah	16.60	5.82	3.40	7.13	14.70	29.37	14.23
REGIONAL TOTALS	13.26	14.92	8.10	15.58	31.08	46.93	29.61
<u>Southeastern Region</u>							
Carbon	4.84	3.46	4.22	6.96	9.98	9.60	4.90
Emery	3.51	3.69	4.05	4.68	5.47	6.98	4.69
Grand	1.32	0.62	1.68	2.96	2.79	2.15	5.99
San Juan	2.13	1.47	1.75	6.93	5.78	4.55	4.66
REGIONAL TOTALS	11.79	9.23	11.70	21.53	24.01	23.28	20.25
Unknown counties	0.59	0.14	0.03	0.19	2.28	0.84	0.00
Mixed counties	0.00	0.70	0.13	0.84	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100

Table 7. Percentage distribution of cottontail rabbit hunting pressure by region and county, 1978-84.

Region and County	Year						
	1978	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>							
Box Elder	11.05	11.92	15.90	10.75	8.04	7.73	7.77
Cache	1.13	1.37	0.90	1.50	0.88	0.79	0.72
Davis	0.58	0.29	0.20	0.55	0.15	0.29	0.21
Morgan	3.87	2.70	1.13	0.80	0.59	0.72	0.63
Rich	3.24	2.35	1.43	0.62	0.52	0.79	1.32
Summit	3.06	2.55	3.01	1.97	1.10	1.08	1.74
Weber	0.95	1.16	1.02	0.80	0.81	0.38	0.84
REGIONAL TOTALS	23.89	22.34	23.58	17.00	12.10	11.79	13.23
<u>Central Region</u>							
Juab	4.37	5.47	6.39	5.65	5.98	3.05	3.84
Salt Lake	1.89	1.66	0.98	0.84	1.51	1.25	2.67
Sanpete	1.73	3.79	4.10	1.32	1.61	2.03	1.74
Tooele	10.44	13.67	18.48	11.80	13.25	10.12	11.43
Utah	8.93	10.99	7.87	8.14	7.15	6.26	6.78
Wasatch	1.39	1.85	1.60	1.03	1.36	0.65	1.35
REGIONAL TOTALS	28.76	37.44	39.43	28.77	30.86	23.36	27.82
<u>Southern Region</u>							
Beaver	0.97	0.50	2.25	0.58	0.57	0.44	1.20
Garfield	0.81	0.47	0.27	1.56	0.51	0.61	0.57
Iron	1.89	1.65	1.17	2.49	1.57	1.22	1.26
Kane	0.66	0.93	0.90	1.17	0.28	0.93	0.96
Millard	2.22	3.77	4.30	5.06	4.64	2.73	4.20
Piute	0.29	0.92	0.59	0.43	0.30	0.14	0.18
Sevier	1.83	2.40	2.21	2.88	1.35	1.38	0.72
Washington	2.44	2.00	1.72	2.88	2.90	3.05	5.52
Wayne	1.05	1.64	1.17	1.48	1.03	0.75	1.29
REGIONAL TOTALS	12.17	14.28	14.58	18.52	13.14	11.25	15.91
<u>Northeastern Region</u>							
Daggett	3.56	1.97	0.82	0.68	1.38	1.45	1.89
Duchesne	6.67	5.24	4.08	6.31	10.33	8.93	8.34
Uintah	9.44	5.59	4.28	7.25	9.98	17.87	9.87
REGIONAL TOTALS	19.66	12.80	9.18	14.24	21.69	28.25	20.11
<u>Southeastern Region</u>							
Carbon	5.26	5.13	5.90	7.03	9.20	10.42	9.66
Emery	5.11	4.59	4.38	5.18	5.88	8.18	6.12
Grand	1.54	0.77	1.52	2.73	1.70	1.78	3.99
San Juan	1.86	1.63	1.35	5.34	2.93	4.09	3.15
REGIONAL TOTALS	13.77	12.11	13.16	20.28	19.70	24.46	22.93
Unknown counties	1.75	0.15	0.04	0.10	2.51	0.89	0.00
Mixed counties	0.00	0.88	0.04	1.09	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100

Table 8. Statewide summary of cottontail rabbit harvest statistics, 1967-84.

Year	Total Hunters	Total Harvest	Hunter-days Afield	Cottontails 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
1979	33,385	200,223	127,497	1.57	6.00
1980	25,156	127,652	87,051	1.47	5.07
1981	25,906	149,765	104,183	1.44	5.78
1982	26,714	156,696	105,644	1.48	5.87
1983	22,467	180,767	96,151	1.88	8.05
1984	18,616	14,007 ^{49,186}	15,510	0.90	3.72
<hr/>					
TOTALS (1967-84)	477,596	3,245,844	1,932,647	(27.52)	(115.11)
<hr/>					
AVERAGES (1967-83)	26,999	190,108	112,773	1.57	6.55
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Table 9. Cottontail rabbit field bag check summary, 1984.

Region and County	ALL HUNTS				COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Rabbits/100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Rabbits/100 Hr	Rabbits/Hunter
<u>Northern Region</u>									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS									
<u>Central Region</u>									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS									
<u>Southern Region</u>									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS									
<u>Northeastern Region</u>									
Daggett	2	5	15	16	2	5	15	16	107
Duchesne	3	5	4	4	2	4	3	3	100
Uintah	9	14	21	29	8	11	19	21	111
REGIONAL TOTALS									
	14	24	40	49	12	20	37	40	108
<u>Southeastern Region</u>									
Carbon	9	23	82	48	5	15	64	43	67
Emery	--	--	--	--	--	--	--	--	--
Grand	2	3	3	0	2	3	3	0	0.00
San Juan	7	14	22	11	3	6	16	8	1.33
REGIONAL TOTALS									
	18	40	107	59	10	24	83	51	61
STATE TOTALS									
	32	64	147	108	22	44	120	91	76

Table 10. Cottontail hunter success trend determined by field bag checks, 1979-84.

