

UTAH UPLAND GAME
Annual Report
1986



CLARK BRONSON

Utah Department of Natural Resources
Division of Wildlife Resources

87-8

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

Annual Report

1986

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Utah Department of Natural Resources

DIVISION OF WILDLIFE RESOURCES

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William H. Geer
Director

TABLE OF CONTENTS

	<u>Page</u>
Abstract	1
Objectives	1
Procedures	1
Recommendations	2
Introduction	3
Pheasants	11
Migratory Upland Game Birds	32
Mourning Dove	33
Band-tailed Pigeon	50
Chukar Partridge	53
Sage Grouse	70
Forest Grouse	96
Quail	118
Hungarian Partridge	132
Wild Turkey	148
Sharp-tailed Grouse	170
White-tailed Ptarmigan	172
Rabbits and Hares	180
Cottontail Rabbit	181
Snowshoe Hare	196
Appendix	202

JOB PERFORMANCE REPORT
RESEARCH PROJECT SEGMENT
(Inventory)

State: U T A H Project Title: Statewide Wildlife
Management Inventory
Project No.: W-65-R-35 Job Title: Statewide Upland Game
Inventory and Management
Job No.: A-4

Period Covered: December 15, 1985 to April 30, 1987

Abstract: This report includes upland game inventory and harvest data relating to the 1986-87 hunting seasons. Results of annual inventory and harvest surveys and long-term trends of indices derived by each method are included. Data obtained in 1986 are compared to 1985 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, 1985 through February 10, 1986, 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 1985 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 10.3 percent sample of eligible licensees from the current year's (1986) resident small game license file and 1986 combination license file was selected for the game bird and rabbit and hare questionnaire. Ptarmigan permittees were contacted and surveyed by telephone. 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 1986 a computerized pull apart mailer was again used to obtain harvest data. Data input and storage was entered on tape. This method was initiated in 1981.

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 sixteenth 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 1986, a total of 71,300 Utah sportsmen spent 438,892 days afield in pursuit of various upland game species (Table 1). The harvest of upland game totaled 452,636 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 1986 upland game hunting seasons are shown in Appendix Table 6.



Table 1. Summary of harvest statistics from the mail questionnaire for 1986.

Species	Hunters Afield	Total Harvest	Hunter Days	Bag per Hunter-day	Bag/Hunter For Season
Pheasant	59,987	114,389	207,346	0.55	1.91
Mourning dove	26,583	226,985	87,084	2.61	8.54
Chukar partridge	9,387	25,346	31,672	0.80	2.70
Sage grouse	7,233	11,766	13,992	0.84	1.63
Forest grouse	12,117	23,718	30,312	0.78	1.96
Quail	2,432	4,574	6,326	0.72	1.88
Hungarian partridge	1,257	1,627	2,843	0.57	1.30
Wild turkey					
spring	335	43	1,054	0.04	0.13
fall	--	--	--	--	--
Band-tailed pigeon	--	--	--	--	--
Sharp-tailed grouse	0	0	0	--	--
Ptarmigan	14	8	28	0.28	0.57
Cottontail	13,992	40,636	48,694	0.83	2.90
Snowshoe	3,277	3,544	9,541	0.37	1.08
TOTAL	--	452,636	438,892	--	--

Total hunters afield for all species of upland game = 71,300

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 11,103 upland game bird questionnaires, a 10.3 percent sample, were mailed. Of the total, 572 (5.2%) questionnaires were undeliverable. Of the 10,531 questionnaires delivered, 5,256 (50%) usable upland game questionnaires were returned. Of those, 1,798 purchased a license but did not hunt upland game. By dividing the total of 108,310 eligible licensees by the usable returns (5,256), a projection factor of 20.606925 is derived.

The 1986 hunter questionnaire sample size increased slightly from 1985, and followup questionnaire was not sent to those who failed to return the first one. However, a post card reminder was mailed to 3,600 non-respondants to request the return of their questionnaire. This resulted in a 47 percent overall 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 Tables 1 and 2 and Figures 1 and 2.) Annual precipitation in 1986 and average temperatures were above normal statewide.

The 1985-86 winter weather was mild. Above normal precipitation fell in November 1985 but December 1985 and January 1986 were drier than normal. Temperatures dropped considerably above normal January through March in all seven climatic subdivisions. Mean temperatures averaged 6° F above normal in January, February and March were 0.5° F, 6.5° F and 8.2° F above normal, respectively. Mean temperatures in the Uinta Basin were also significantly above normal for all three months. Because of these mild conditions, survival of upland game species was much improved over the winter of 1984-85.