Region and County	1979		1980		1981		1982		1983		1984	
	Bag/100 Hr Hunter	Bag/Hunter	Bag/100 Hr Hunter	Bag/Hunter	Bag/100 Hr Hunter	Bag/Hunter	Bag/100 Hr Hunter	Bag/100 Hr Hunter	Bag/100 Hr Hunter	Bag/100 Hr Hunter	Bag/100 Hr Hunter	Bag/Hunter
<u>Northern Region</u>												
Box Elder	29	1.23	34	1.09	26	1.00	--	--	17	0.60	--	--
Cache	4	0.33	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	19	0.73	--	--	--	--	--	29	1.33	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	20	0.93	34	1.09	26	1.00	--	--	24	1.00	--	--
<u>Central Region</u>												
Juab	67	2.00	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	30	0.93	--	--	--	--	--	--	--	--	--	--
Tooele	134	4.25	--	--	--	--	--	--	--	--	--	--
Utah	80	2.00	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	79	2.41	--	--	--	--	--	--	--	--	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	386	3.86*	--	--	--	--	--	--	--	--
<u>Northeastern Region</u>												
Daggett	98	2.29	0	0.00	26	0.50	104	2.88	172	4.43	107	3.20
Duchesne	--	--	53	1.67	59	2.14	75	2.00	148	3.70	100	0.75
Uintah	--	--	--	--	53	1.00	101	2.22	225	6.75	111	1.91
REGIONAL TOTALS	98	2.29	29	0.55	49	1.58	98	2.30	173	4.50	108	2.00
<u>Southeastern Region</u>												
Carbon	--	--	36	1.00	--	--	94	1.78	--	--	67	2.87
Emery	--	--	25	0.25	114	3.60	33	0.88	--	--	--	--
Grand	50	0.50	--	--	44	--	--	--	--	--	0	0.00
San Juan	0	0.00	0	0.00	114	3.00	225	4.50	57	3.43	50	1.33
REGIONAL TOTALS	33	0.33	26	0.38	106	3.50	62	1.44	57	3.43	61	2.13
STATE TOTALS	65	1.85	33	0.66	49	1.52	85	1.99	106	3.07	76	2.06

*Cottontails per hunter based on all hunts.

SNOWSHOE HARE

Harvest

The tenth annual snowshoe hare hunting season was held statewide in 1984. Results of the 1984 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 1984 season compared to the season in 1983 and the average of the first nine hunts follow:

	<u>1984</u>	<u>Percent change from</u>	
		<u>1983</u>	<u>Average</u>
Snowshoe hare hunters	3,796	+7	-37
Snowshoe hares harvested	6,455	+2	-55
Hunter-days afield	10,840	-2	-40
Snowshoes per hunter-day	0.60	+5	-19
Snowshoes per hunter	1.70	-4	-25

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 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 between 1975 and 1976 suggest that this was accomplished, at least to a significant degree, but the relatively large harvest in counties outside of the snowshoe's range suggested continued confusion. Further refinement was made in the 1977 harvest questionnaire in an effort to more clearly define the snowshoe hare harvest.

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 have been more accurate.

Results of the 1984 questionnaire indicate a 7 percent increase in snowshoe hare hunters and a 2 percent increase in harvest compared to 1983.

It is unknown what proportion of the reported snowshoe harvest is actually whitetail jackrabbits incorrectly identified by the hunters. However, it is believed that identification has been improving as a result of efforts to educate the hunter on the differences between the various species of hares found in Utah.

Hopefully, the 1984 increase in hunters afield and harvest does not reflect inaccurate identification of the snowshoe, but rather an actual increase in hunter participation and harvest.

Table 11. Summary of snowshoe hare hunter success and distribution of harvest and hunting pressure by region and county, 1984.

Region and County	Sample Size*	Hunter-days Afield	Snowshoes Bagged	Snowshoe/Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	27	812	2,375	2.93	7.49	36.79
Cache	10	223	284	1.27	2.06	4.40
Davis	3	142	40	0.29	1.31	0.62
Morgan	4	142	20	0.14	1.31	0.31
Rich	5	243	142	0.58	2.24	2.20
Summit	16	832	507	0.61	7.68	7.85
Weber	7	263	81	0.31	2.43	1.25
REGIONAL TOTALS	72	2,659	3,451	1.30	24.53	53.46
<u>Central Region</u>						
Juab	6	121	40	0.33	1.12	0.62
Salt Lake	3	263	60	0.23	2.43	0.93
Sanpete	4	101	81	0.80	0.93	1.25
Tooele	10	385	263	0.68	3.55	4.07
Utah	14	629	446	0.71	5.80	6.91
Wasatch	20	730	324	0.44	6.73	5.02
REGIONAL TOTALS	57	2,233	1,218	0.55	20.60	18.87
<u>Southern Region</u>						
Beaver	1	142	0	0.00	1.31	0.00
Garfield	1	20	0	0.00	0.18	0.00
Iron	1	20	60	3.00	0.18	0.93
Kane	0	0	0	0.00	0.00	0.00
Millard	1	20	0	0.00	0.18	0.00
Piute	2	101	20	0.20	0.93	0.31
Sevier	4	142	0	0.00	1.31	0.00
Washington	0	0	0	0.00	0.00	0.00
Wayne	5	365	446	1.22	3.37	6.91
REGIONAL TOTALS	15	812	527	0.65	7.49	8.16
<u>Northeastern Region</u>						
Daggett	2	60	20	0.33	0.55	0.31
Duchesne	21	1,238	527	0.43	11.42	8.16
Uintah	22	1,705	345	0.20	15.73	5.34
REGIONAL TOTALS	45	3,004	893	0.30	27.71	13.83
<u>Southeastern Region</u>						
Carbon	13	1,745	223	0.13	16.10	3.45
Emery	8	324	60	0.19	2.99	0.93
Grand	1	20	0	0.00	0.18	0.00
San Juan	1	40	81	2.00	0.37	1.25
REGIONAL TOTALS	23	2,131	365	0.17	19.66	5.65
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	212	10,840	6,455	0.60	100	100

*Total hunter trips from questionnaire returns.

**Probable misidentification as snowshoe are not known to exist in this county.

Table 12. Summary of snowshoe hares bagged per hunter-day by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	0.55	0.82	0.43	0.31	0.27	2.93
Cache	0.50	0.32	0.46	0.62	0.53	1.27
Davis	1.50	0.00	0.25	0.00	0.00	0.29
Morgan	0.58	0.41	0.25	0.50	0.45	0.14
Rich	1.40	1.79	2.17	0.53	0.67	0.58
Summit	0.93	0.86	0.91	0.77	0.94	0.61
Weber	0.52	0.58	1.00	0.32	0.39	0.31
REGIONAL TOTALS	0.74	0.83	0.72	0.46	0.47	1.30
<u>Central Region</u>						
Juab	2.09	0.25	0.83	1.83	1.20	0.33
Salt Lake	0.20	0.67	1.00	0.20	0.00	0.23
Sanpete	1.11	0.87	0.84	0.97	0.48	0.80
Tooele	0.38	0.40	0.08	1.01	0.94	0.68
Utah	0.71	0.48	0.26	0.39	0.38	0.71
Wasatch	0.97	0.69	0.97	0.84	0.65	0.44
REGIONAL TOTALS	0.93	0.61	0.53	0.88	0.60	0.55
<u>Southern Region</u>						
Beaver	1.00	0.00	0.00	1.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.75	0.00	0.17	3.00
Kane	5.00	0.00	0.00	0.00	0.00	0.00
Millard	0.43	1.00	0.00	1.00	0.00	0.00
Piute	1.25	0.00	0.00	0.50	1.45	0.20
Sevier	0.96	0.41	0.29	0.75	0.36	0.00
Washington	4.00	0.00	0.00	0.00	1.00	0.00
Wayne	2.05	1.17	2.00	0.58	0.81	1.22
REGIONAL TOTALS	1.27	0.45	0.62	0.65	0.67	0.65
<u>Northeastern Region</u>						
Daggett	0.46	0.25	0.00	0.47	0.60	0.33
Duchesne	0.53	0.14	0.67	0.79	0.89	0.43
Uintah	1.00	0.63	0.34	0.58	0.61	0.20
REGIONAL TOTALS	0.60	0.33	0.51	0.67	0.69	0.30
<u>Southeastern Region</u>						
Carbon	0.70	1.22	0.34	1.32	0.10	0.13
Emery	0.59	0.70	0.71	1.28	0.59	0.19
Grand	0.00	0.00	1.00	3.00	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	2.00
REGIONAL TOTALS	0.63	0.83	0.43	1.30	0.36	0.17
Unknown counties	0.00	0.00	2.33	0.81	0.65	0.00
Mixed counties	2.00	0.20	0.78	0.00	0.00	0.00
STATE TOTALS	0.81	0.68	0.61	0.71	0.57	0.60

Table 13. Percentage distribution of snowshoe hare harvested by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	7.58	11.86	5.80	5.63	5.30	36.79
Cache	5.68	3.80	6.63	2.15	4.87	4.40
Davis	1.50	0.00	0.55	0.00	0.00	0.62
Morgan	7.88	4.03	0.55	2.32	2.75	0.31
Rich	9.77	20.81	7.18	2.98	2.11	2.20
Summit	18.15	15.66	17.40	5.96	7.00	7.85
Weber	2.69	1.57	3.59	1.49	1.90	1.25
REGIONAL TOTALS	53.24	57.72	41.70	20.53	23.93	53.46
<u>Central Region</u>						
Juab	2.29	0.44	1.38	7.28	1.27	0.62
Salt Lake	0.20	2.24	1.93	0.33	0.00	0.93
Sanpete	8.13	7.38	4.42	4.64	2.54	1.25
Tooele	0.90	2.69	0.28	13.74	10.17	4.07
Utah	2.99	4.70	4.97	3.48	6.36	6.91
Wasatch	9.07	9.40	7.74	7.62	4.67	5.02
REGIONAL TOTALS	23.63	26.85	20.72	37.09	25.01	18.87
<u>Southern Region</u>						
Beaver	0.10	0.00	0.00	0.33	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.83	0.00	0.21	0.93
Kane	0.50	0.00	0.00	0.00	0.00	0.00
Millard	0.30	0.22	0.00	0.17	0.00	0.00
Piute	1.00	0.00	0.00	0.33	3.38	0.31
Sevier	4.99	2.46	1.38	0.50	1.68	0.00
Washington	0.80	0.00	0.00	0.00	0.84	0.00
Wayne	3.89	1.57	2.21	1.16	4.67	6.91
REGIONAL TOTALS	11.57	4.25	4.42	2.48	10.78	8.16
<u>Northeastern Region</u>						
Daggett	1.30	0.67	0.00	1.32	0.63	0.31
Duchesne	2.39	0.67	14.09	13.91	11.66	8.16
Uintah	1.69	2.24	5.80	10.43	19.09	5.34
REGIONAL TOTALS	5.38	3.58	19.89	25.66	31.39	13.83
<u>Southeastern Region</u>						
Carbon	2.59	2.46	3.59	5.46	0.84	3.45
Emery	2.59	4.25	1.38	6.13	5.73	0.93
Grand	0.00	0.00	0.55	0.50	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	1.25
REGIONAL TOTALS	5.18	6.71	5.52	12.09	6.57	5.65
Unknown counties	0.00	0.00	1.93	2.15	2.33	0.00
Mixed counties	1.00	0.90	5.80	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 14. Percentage distribution of snowshoe hare hunting pressure by region and county, 1979-84.

Region and County	Year					
	1979	1980	1981	1982	1983	1984
<u>Northern Region</u>						
Box Elder	11.20	9.92	8.21	12.66	11.21	7.49
Cache	9.19	8.09	8.71	2.46	5.19	2.06
Davis	0.81	0.76	1.34	0.59	0.00	1.31
Morgan	10.96	6.72	1.34	3.28	3.49	1.31
Rich	5.64	7.94	2.01	3.99	1.80	2.24
Summit	15.79	12.37	11.56	5.51	4.22	7.68
Weber	4.19	1.83	2.18	3.28	2.77	2.43
REGIONAL TOTALS	57.78	47.63	35.34	31.77	28.68	24.53
<u>Central Region</u>						
Juab	0.89	1.22	1.01	2.81	0.60	1.12
Salt Lake	0.81	2.29	1.17	1.17	0.36	2.43
Sanpete	5.96	5.80	3.18	3.40	3.01	0.93
Tooele	1.93	4.58	2.01	9.61	6.15	3.55
Utah	3.38	6.72	11.56	6.33	9.64	5.80
Wasatch	7.57	9.31	4.86	6.45	4.10	6.73
REGIONAL TOTALS	20.55	29.92	23.79	29.78	23.86	20.60
<u>Southern Region</u>						
Beaver	0.08	1.22	0.00	0.23	0.12	1.31
Garfield	0.08	0.00	0.00	0.00	0.12	0.18
Iron	0.00	0.00	0.67	0.00	0.72	0.18
Kane	0.08	0.00	0.00	0.00	0.00	0.00
Millard	0.56	0.15	0.17	0.12	0.48	0.18
Piute	0.64	0.00	0.00	0.47	1.33	0.93
Sevier	4.19	4.12	2.85	0.47	2.65	1.31
Washington	0.16	0.00	0.00	0.00	0.48	0.00
Wayne	1.53	0.92	0.67	1.41	3.26	3.37
REGIONAL TOTALS	7.33	6.41	4.36	2.70	9.15	7.49
<u>Northeastern Region</u>						
Daggett	2.26	1.83	0.50	1.99	0.60	0.55
Duchesne	3.63	3.21	12.73	12.54	7.48	11.42
Uintah	1.37	2.44	10.39	12.78	17.72	15.73
REGIONAL TOTALS	7.25	7.48	23.62	27.32	25.80	27.71
<u>Southeastern Region</u>						
Carbon	2.98	1.37	6.37	2.93	4.82	16.10
Emery	3.55	4.12	1.17	3.40	5.55	2.99
Grand	0.00	0.00	0.34	0.12	0.00	0.18
San Juan	0.08	0.00	0.00	0.12	0.12	0.37
REGIONAL TOTALS	6.61	5.50	7.87	6.57	10.48	19.66
Unknown counties	0.08	0.00	0.50	1.88	2.05	0.00
Mixed counties	0.40	3.05	4.52	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 15. Statewide summary of snowshoe hare harvest statistics, 1975-84.