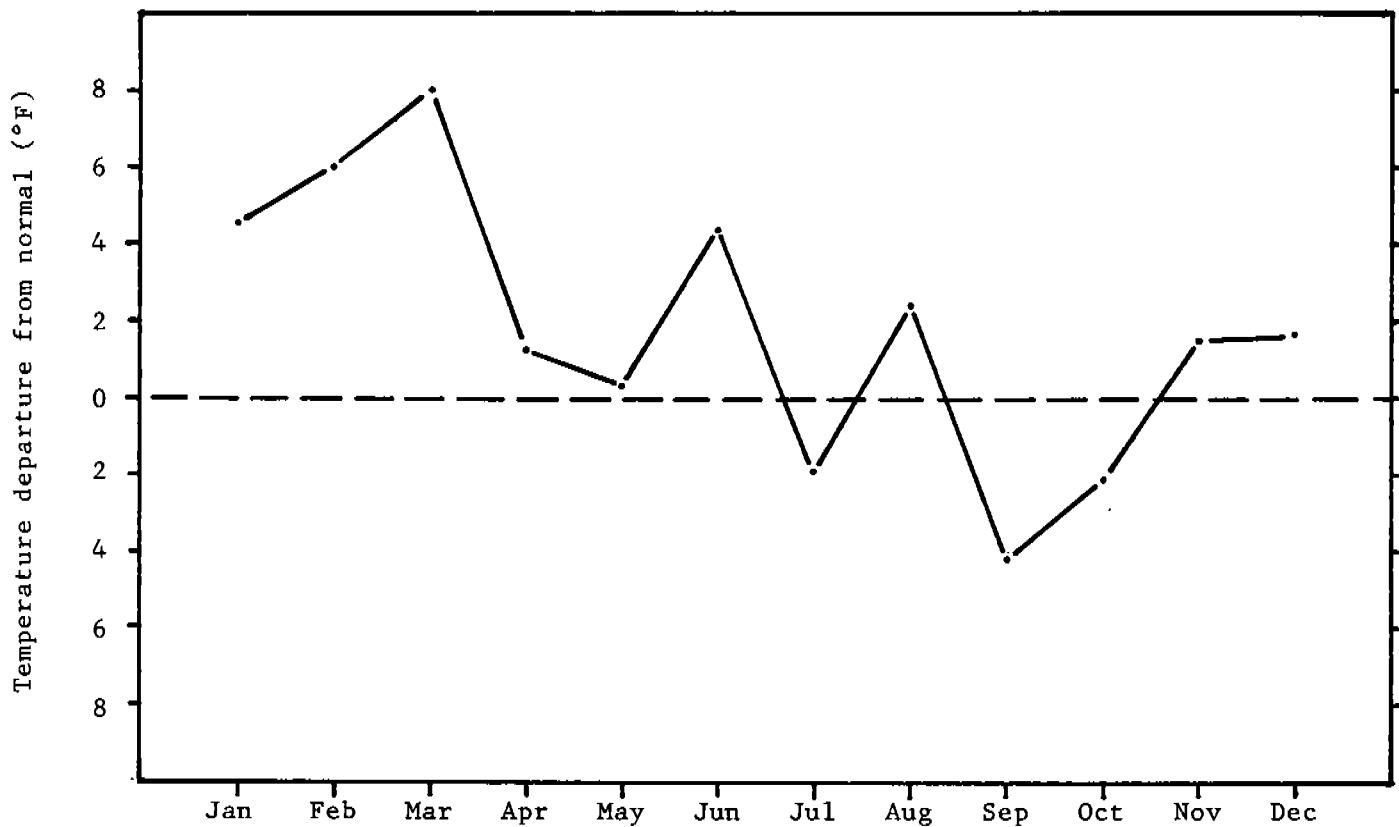


Figure 1. Monthly average temperature departure from normal, 1986.

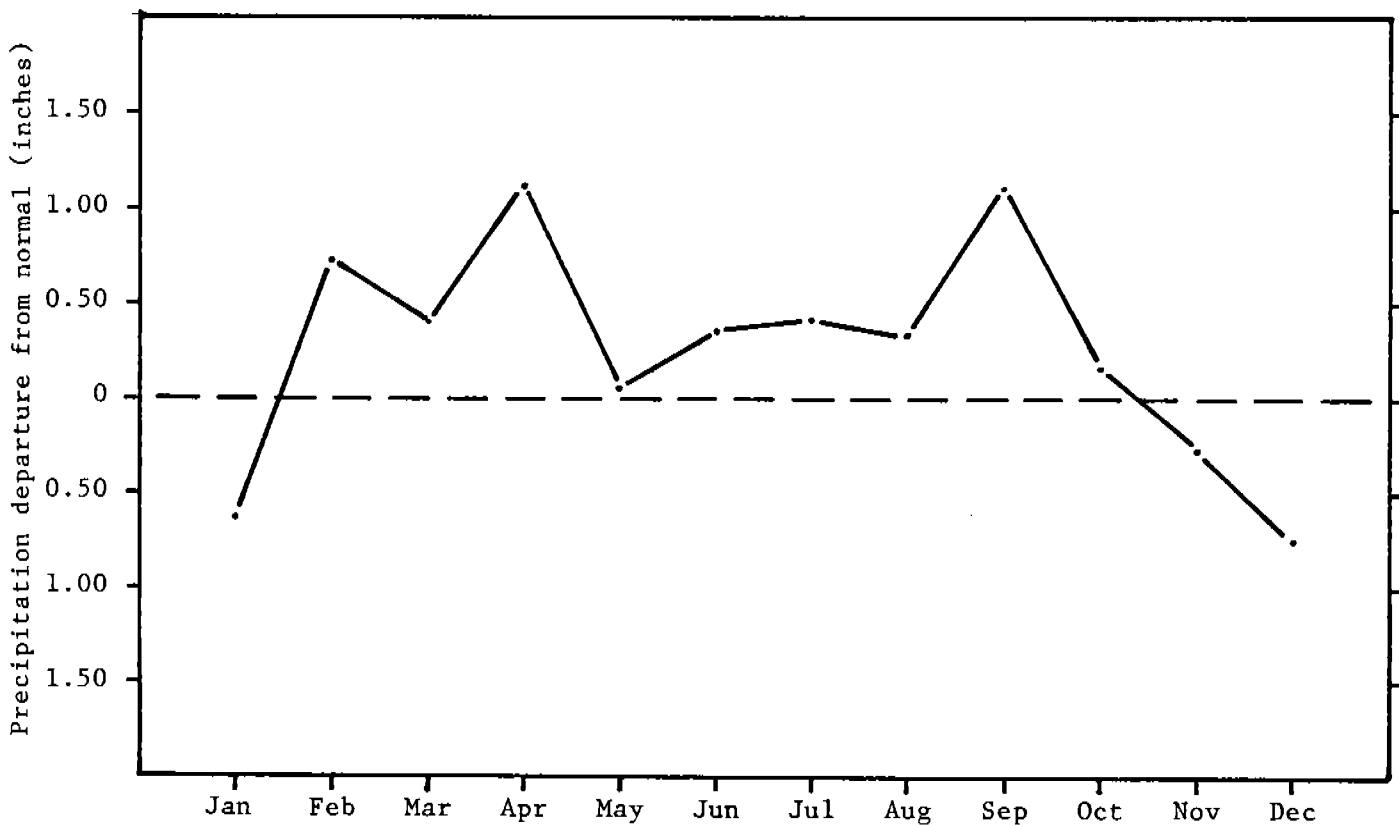


Figure 2. Monthly average precipitation departure from normal, 1986.

April, May and June were warmer with about normal precipitation, resulting in improved hatching success and brood survival. July was much colder and more wet than normal resulting in good cover condition. The accumulated precipitation averaged 134 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 decreased slightly in 1986. Likewise, 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 small 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, 1954-86.

Year	Adult Res.		Juv. Res.		Non. Res.		Combination	
	<u>Small Game</u>		<u>Small Game</u>		<u>Small Game</u>			
	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	36,070	8.00	13,170	4.00	1,633	30.00	73,081	23.00
1985	30,102	12.00	12,987	6.00	1,500	40.00	82,137	35.00
1986	29,202	12.00	11,921	6.00	1,274	40.00	67,187	35.00

Table 3. Actual (1971-1986) and projected (1990-2000) 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	88,084	1,633	89,717	5.2
1985	1,780,000	94,991	1,500	96,491	5.4
1986	1,843,793	82,777	1,274	84,051	4.6
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, 1971-86 (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 (\$)				TOTAL ¹			
	JSG	RSG	JSG ⁴	RSG	CMB		NRSNG	JSG ⁴	RSG	CMB ²		NRSNG		
1971	2.50	4.50	10.00	20.00	16,044	20,681	102,284	1,000	37,588	20,055	93,064	200,557	20,000	336,676
1972	2.50	4.50	10.00	20.00	16,523	19,796	107,414	1,075	33,042	20,653	89,082	230,553	21,500	361,789
1973	2.50	4.50	10.00	20.00	16,522	18,836	115,436	964	35,665	20,652	84,762	247,290	19,280	371,985
1974	2.50	4.50	10.00	20.00	16,334	17,434	117,770	974	38,575	20,417	78,453	245,504	19,480	363,855
1975	2.50	4.50	10.00	20.00	15,869	17,057	115,362	967	39,652	19,836	76,756	234,701	19,340	350,633
1976	3.00	6.00	18.00	20.00	16,261	33,078	76,587	1,141	40,658	24,391	198,468	184,675	22,820	430,355
1977	3.00	6.00	18.00	20.00	15,795	36,473	74,600	1,270	40,319	23,692	218,838	176,204	25,400	434,135
1978	3.00	6.00	18.00	20.00	15,419	37,082	81,227	1,449	38,091	23,128	222,492	221,719	28,980	556,320
1979	3.00	6.00	18.00	20.00	14,200	36,721	84,450	1,575	35,255	21,300	220,326	252,862	31,500	525,988
1980	4.00	8.00	23.00	30.00	14,042	30,189	100,177	1,330	34,369	28,084	241,512	425,120	39,900	734,616
1981	4.00	8.00	23.00	30.00	13,874	37,804	83,486	1,559	32,123	27,748	302,432	331,805	46,770	708,755
1982	4.00	8.00	23.00	30.00	14,040	36,850	82,970	1,637	34,116	28,080	294,800	315,597	49,110	709,087
1983	4.00	8.00	23.00	30.00	13,814	39,602	73,529	1,685	33,642	25,620	305,249	257,670	50,134	638,672
1984	4.00	8.00	23.00	30.00	13,170	36,070	73,081	1,633	34,237	26,340	288,560	250,544	48,990	614,434
1985	6.00	12.00	35.00	40.00	12,987	30,102	82,137	1,500	30,235	38,961	361,224	484,246	60,000	944,431
1986	6.00	12.00	35.00	40.00	11,946	29,567	67,435	1,274	25,533	35,838	354,804	395,973	50,960	837,575

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.

⁴Half of the juvenile small game license sales were attributed to waterfowl hunters. Federal Duck Stamps are not required of juveniles less than 16 years of age.

RING-NECKED PHEASANT

SUMMARY

The 1986 statewide breeding population, based on 1985 harvest data, declined about 24 percent from the 1985 breeding population. The effect of the 1983-84 winter and flooding is still being reflected by pheasant populations in northern Utah. Winter carry-over from 1985 was good in northern and central Utah.

Weather conditions during the nesting season were fair in 1986. Statewide monthly average temperatures were above normal, but accumulated precipitation was also above normal. Although, more pheasants were observed, average brood size generally decreased. Overall production was down due to reduced breeding populations.

Harvest statistics compiled from the questionnaire indicated less success compared to 1985. Hunter pressure was slightly below average but total harvest decreased 22 percent and birds per hunter-day decreased 13 percent from 1985. Field bag check data also showed that hunter success declined during 1986.



Winter Sex Ratio Counts

Results of the survey for the winter of 1985-86 and long-term trends are shown in Tables 1 and 2 of this section. Statewide comparisons to the winter of 1984-85 and the 10-year average are as follows:

	<u>Winter of</u> <u>1985-86</u>	<u>Percent change from</u> <u>1984-85</u> <u>Average</u>	
Total pheasants counted (roadside)	1,180	-45	-82
Hens per cock	3.9	+3	+5
Pheasants observed per 100 hours	594	-47	-60
Total hours effort (roadside)	213	+10	-56

Winter sex ratio counts indicated a 45 percent decline in pheasants observed. However, decreased effort may reflect a biased decline in the breeding population. Density estimates can be biased due to the non-random nature of the survey technique if effort is minimal. The hen-cock ratio increased 3 percent from 1985 and was 5 percent higher than the long term average. Counting conditions were generally good, but less than average effort reduced pheasant observations. No effort was expended in the Southern Region, even though it accounts for 15 percent of the state's hunting pressure and 18 percent of the harvest.

Roadside Counts

A summary of summer roadside pheasant counts for 1986 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 1986 survey results compared to 1985 and the previous 10-year average follow:

	<u>1986</u>	<u>Percent change from</u> <u>1985</u> <u>Average</u>	
Total pheasants observed	2,279	+40	-13
Total miles driven	2,531	+26	+1
Pheasants per mile	0.90	+11	-13
Average brood size	4.94	-26	-8
Young per hen	4.20	-17	+6
Percent of hens with young	83	+34	+14

January through June temperatures were above normal. Precipitation was above normal February through September with over one inch of precipitation above normal in April. In the North Central and Uintah Basin climatic subdivisions (major pheasant distribution), 2.44 inches and 1.20 inches above normal precipitation fell in April. This was 124 percent and 176 percent above normal. In the South-Central and Southeast climatic subdivisions, 0.52 inches and 0.60 inches of precipitation fell in April. This was 50 percent and 98 percent above normal. April was warmer and wetter than normal. May was wetter than normal with July cooler and much wetter than normal. June was warmer and drier than normal. Hatching success may have declined due to wet weather in April and May but warm, dry weather in June should have increased brood survival. Counting conditions were affected by dense vegetation in many areas.