Year	Total Hunters	Total Harvest	Hunters-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
1979	6,787	14,641	18,115	0.81	2.16
1980	4,048	7,603	11,140	0.68	1.88
1981	3,554	7,750	12,782	0.61	2.18
1982	4,245	9,257	13,073	0.71	2.18
1983	3,544	6,302	11,088	0.57	1.78
1984	3,796	6,455	10,840	0.60	1.70
TOTALS (1975-84)	58,394	135,347	173,865	(7.30) 0.78	(22.12) 2.32
AVERAGES (1975-83)	6,066	14,321	18,114	0.74	2.27

A P P E N D I X

Table 1. Comparison of 1984 monthly average temperatures (°F) to the normal for each weather division and statewide.

Weather Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No. 1 WESTERN												
Normal	26.9	32.7	38.7	47.0	56.5	65.7	74.4	72.0	62.4	50.5	37.2	28.4
1984	18.4	22.7	36.7	44.5	58.7	63.3	73.5	72.1	62.5	45.2	37.6	24.0
Departure (degrees)	-8.5	-10.0	-2.0	-2.5	+2.2	-2.4	-0.9	+0.1	+0.1	-5.3	+0.4	-4.4
No. 2 DIXIE												
Normal	38.7	43.9	48.8	56.4	65.4	75.2	82.0	79.7	72.6	61.5	47.8	39.8
1984	39.9	43.0	52.4	55.8	72.2	75.4	82.1	79.5	74.0	54.7	47.3	40.1
Departure (degrees)	+1.2	-0.9	+3.6	-0.6	+6.8	+0.2	+0.1	-0.2	+1.4	-6.8	-0.5	+0.3
No. 3 NORTH CENTRAL												
Normal	27.0	31.9	38.6	47.4	57.1	65.9	74.6	72.2	63.1	51.3	38.0	28.9
1984	19.6	22.1	35.6	44.7	58.5	63.3	73.5	72.5	62.0	45.4	38.6	25.9
Departure (degrees)	-7.4	-9.8	-3.0	-2.7	+1.4	-2.6	-1.1	+0.3	-1.1	-5.9	+0.6	-3.0
No. 4 SOUTH CENTRAL												
Normal	27.1	31.6	37.0	44.9	54.0	63.1	70.4	68.0	60.2	49.8	37.1	28.8
1984	23.7	28.3	36.4	42.5	58.6	61.9	70.4	68.7	61.5	43.6	37.4	27.1
Departure (degrees)	-3.4	-3.3	-0.6	-2.4	+4.6	-1.2	0.0	+0.7	+1.3	-6.2	+0.3	-1.7
No. 5 NORTHERN MOUNTAINS												
Normal	21.2	24.7	30.6	40.0	49.6	57.6	65.3	63.1	55.0	44.9	32.0	23.6
1984	14.9	19.4	29.8	37.4	51.7	56.5	65.3	64.5	55.1	38.5	31.3	20.6
Departure (degrees)	-6.3	-5.3	-0.8	-2.6	+2.1	-1.1	0.0	+1.4	+0.1	-6.4	-0.7	-3.0
No. 6 UINTAH BASIN												
Normal	17.2	24.1	35.5	46.2	56.2	64.9	72.1	69.3	60.3	48.5	33.5	21.2
1984	6.1	12.5	31.3	44.3	59.0	63.2	73.2	70.8	60.8	44.5	34.2	18.9
Departure (degrees)	-11.1	-11.6	-4.2	-1.9	+2.8	-1.7	+1.1	+1.5	+0.5	-4.0	+0.7	-2.3
No. 7 SOUTHEAST												
Normal	27.0	33.8	41.0	50.2	59.8	69.7	76.6	73.8	65.4	53.7	39.5	29.3
1984	23.8	31.1	41.7	47.7	65.1	68.9	77.3	75.1	67.4	48.5	40.0	31.6
Departure (degrees)	-3.2	-2.7	+0.7	-2.5	+5.3	-0.8	+0.7	+1.3	+2.0	-5.2	+0.5	+2.3
STATE AVERAGES												
Normal	26.4	31.8	38.6	47.4	56.9	66.0	73.6	71.2	62.7	51.5	37.9	28.6
1984	20.9	25.6	37.7	45.3	60.5	64.6	73.6	71.9	63.3	45.8	38.1	26.9
Departure (degrees)	-5.5	-6.2	-0.9	-2.1	+3.6	-1.4	0.0	+0.7	+0.6	-5.7	+0.2	-1.7

Table 2. Comparison of 1984 monthly average precipitation to the normal for each weather division and statewide.