Pheasant production appears to have increased from 1985 in the Northeastern and Central regions, but hunter success only corroborate this in the Northeastern Region. Production and hunter success were down in all other regions. However, the statewide density index (pheasants per mile) increased from 0.81 in 1985 to 0.90 in 1986, but is below the 10-year average (1.04).

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

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1986 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 1985 harvest statistics to 1985 and the 38-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Pheasant hunters	59,987	-14	-27
Pheasants harvested	114,389	-22	-50
Hunter-days afield	207,346	-11	-7
Pheasants per hunter-day	0.55	-13	-47
Pheasants per hunter	1.91	-9	-32

In northern Utah, hunters were told to expect poor hunting with success comparable to 1985. Low breeding populations were noted but production was fair for those birds which made it through the winter. Fair to good success was predicted in central and southeastern Utah. Fair to poor success was predicted in northeastern and southern Utah. We predicted 70,000 hunters and 140,000 harvest.

Total hunters decreased 14 percent from 1985 and remained below the long-term (1948-85) average. Hunter-days afield and total harvest also decreased 11 and 22 percent, respectively, from 1985. Hunter success (pheasants per hunter-day) also decreased 13 percent from 1985, and 47 percent below average. Pheasants per hunter also decreased 9 percent.

Long-term trends (1970-86) 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 1986 is shown in Table 14. The hunter success trend determined via bag checks since 1981 is found in Table 15. A comparison of 1986 data, on a statewide basis, to 1985 and the 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	3,223	-7	-30
Total hours hunted	9,103	-7	-38
Pheasants per hunter (complete hunts)	0.39	-11	-49
Pheasants bagged per 100 hours	12	-8	-33
Average hours per hunter-day (complete hunts)	3.4	+3	-17
Hours hunted per pheasant bagged (complete)	8.6	+12	+56

Checking Station Report

Weather was generally fair over the state Saturday and Sunday (November 1-2, 1986). Sunny and fair weather prevailed over northern Utah on Saturday, and temperatures were in mid-50's.

Hunting pressure was down substantially in Northern and Northeastern Utah. Pressure was about the same in other areas of the state. This is attributed to decreasing pheasant populations and to less land being accessible to hunters. Statewide hunter success was also down from 1985.

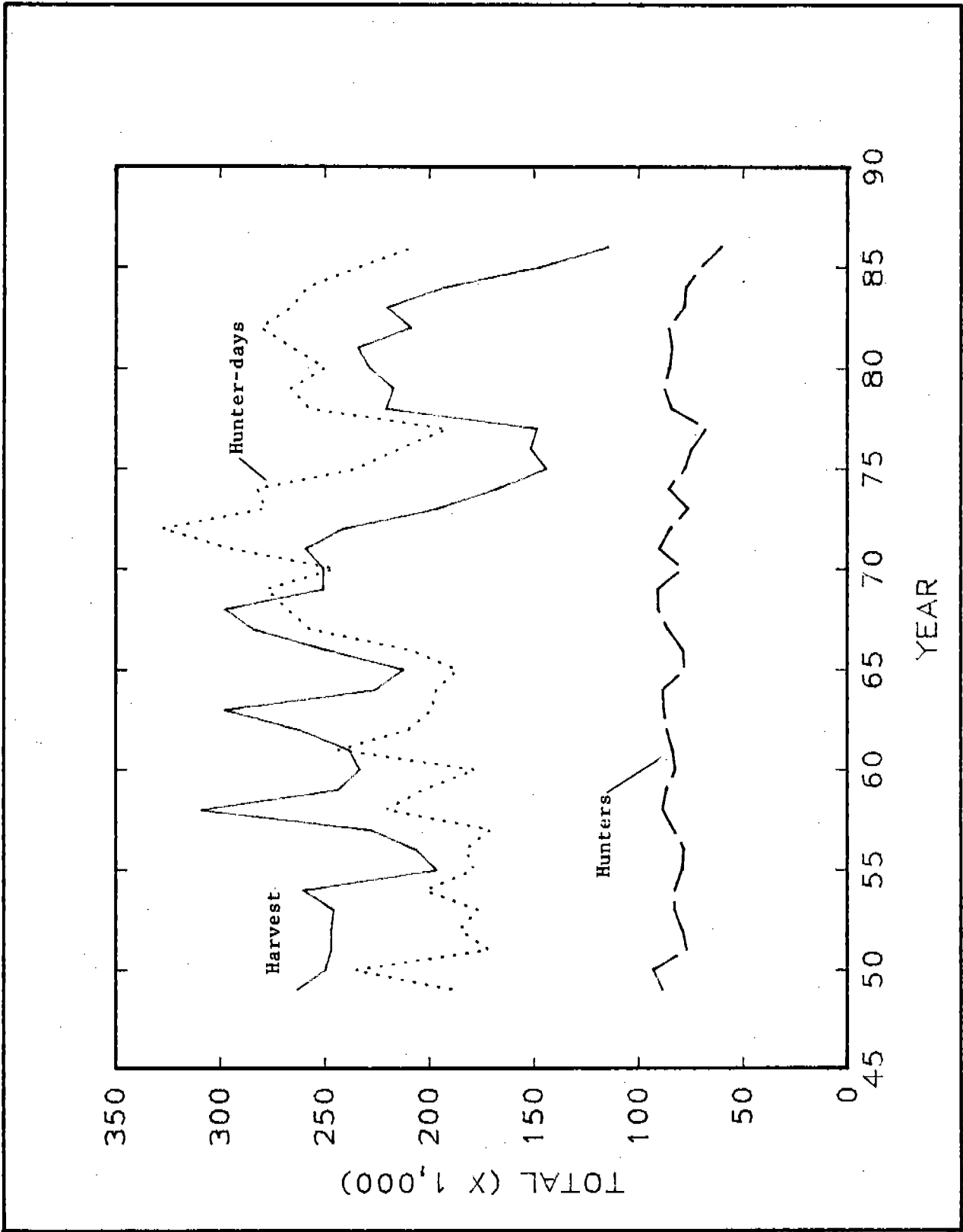


Figure 1. Statewide trend of pheasant harvest statistics.