Weather Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No. 1 WESTERN												
Normal	0.59	0.57	0.74	0.81	0.91	0.67	0.63	0.72	0.55	0.65	0.62	0.54
1984	0.38	0.47	0.92	1.22	0.39	1.07	2.14	2.08	0.49	1.12	0.40	0.68
Departure (inches)	-0.21	-0.10	+0.18	+0.41	-0.52	+0.40	+1.51	+1.36	-0.06	+0.47	-0.22	+0.14
No. 2 DIXIE												
Normal	1.35	1.36	1.42	0.82	0.66	0.36	0.78	1.01	0.76	0.78	0.99	0.96
1984	0.23	0.18	0.94	0.21	0.02	0.32	2.77	1.50	0.89	0.85	0.82	3.02
Departure (inches)	-1.12	-1.18	-0.48	-0.61	-0.64	-0.04	+1.99	+0.49	+0.13	+0.07	-0.17	+2.06
No. 3 NORTH CENTRAL												
Normal	1.56	1.39	1.60	1.96	1.60	1.19	0.65	0.95	0.99	1.31	1.34	1.41
1984	0.65	1.33	1.41	3.12	1.17	2.74	1.92	1.35	1.93	2.73	1.99	1.14
Departure (inches)	-0.91	-0.06	-0.19	+1.16	-0.43	+1.55	+1.27	+0.40	+0.94	+1.42	+0.65	-0.27
No. 4 SOUTH CENTRAL												
Normal	1.09	1.06	1.15	1.04	0.94	0.54	0.96	1.31	1.00	0.92	0.98	0.97
1984	0.45	0.85	1.46	1.18	0.35	1.61	2.17	2.09	0.55	1.85	0.59	1.57
Departure (inches)	-0.64	-0.21	+0.31	+0.14	-0.59	+1.07	+1.21	+0.78	-0.45	-0.93	-0.39	+0.60
No. 5 NORTHERN MOUNTAINS												
Normal	2.16	1.92	1.89	1.88	1.54	1.17	0.88	1.23	1.15	1.45	1.62	1.98
1984	0.61	1.12	1.50	2.27	1.33	2.74	2.08	1.79	2.37	2.99	2.81	1.89
Departure (inches)	-1.55	-0.80	-0.39	+0.39	-0.21	+1.57	+1.20	+0.56	+1.22	+1.54	+1.19	-0.09
No. 6 UINTAH BASIN												
Normal	0.51	0.45	0.57	0.68	0.78	0.72	0.58	0.81	0.71	0.87	0.54	0.61
1984	0.20	0.40	0.41	0.75	0.22	1.16	1.42	0.90	0.86	1.06	0.36	1.08
Departure (inches)	-0.31	-0.05	-0.16	+0.07	-0.56	+0.44	+0.84	+0.09	+0.15	-0.19	-0.18	+0.47
No. 7 SOUTHEAST												
Normal	0.72	0.61	0.64	0.61	0.67	0.40	0.77	1.05	0.78	1.09	0.73	0.74
1984	0.32	0.31	0.60	1.01	0.08	1.24	1.26	1.26	0.53	2.00	0.27	1.33
Departure (inches)	-0.40	-0.30	-0.04	+0.40	-0.59	+0.84	+0.49	+0.21	-0.25	+0.91	-0.46	+0.59
STATE AVERAGES												
Normal	1.14	1.05	1.14	1.11	1.01	0.72	0.75	1.01	0.85	1.01	0.97	1.03
1984	0.41	0.67	1.03	1.39	0.51	1.55	1.97	1.57	1.09	1.80	1.03	1.53
Departure (inches)	-0.73	-0.38	-0.11	+0.28	-0.50	+0.83	+1.22	+0.56	+0.24	+0.79	+0.06	+0.50

CLIMATIC REPORTING DIVISIONS AND SELECTED CLIMOGRAPHS

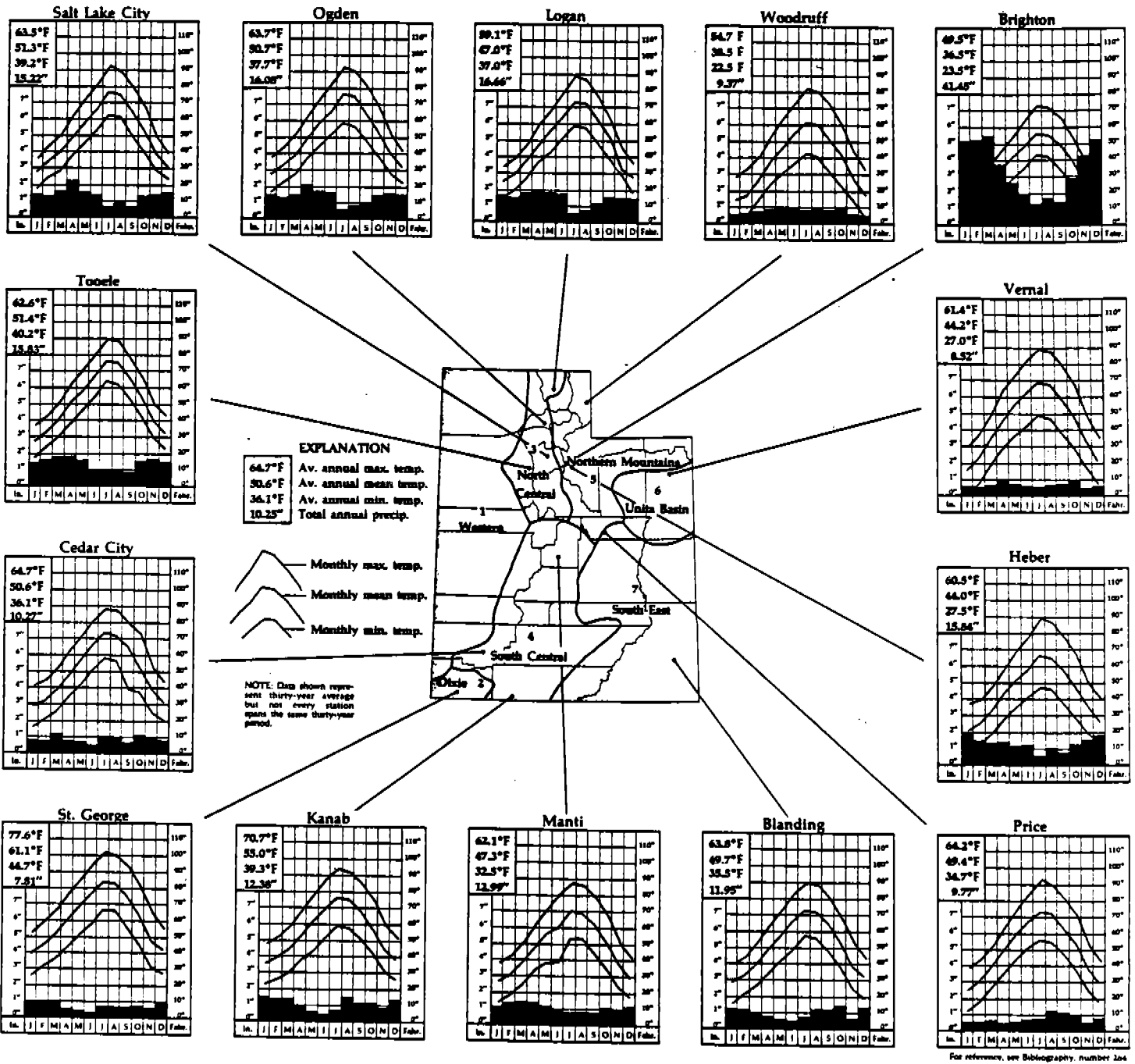


Figure 1. Climographs for selected reporting stations in Utah. Temperatures and precipitation are 30-year averages. Figure is from the Office of Utah State Climatologist. Utah State University, UMC 48, Logan, Utah 84322.

UTAH'S
PRECIPITATION
TRENDS FOR
THE WATER YEARS
1973-74
THROUGH
1983-84

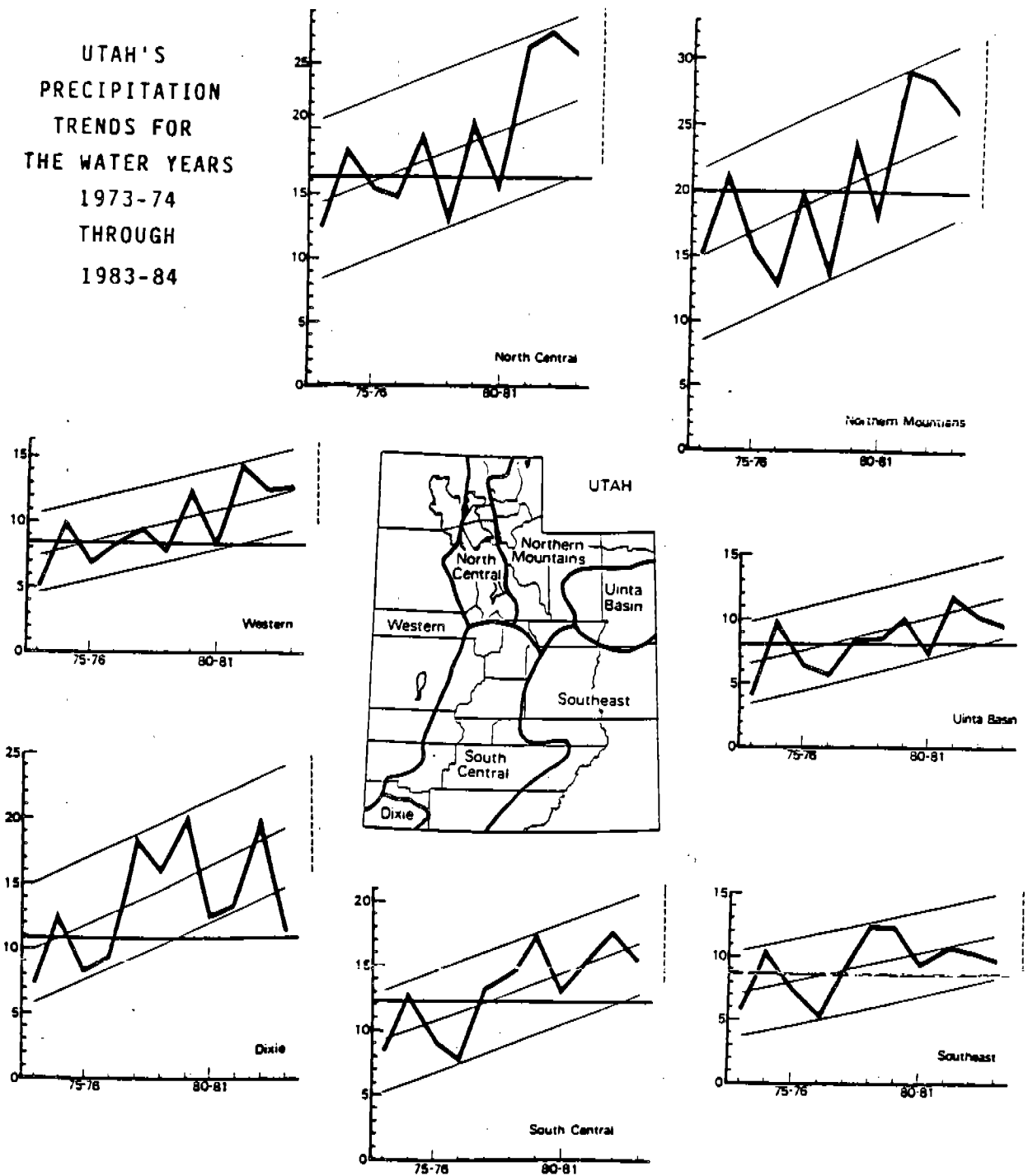


Figure 2. The heavy solid lines connect water-year precipitation accumulations for the period 1973-74 through 1983-84. The heavy horizontal lines indicate the normal precipitation values for the divisions. In addition, there are three fine, solid lines on each graph: the center one is a trend line and the other two are straight lines drawn parallel to the trend lines but far enough removed to enclose all of the precipitation values except for last year's value in the Dixie Division. The broken vertical lines at the right ends of the trend lines show the probable range of values for the 1984-85 water year, assuming that the present trend of wet years continues.

Table 3. Number and percent of total upland game hunters afield who reported hunting each game species during 1979-84.

Species	Number of Hunters					Percent of Total						
	1979	1980	1981	1982	1983	1984	1979	1980	1981	1982	1983	1984
Pheasant	87,462	84,868	83,408	85,368	77,847	76,840	83.4	84.7	86.7	87.4	85.9	86.9
Chukar	15,210	15,100	12,907	11,326	10,418	9,846	14.5	15.1	13.4	11.6	11.5	11.1
Mourning dove	34,903	32,627	30,060	31,756	28,258	30,573	33.3	32.6	31.2	32.5	31.2	34.6
Sage grouse	16,927	15,219	10,083	8,997	9,201	8,283	16.1	15.2	10.5	9.2	10.2	9.4
Forest grouse	21,993	19,511	14,329	12,384	13,414	11,511	21.0	19.5	14.9	12.7	14.8	13.0
Quail	5,632	4,156	4,946	4,368	4,012	3,654	5.4	4.1	5.1	4.5	4.4	4.1
Hungarian partridge	3,435	3,359	3,545	2,590	2,889	1,523	3.3	3.4	3.7	2.7	3.2	1.7
Wild turkey**	126*	70*	115*	23	118*	255*	0.1	0.1	0.1	0.02	0.1	0.3
Sharp-tailed grouse**	156	--	--	--	--	--	0.1	--	--	--	--	--
Band-tailed pigeon**	62	62	67	51	--	--	0.1	0.1	0.1	0.1	--	--
Ptarmigan	--	--	--	19	13	20	--	--	--	0.02	0.01	0.02
Cottontail rabbit	33,385	25,156	25,906	26,714	22,467	18,616	31.8	25.1	26.9	27.3	24.8	21.1
Snowshoe hare	6,787	4,048	3,554	4,245	3,544	3,796	6.5	4.0	3.7	4.3	3.9	4.3
TOTAL HUNTERS***	104,834	100,164	96,196	97,705	90,592	88,431						

*Includes both spring and fall hunts.

**Although wild turkey, band-tailed pigeon, ptarmigan and sharp-tailed grouse 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.

***Note: the columns do not total. This is due to the fact that many upland game hunters hunted more than one species.

Table 4. Percent of hunter trips resulting in failure to bag at least one bird, 1961-84.