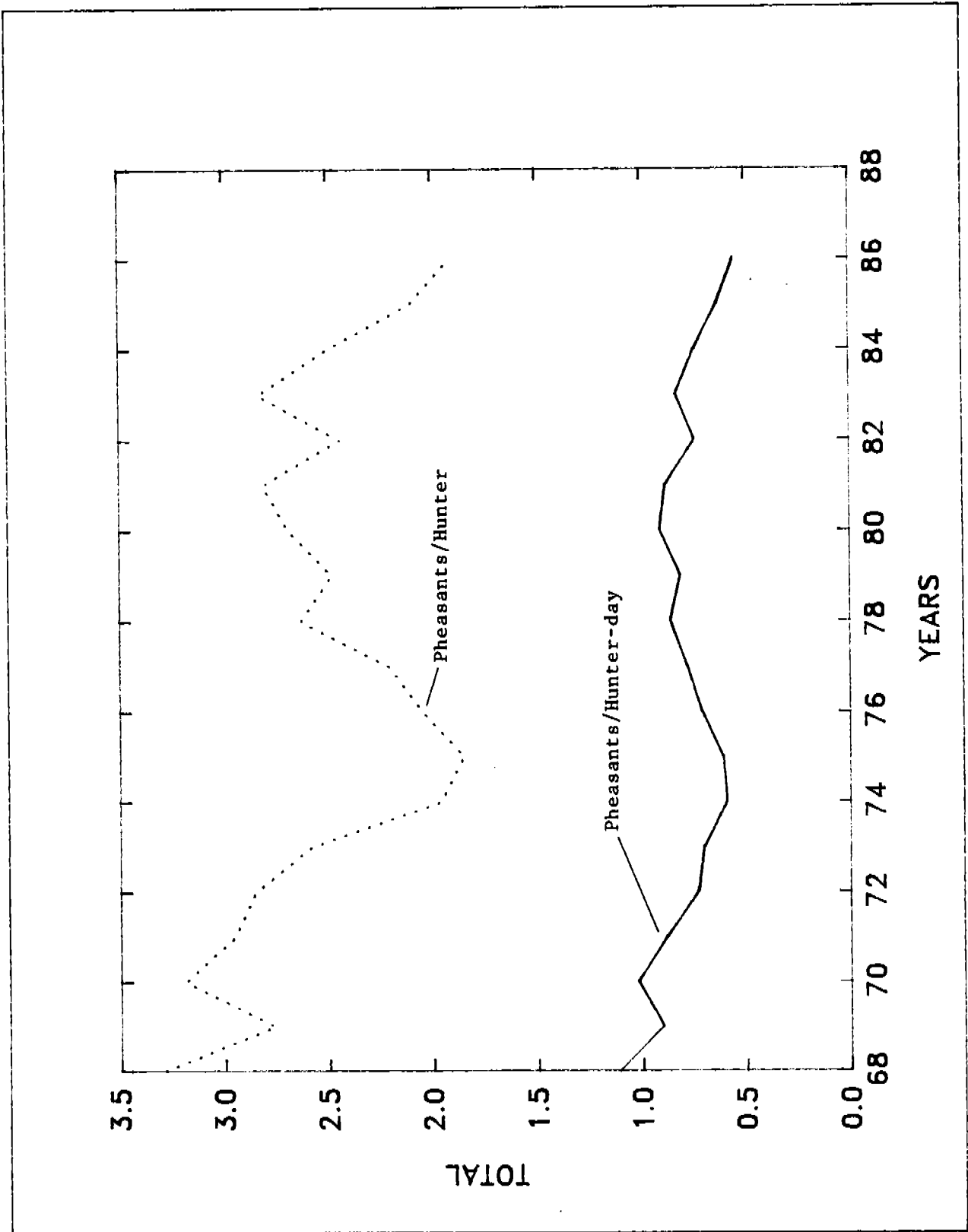


Figure 2. Statewide trend of pheasant harvest statistics.

Table 1. Summary of pheasant winter sex ratio counts, 1985-86.

Region and County	Roadside Observations			Flushing Observations			Effort Expended			Pheas. Obs./					
	Cocks	Hens	Total	Hens/100 Cocks	Cocks/100 Hens	Total	Hens/100 Cocks	Cocks/100 Hens	Total	Vehicle Miles	Hours of Effort	100 Hours of Road.			
Northern Region															
Box Elder	65	153	218	2.4	42	--	--	--	--	382	15	0	15	1,453	
Cache	8	138	146	17.2	6	0	6	6	--	360	24	2	26	585	
Davis	30	251	281	8.4	12	--	--	--	--	90	6	0	6	4,683	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	1	27	28	27.0	4	--	--	--	--	100	8	0	8	350	
REGIONAL TOTALS	104	569	673	5.5	18	0	6	6	--	932	53	2	55	1,235	
Central Region															
Juab	16	55	71	3.4	29	--	--	--	--	25	7.5	0	7.5	947	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Utah	25	86	111	3.4	29	7	31	38	4.4	52	11.5	2	13.5	965	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	41	141	182	3.4	29	7	31	38	4.4	77	19	2	21	958	
Southern Region															
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Northeastern Region															
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	67	97	164	1.5	69	1	6	7	6.0	14	760	68	3	71	241
Uintah	36	61	97	1.7	59	2	10	12	5.0	20	239	34	6	40	285
REGIONAL TOTALS	103	158	261	1.5	65	3	16	19	5.3	19	999	102	9	111	255
Southeastern Region															
Carbon	10	25	35	2.5	40	--	--	--	--	125	6.5	0	6.5	538	
Emery	11	18	29	1.6	61	1	0	1	--	300	18	1.5	19.5	161	
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	21	43	64	2.0	49	1	0	1	--	425	24.5	1.5	26	261	
STATE TOTALS	269	911	1,180	3.9	30	11	53	64	4.8	20	2,433	198.5	14.5	213	594

[] Estimate

Table 2. Trend of pheasant winter sex ratio counts, 1980-86.