Year	Pheasant			Dove			Chukar			Sage Grouse			Forest Grouse			Quail			Huns.		
	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%	U Bag	Hunt. Trips	%
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	47	188	281	71	305	23	59	177	33	
1964	911	3,115	29	60	681	9	266	568	47	45	154	29	144	229	94	316	30	62	150	41	
1965	1,165	4,009	29	--	--	--	486	851	57	82	168	49	225	311	128	371	34	93	233	40	
1966	1,242	4,297	29	136	1,067	13	423	881	48	54	131	41	133	331	106	315	34	63	219	29	
1967	1,353	4,833	28	153	1,319	12	477	915	52	138	266	52	194	475	161	424	38	116	315	37	
1968	1,422	5,223	27	236	1,312	18	495	1,095	45	185	449	41	177	605	171	457	37	132	347	38	
1969	1,897	5,335	36	214	1,568	14	647	1,250	52	241	648	37	273	646	182	465	39	148	292	51	
1970	1,546	4,686	33	193	1,274	15	466	962	48	257	603	43	209	666	126	314	40	101	210	48	
1971	1,783	5,049	35	210	1,333	16	464	934	50	234	625	37	223	673	162	385	42	87	210	41	
1972	1,743	4,617	38	270	1,421	19	457	827	55	259	593	44	271	794	154	339	45	120	224	54	
1973	1,659	4,699	35	209	1,596	13	414	824	50	226	553	41	329	794	128	311	41	97	196	49	
1974	2,347	5,323	44	323	1,951	17	511	955	54	292	668	44	388	1,259	157	333	47	108	227	48	
1975	2,472	5,604	44	329	2,554	13	607	1,105	55	374	901	42	535	1,354	177	406	44	121	220	55	
1976	1,739	4,294	40	273	1,709	16	408	781	52	259	783	33	371	1,131	105	266	39	87	184	47	
1977	1,874	5,175	36	295	1,967	15	511	943	54	397	972	41	528	1,388	125	299	42	106	247	43	
1978	1,507	4,858	31	279	1,986	14	343	882	39	301	853	35	419	1,419	103	306	34	85	246	35	
1979	2,222	7,024	32	343	2,671	13	528	1,150	46	400	1,215	33	585	1,691	130	403	32	119	243	49	
1980	1,684	5,867	29	258	2,145	12	458	1,008	45	392	944	42	501	1,283	87	254	34	75	206	36	
1981	1,305	4,637	28	239	1,558	15	302	669	45	184	493	37	297	741	97	241	40	57	172	33	
1982	1,768	6,725	26	363	2,338	16	406	824	49	269	620	43	325	919	128	292	44	89	176	51	
1983	1,645	7,153	23	348	2,381	15	362	880	41	294	729	40	300	1,118	105	310	34	82	225	36	
1984	1,245	4,643	27	274	1,711	16	287	548	52	202	435	46	270	640	84	189	44	51	76	67	

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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	Miles	Hours
<u>Chukar</u>																
1971	182	82	929	130	1,103	100	636	50	496	105			3,346	468		
1972	712	91	1,423	131	950	37	1,012	69	984	58			5,081	386		
1973	1,063	119	1,494	167	72	10	705	48	702	68			4,036	363		
1974	125	31	1,591	107	564	43	440	30	1,115	67			3,835	278		
1975	188	30	808	85	892	41	908	88	786	55			3,582	299		
1976	875	75	964	110	465	32	727	67	687	66			3,718	350		
1977	405	50	1,198	120	601	37	600	71	429	44			3,233	322		
1978	359	28	459	42	135	14	315	23	536	52			1,804	159		
1979	546	54	793	76	415	22	293	23	267	14			2,314	199		
1980	283	68	1,668	124	235	12	0	0	53	10			2,239	214		
1981	330	56	591	49	147	11	245	21	260	32			1,573	169		
1982	473	34	571	56	475	35	260	37	101	9			1,880	171		
1983	17	15	190	17	20	2	488	44	103	7			818	85		
1984	654	81	303	32	--	--	--	--	118	16			1,075	129		
<u>Forest Grouse</u>																
1971	1,201	240	785	173	796	249	794	77	440	89			4,016	828		
1972	1,370	212	804	103	214	260	1,346	140	351	82			4,085	797		
1973	627	127	917	105	296	429	949	147	761	72			3,550	880		
1974	967	152	924	157	157	461	1,090	99	1,574	133			4,712	1,002		
1975	1,194	199	1,287	160	775	629	1,474	136	1,476	135			6,206	1,259		
1976	1,516	351	1,503	216	427	271	1,108	140	1,127	134			5,681	1,112		
1977	737	132	1,317	162	610	286	1,040	135	1,079	128			4,783	843		
1978	1,300	297	1,171	129	432	219	1,083	147	626	114			4,612	906		
1979	746	344	1,312	177	714	275	729	107	435	42			3,936	945		
1980	577	201	1,260	158	160	230	502	74	266	39			2,765	702		
1981	688	147	958	147	575	295	835	120	184	29			3,240	738		
1982	506	74	1,488	157	--	354	742	111	--	--			2,736	696		
1983	1,049	218	1,180	93	459	80	636	93	--	20			3,324	504		
1984	615	157	364	30	230	78	--	--	--	40			1,209	305		

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
Sage Grouse														
1971	1,743	296	909	145	1,423	98	1,465	144	1,089	128	6,629	812		
1972	1,628	323	1,187	143	751	144	2,125	170	1,280	141	6,971	921		
1973	3,146	353	927	147	1,171	116	1,952	238	496	41	7,692	895		
1974	2,026	321	1,551	115	1,881	193	2,964	248	887	124	9,299	1,001		
1975	1,254	249	963	123	714	226	1,868	236	1,098	131	5,897	965		
1976	1,965	281	426	121	379	183	1,881	227	1,222	161	5,873	973		
1977	1,966	305	1,370	133	465	157	1,995	215	928	116	6,724	926		
1978	1,408	267	541	124	490	152	1,616	226	879	97	4,934	866		
1979	1,051	150	700	132	563	143	1,719	203	279	20	4,312	648		
1980	1,003	218	806	150	518	94	1,471	184	278	30	4,076	676		
1981	619	194	691	99	285	57	771	163	377	39	2,743	552		
1982	1,669	169	762	92	454	83	862	116	--	--	3,747	460		
1983	610	158	720	164	284	51	992	125	108	10	2,714	508		
1984	1,411	278	283	82	289	54	530	95	151	17	2,664	526		
Hungarian Partridge														
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		
1979	440	27	37	3	--	--	--	--	--	--	477	30		
1980	250	55	50	6	--	--	--	--	--	--	300	61		
1981	270	23	65	3	--	--	--	--	--	--	330	26		
1982	324	39	--	--	--	--	--	--	--	--	324	39		
1983	0	60	--	--	--	--	--	--	--	--	0	60		
1984	815	221	--	--	--	--	--	--	--	--	815	221		