Region and County	1980-81		1981-82		1982-83		1983-84		1984-85		1985-86		Averages 1976-85	
	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		
<u>Northern Region</u>														
Box Elder	3.4	1,245	6.1	1,790	3.7	8,400	--	--	4.2	3,074	2.4	1,453		
Cache	2.3	1,478	2.9	1,624	3.6	1,556	--	--	5.7	3,133	17.2	585		
Davis	3.9	830	6.9	2,787	17.0	1,080	11.2	6,090	6.2	3,108	8.4	4,683		
Morgan	--	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--	--		
Weber	6.2	1,162	10.1	6,664	6.0	700	--	--	7.6	3,425	27.0	350		
REGIONAL TOTALS	3.1	1,234	5.9	2,999	4.3	1,596	11.2	6,090	5.1	3,127	5.5	1,235	5.4	2,083
<u>Central Region</u>														
Juab	4.8	373	5.4	1,513	3.2	1,066	--	--	--	--	3.4	947		
Salt Lake	1.9	577	3.8	1,205	1.3	973	--	--	--	--	0.0	0		
Sanpete	3.8	86	8.2	5,445	7.7	4,328	--	--	--	--	0.0	0		
Tooele	5.6	348	--	--	3.2	267	--	--	--	--	0.0	0		
Utah	7.3	1,318	3.3	2,845	3.2	1,608	--	--	--	--	3.4	965		
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	4.7	891	5.6	3,641	6.3	2,668	--	--	--	--	3.4	958	4.6	1,647
<u>Southern Region</u>														
Beaver	1.2	433	2.6	2,666	5.3	543	2.7	433	--	--	--	--		
Garfield	--	--	--	--	--	--	--	--	--	--	--	--		
Iron	3.8	--	2.9	837	--	--	--	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--	--	--		
Millard	3.2	1,891	2.4	5,523	3.7	831	3.2	5,525	--	--	--	--		
Piute	--	--	--	--	--	--	--	--	--	--	--	--		
Sevier	5.6	2,100	--	--	6.7	1,936	2.2	3,620	3.2	2,667	--	--		
Washington	6.8	1,510	3.1	1,040	4.4	971	0.6	227	--	--	--	--		
Wayne	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	3.9	1,539	2.6	2,033	5.1	1,121	2.6	2,009	3.2	2,667	--	--	3.4	1,457
<u>Northeastern Region</u>														
Daggett	--	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	1.6	787	1.9	600	1.5	553	1.7	1,113	1.4	145	1.5	241		
Uintah	4.0	2,360	2.8	1,065	5.0	1,287	2.1	3,180	3.9	1,645	1.7	285		
REGIONAL TOTALS	2.6	1,224	2.4	810	2.7	801	1.9	1,526	2.3	282	1.5	255	2.5	1,366
<u>Southeastern Region</u>														
Carbon	1.0	222	1.8	6,200	--	--	1.7	2,675	2.8	1,300	2.5	538		
Emery	1.9	4,283	2.5	2,670	--	--	1.7	2,589	2.6	1,706	1.6	161		
Grand	--	--	--	--	--	--	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	1.8	2,543	2.1	3,453	1.8	1,240	1.7	2,615	2.6	1,617	2.0	261	1.9	1,480
STATE TOTALS	3.4	1,151	4.6	2,838	5.5	1,900	2.6	2,104	3.8	1,116	3.9	594	3.7	1,493

Table 3. Pheasant summer inventory, 1986.

Region and County	Distinct Broods		Mixed Observ.		Adults w/o Young		Total Total Yng		Total Total Cocks		Total Total Hens		Total Total Pheas/ Mile		Yng/ Mile Brood		Yng/ Ad Hens		% Hens w/Yng	
	No. Routes	Total Miles	Yng	Hens	Yng	Hens	Yng	Hens	Yng	Hens	Yng	Hens	Mile	Mile	Brood	Ad Hens				
<u>Northern Region</u>																				
Box Elder	2	170	6	32	4	18	4	11	21	50	4	75	0.44	0.29	5.33	2.38	48			
Cache	2	165	0	0	0	0	1	1	0	0	0	1	0.01	0.00	0.00	0.00	--			
Davis	1	91	8	41	3	36	5	2	13	77	5	95	1.04	0.85	5.12	5.92	85			
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Weber	1	29	3	19	0	3	0	0	3	22	0	25	0.86	0.76	6.33	7.33	100			
REGIONAL TOTALS	6	455	17	92	7	57	9	14	38	149	9	196	0.43	0.32	5.41	3.92	62			
<u>Central Region</u>																				
Juab	1	42	3	14	3	10	0	0	6	24	0	30	0.71	0.57	4.67	4.00	100			
Salt Lake	1	63	10	57	8	45	10	2	20	102	10	132	2.10	1.62	5.70	5.10	90			
Sanpete	2	185	20	102	12	65	3	10	42	167	3	212	1.15	0.90	5.10	3.98	76			
Tooele	1	40	1	3	0	0	3	1	2	3	3	8	0.20	0.08	3.00	1.50	50			
Utah	3	287	72	342	28	140	14	16	116	482	14	612	2.13	1.68	4.75	4.16	86			
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
REGIONAL TOTALS	8	617	106	518	51	260	30	29	186	778	30	994	1.61	1.26	4.89	4.18	84			
<u>Southern Region</u>																				
Beaver	1	90	4	13	--	--	3	1	5	13	3	21	0.23	0.14	3.25	2.60	80			
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Iron	1	72	0	0	0	0	1	0	0	0	1	1	0.01	--	--	--	--			
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Millard	2	240	40	149	4	33	8	1	45	182	8	235	0.98	0.76	3.72	4.04	98			
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Sevier	2	222	49	279	6	50	11	8	63	329	11	403	1.82	1.48	5.69	5.22	87			
Washington	1	45	7	29	2	10	5	5	14	39	5	58	1.30	0.86	4.14	2.78	64			
Wayne*	(1)	(90)	(4)	(9)	(3)	(8)	(10)	(0)	(7)	(17)	(10)	(34)	(0.38)	(0.19)	(2.25)	(2.43)	(100)			
REGIONAL TOTALS	7	669	100	470	12	93	28	15	127	563	28	718	1.07	0.84	4.70	4.43	88			
<u>Northeastern Region</u>																				
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Duchesne	3	332	12	69	7	28	24	7	26	97	24	147	0.44	0.29	5.75	3.73	73			
Uintah	2	188	7	40	4	22	10	4	15	62	10	87	0.46	0.33	5.71	4.13	73			
REGIONAL TOTALS	5	520	19	109	11	50	34	11	41	159	34	234	0.45	0.30	5.74	3.88	73			
<u>Southeastern Region</u>																				
Carbon	0	60	0	0	2	9	4	1	3	9	4	16	0.26	0.15	--	3.00	66			
Emery	0	120	9	62	3	5	7	1	13	67	7	87	0.73	0.56	6.89	5.15	92			
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
REGIONAL TOTALS	* 1	270	13	71	8	22	21	2	23	93	21	137	0.51	0.34	5.46	4.04	91			
STATE TOTALS	27	2,531	255	1,260	89	482	122	71	415	1,742	122	2,279	0.90	0.69	4.94	4.20	83			

*Data collected by Southeastern Region, (included in S.E. regional totals).

Table 4. Trend of pheasants observed per mile during summer roadside counts, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	0.46	0.60	0.78	0.41	1.03	1.40	0.74	1.43	0.46	0.91	0.44	
Cache	0.44	0.22	0.71	0.34	0.08	0.92	0.17	0.04	0.19	0.03	0.01	
Davis	0.54	1.67	1.59	1.47	1.77	1.38	0.83	1.07	0.34	0.71	1.04	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	2.24	1.30	1.01	1.55	2.03	3.17	1.79	--	1.56	--	0.86	
REGIONAL TOTALS	0.86	0.85	0.96	0.76	1.23	1.56	0.78	0.63	0.48	0.50	0.43	0.86
<u>Central Region</u>												
Juab	1.20	0.54	0.09	0.13	0.94	0.89	0.61	0.44	0.77	0.48	0.71	
Salt Lake	0.55	0.29	0.09	0.64	0.60	1.09	1.24	--	1.80	0.46	2.10	
Sanpete	1.37	1.23	1.28	1.85	2.18	5.25	1.78	1.74	0.99	1.87	1.15	
Tooele	1.02	0.77	1.11	3.83	1.08	0.48	0.45	--	--	--	0.20	
Utah	1.45	0.98	1.96	4.14	1.90	2.19	3.89	1.95	2.21	--	2.13	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.16	0.93	1.40	2.83	1.68	2.01	2.15	1.72	1.49	1.35	1.61	1.67
<u>Southern Region</u>												
Beaver	0.69	0.49	0.71	1.01	0.47	0.63	0.66	0.23	0.11	0.63	0.23	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.39	0.30	0.49	0.97	0.67	1.24	0.07	0.31	--	0.06	0.01	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	0.47	0.49	1.38	1.11	0.88	2.85	1.15	1.28	1.09	2.27	0.98	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	0.72	0.88	1.72	1.10	1.13	0.87	1.37	1.27	1.52	0.62	1.82	
Washington	0.47	0.57	1.40	1.36	0.70	1.41	0.62	1.09	--	0.13	1.30	
Wayne	1.33	0.03	2.10	0.21	--	1.04	0.40	0.26	--	0.39	0.38	
REGIONAL TOTALS	0.58	0.57	1.29	1.08	0.86	1.65	1.05	0.94	1.09	1.25	1.07	1.04
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.34	0.39	0.68	0.38	0.56	0.84	0.73	0.72	0.68	0.16	0.44	
Uintah	1.45	1.15	1.75	1.90	1.60	1.05	1.27	2.97	1.33	0.35	0.46	
REGIONAL TOTALS	0.67	0.65	1.02	0.90	0.93	0.91	0.90	1.39	0.91	0.22	0.45	0.85
<u>Southeastern Region</u>												
Carbon	0.39	0.23	0.22	0.40	0.37	1.22	0.28	0.42	--	0.12	0.26	
Emery	0.47	0.61	0.53	0.39	0.49	0.74	0.74	0.32	0.66	0.83	0.73	
Grand	--	--	--	--	--	--	--	1.70	--	--	--	
San Juan	0.93	0.93	0.00	0.35	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.44	0.44	0.35	0.38	0.45	0.86	0.61	0.39	0.66	0.59	0.51	0.52
STATE TOTALS	0.78	0.71	1.02	1.37	1.10	1.46	1.19	1.06	0.94	0.81	0.90	1.04

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	0.31	0.41	0.55	0.03	0.69	1.07	0.44	0.63	0.26	0.65	0.29	
Cache	0.30	0.17	0.47	0.20	0.07	0.70	0.11	0.00	0.13	0.02	0.00	
Davis	0.54	1.17	1.26	0.99	1.27	0.81	0.43	0.78	0.16	0.35	0.85	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Wever	1.47	0.84	0.62	1.22	1.53	2.38	1.38	--	1.27	--	0.76	
REGIONAL TOTALS	0.58	0.58	0.68	0.55	0.88	1.15	0.52	0.35	0.32	0.33	0.32	0.59
<u>Central Region</u>												
Juab	1.06	0.46	0.76	0.02	0.85	0.63	0.42	0.36	0.58	0.39	0.57	
Salt Lake	0.37	0.21	0.07	0.44	0.32	0.57	0.84	--	1.26	0.31	1.62	
Sanpete	1.12	0.98	1.06	1.53	1.72	4.40	1.44	1.44	0.76	1.54	0.90	
Tooele	0.69	0.45	0.72	2.95	0.76	0.28	0.22	--	--	--	0.08	
Utah	0.99	0.60	1.43	3.00	1.30	1.68	2.52	1.34	1.26	--	1.68	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.84	0.63	1.06	2.11	1.21	1.51	1.63	1.31	0.99	1.09	1.26	1.24
<u>Southern Region</u>												
Beaver	0.54	0.33	0.58	0.87	0.37	0.54	0.48	0.17	0.08	0.51	0.14	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.31	0.17	0.38	0.74	0.53	1.07	0.04	0.23	--	0.05	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	0.34	0.34	1.12	0.89	0.69	2.27	0.83	1.00	0.89	1.98	0.76	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	0.56	0.70	1.45	0.93	0.90	0.67	1.07	0.94	1.19	1.25	1.48	
Washington	0.35	0.37	1.08	1.02	0.49	0.89	0.43	0.68	--	--	0.86	
Wayne	0.87	0.00	1.76	0.15	--	0.87	0.21	0.12	--	0.28	0.19	
REGIONAL TOTALS	0.44	0.41	1.05	0.87	0.67	1.30	0.76	0.68	0.86	1.03	0.84	0.81
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.21	0.25	0.53	0.27	0.37	0.52	0.54	0.55	0.46	0.07	0.29	
Uintah	1.07	0.79	1.41	1.50	1.20	0.83	0.95	2.25	1.12	0.29	0.33	
REGIONAL TOTALS	0.47	0.44	0.81	0.69	0.66	0.63	0.66	1.06	0.69	0.14	0.30	0.63
<u>Southeastern Region</u>												
Carbon	0.22	0.03	0.15	0.30	0.22	0.93	0.18	0.27	--	0.02	0.15	
Emery	0.20	0.33	0.35	0.28	0.35	0.52	0.45	0.18	0.45	0.63	0.56	
Grand	--	--	--	--	--	--	--	1.10	--	--	--	
San Juan	0.47	0.40	--	0.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.22	0.18	0.24	0.26	0.31	0.65	0.68	0.23	0.45	0.42	0.34	0.36
STATE TOTALS	0.55	0.47	0.78	1.04	0.80	1.10	0.87	0.77	0.68	0.63	0.69	0.77