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
<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		
1979	--	--	--	--	--	--	--	--	190	14	190	14		
1980	--	--	--	--	--	--	--	--	--	--	--	--		
1981	--	--	--	--	--	--	--	--	--	--	--	--		
1982	--	--	--	--	--	--	--	--	--	--	--	--		
1983	--	--	--	--	--	--	--	--	--	--	--	--		
1984	--	--	--	--	--	--	--	--	--	--	--	--		
<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	--		
1979	270	--	264	--	1,174	--	388	--	390	--	2,486	--		
1980	90	--	265	--	655	--	359	--	540	--	1,909	--		
1981	270	--	270	--	903	--	400	--	580	--	2,423	--		
1982	240	--	240	--	722	--	298	--	602	--	2,102	--		
1983	90	--	90	--	822	--	340	--	590	--	1,932	--		
1984	--	--	177	--	356	--	340	--	196	--	1,069	--		

Table 6. Season framework for upland game during 1984.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Pheasant	Nov. 3-11	2 cocks	4 cocks	Statewide
	Nov. 3-16	2 cocks	4 cocks	Box Elder, Cache, Davis and Weber counties.
	Nov. 3-18	2 cocks	4 cocks	Duchesne and Uintah counties.
	Nov. 3-Dec. 2	2 cocks	4 cocks	All state and federal lands (subject to restrictions and closures imposed by administering agencies) in Carbon, Duchesne, Emery, Grand, Juab, San Juan, Sanpete, Tooele, and Uintah counties; and that portion of Wayne County east of Capitol Reef National Park; and Bear River National Wildlife Refuge.
Mourning dove	Sept. 1-30	15	30	Statewide.
Band-tailed pigeon	Sept. 1-30	5	10	Beaver, Garfield, Grand, Iron, Kane, Millard, Piute, San Juan, Sevier, Washington and Wayne counties.
Chukar	Sept. 15, 1984-Jan. 31, 1985	5	10	Statewide except as noted below.
	Sept. 15-Nov. 30	5	10	Cache, Daggett, Duchesne, Morgan, Rich, Sanpete, Summit, Uintan, Wasatch and Weber counties, Davis County except Antelope Island and those portions of the following counties lying east of Interstate 15: Box Elder, Juab, Salt Lake and Utah counties.

Table 6 (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Sage grouse	Sept. 15-23	3	6	Beaver, Garfield, Iron, Kane, Piute, Sevier, and Wayne counties.
	Sept. 15-21	2	4	Box Elder (part), Daggett, Duchesne (part), Grand (part), Uintah, and Wasatch (part).
	Sept. 15-21	1	2	Box Elder (part), Cache, Morgan, Rich, Summit, Wasatch (part) and Weber counties.

The following counties were closed to sage grouse hunting during 1984:

				Carbon, Davis, Emery, Grand (part), Juab, Millard, Salt Lake, San Juan, Sanpete, Tooele, Utah, Wasatch (part), and Washington.
Forest grouse	Sept. 15- Nov. 30	4 (aggregate)	8 (aggregate)	Statewide.
Quail	Nov. 3-11	5	10	Statewide except Duchesne, Morgan, Summit, Uintah and Washington counties.
	Nov. 3-18	5	10	Duchesne and Uintah counties.
	Nov. 3-Dec. 31	8	16	Washington County.

Morgan and Summit counties were closed to quail hunting in 1984.

Hungarian partridge	Sept. 15, 1984- Jan. 31, 1985	5	10	Part of Box Elder County.
	Sept. 15-Nov. 30	5	10	Cache, Davis, Juab, Morgan, Rich, Summit, Tooele and Weber counties. Parts of Box Elder and Salt Lake counties.

Table 6 (continued)

Species	Season Dates	Daily Bag Possession		Area Open
		Limit	Limit	
Wild turkey				
Spring hunt	Apr. 28- May 20	Season limit 1 male turkey		Garfield, Grand, Iron, Kane, Washington (part), Wayne and San Juan (part) counties.
Fall hunt	Sept. 15-30	Season limit 1 turkey of either sex		Iron, Kane, Wayne, Washington (part) and Garfield (part) counties.
Washington County, west of I-15 was closed in an emergency action to protect transplanted turkeys on the Pine Valley Mountains.				
Ptarmigan	Sept. 8- Oct. 16	4	4	Summit (part) and Duchesne (part) counties.
Snowshoe hare	Sept. 15, 1984- Jan. 31, 1985	5	10	Statewide.
Cottontail rabbit	Sept. 15, 1984- Jan. 31, 1985	10	20	Statewide except Box Elder (part), Cache, Davis, Morgan, Rich, Summit and Weber counties.
	Sept. 15, 1984- Jan. 31, 1985	5	10	Box Elder (part), Cache, Davis, Morgan, Rich, Summit and Weber counties.

Table 7. Summary of upland game harvest questionnaire returns, 1962-1984

Year	Questionnaires Mailed	Total Returns	Percent	Useable Returns	Percent	Percent of Licensees who did not hunt
1962	10,068	4,122	41.0	3,433	34.0	22.0
1963	11,058	5,062	46.0	4,325	39.0	21.0
1964	10,718	4,840	45.0	4,180	39.0	23.0
1965	11,917	6,232	53.0	--	--	34.0
1966	13,131	5,734	43.7	5,734	43.7	34.6
1967	12,012	5,764	48.0	5,764	48.0	25.1
1968	14,068	6,138	43.6	6,138	43.6	25.6
1969	15,036	6,429	42.8	6,429	42.8	28.0
1970	14,730	6,639	45.1	6,639	45.1	38.8
1971	15,149	--	43.2	--	--	--
1972	15,272	--	--	6,399	41.9	--
1973	17,572	--	--	7,999	45.5	--
1974	27,379	9,157	38.6	8,027	29.3	--
1975	26,657	10,880	40.8	9,132	34.3	--
1976	21,250	7,889	37.1	6,226	29.3	--
1977	20,984	9,329	44.5	8,099	38.6	--
1978	24,733	7,575	30.6	6,529	26.4	--
1979	27,616	10,498	38.0	9,274	33.6	26.4
1980	27,952	9,857	35.3	8,496	30.4	33.1
1981	13,925	7,941	57.0	6,367	45.4	31.4
1982	22,609	10,167	45.0	8,734	38.6	27.0
1983	23,430	10,324	44.1	9,497	40.5	28.7
1984	12,026	6,455	57.2	6,324	56.0	31.1

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