Table 6. Trend of young per adult hen ratios found during summer roadside pheasant counts, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	4.18	3.68	3.64	3.92	2.60	4.09	3.00	1.41	2.44	3.63	2.38	
Cache	4.50	4.00	2.80	2.40	4.00	4.18	3.43	0.00	3.40	1.50	0.00	
Davis	3.75	3.18	4.71	2.30	2.78	1.81	1.25	3.31	1.67	1.26	5.92	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	2.35	2.12	1.81	4.13	3.97	3.38	4.70	--	5.50	--	7.33	
REGIONAL TOTALS	2.91	2.88	3.10	3.14	3.07	3.39	3.00	1.98	3.23	2.60	3.92	2.93
<u>Central Region</u>												
Juab	7.40	8.00	5.60	1.00	9.67	4.29	3.75	6.50	4.20	4.33	4.00	
Salt Lake	3.50	5.33	6.00	3.27	1.70	2.04	2.73	--	3.58	3.13	5.10	
Sanpete	5.22	5.09	6.03	5.91	4.97	6.71	5.48	5.85	5.38	6.10	3.98	
Tooele	3.06	1.93	2.69	3.93	2.88	2.43	2.17	--	--	--	1.50	
Utah	3.32	2.53	3.42	3.20	2.65	3.80	3.53	2.51	1.66	--	4.16	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.85	3.19	3.88	3.59	3.23	4.08	3.95	3.69	2.59	5.61	4.18	3.77
<u>Southern Region</u>												
Beaver	6.14	3.33	4.72	6.00	6.29	7.00	4.89	3.75	2.33	5.11	2.60	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	5.50	6.00	5.00	4.25	5.14	8.56	3.00	5.33	--	3.00	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	3.67	3.57	6.05	5.52	6.00	4.65	4.48	6.37	6.24	8.95	4.04	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	4.79	4.90	6.67	5.96	4.44	4.18	3.94	3.49	4.64	4.58	5.22	
Washington	5.83	2.47	4.52	4.95	5.50	2.69	3.46	2.23	--	--	2.78	
Wayne	2.60	--	7.57	5.00	--	8.75	1.67	3.33	--	3.17	2.43	
REGIONAL TOTALS	4.36	3.88	5.85	5.44	5.16	4.66	3.93	3.69	5.05	5.92	4.43	4.79
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	4.06	3.41	5.11	5.82	4.22	2.94	6.10	5.03	3.81	3.00	3.73	
Uintah	4.48	3.06	5.63	5.25	3.22	5.50	4.96	5.16	13.00	11.50	4.13	
REGIONAL TOTALS	4.34	3.18	5.39	5.39	3.52	3.73	5.54	5.11	6.38	5.83	3.88	4.84
<u>Southeastern Region</u>												
Carbon	2.05	0.42	3.00	4.80	5.00	7.91	5.67	3.13	--	0.50	3.00	
Emery	1.46	2.36	2.61	4.29	3.37	3.97	2.56	2.93	3.75	4.17	5.15	
Grand	--	--	--	--	--	--	--	5.50	--	--	--	
San Juan	1.75	1.20	0.00	0.00	--	--	--	--	--	--	--	
REGIONAL TOTALS	1.74	1.62	2.70	3.00	3.65	4.98	4.93	3.21	3.75	3.80	4.04	3.34
STATE TOTALS	3.56	3.11	4.32	4.05	3.60	4.12	3.88	3.85	3.92	5.04	4.20	3.95

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1976-1986.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	73	79	80	62	68	83	73	52	56	74	48	
Cache	80	100	60	60	100	77	71	0	100	50	--	
Davis	75	58	88	80	63	71	67	75	33	42	85	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	58	44	39	70	100	91	91	--	92	--	100	
REGIONAL TOTALS	64	58	64	71	76	80	76	57	66	60	62	67
Central Region												
Juab	100	100	100	--	100	100	100	100	80	100	100	
Salt Lake	59	100	100	64	71	57	62	--	79	63	90	
Sanpete	90	85	90	100	83	97	92	92	90	92	76	
Tooele	78	57	69	96	75	71	67	--	--	--	50	
Utah	66	61	69	57	64	66	71	60	63	--	86	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	73	67	74	66	82	72	76	71	70	56	84	71
Southern Region												
Beaver	86	56	73	77	71	86	89	50	33	89	80	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	100	100	86	83	86	100	100	100	--	100	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	81	68	85	88	87	83	73	94	100	84	98	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	92	90	97	96	96	82	83	76	91	88	87	
Washington	50	73	87	95	33	66	77	83	--	--	64	
Wayne	40	--	100	100	--	88	78	--	--	83	100	
REGIONAL TOTALS	78	76	89	90	87	81	80	83	91	85	88	84
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	88	81	83	88	77	68	66	82	67	75	73	
Uintah	94	61	95	87	92	100	86	75	86	75	73	
REGIONAL TOTALS	91	68	90	88	87	78	75	77	72	75	73	80
Southeastern Region												
Carbon	59	17	44	100	75	100	67	63	--	50	66	
Emery	29	55	48	43	68	72	58	64	65	67	92	
Grand	--	--	--	--	--	--	--	100	--	--	--	
San Juan	50	60	0	0	--	--	--	--	--	--	--	
REGIONAL TOTALS	44	44	48	56	70	79	59	67	65	65	91	60
STATE TOTALS	71	65	76	73	77	79	75	74	75	62	83	73

Table 8. Trend of average brood size for pheasants, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	5.75	4.67	5.71	6.38	3.40	4.90	4.13	4.00	4.63	5.77	5.33	
Cache	5.83	4.00	4.60	3.50	4.00	5.93	6.50	0.00	3.40	3.00	0.00	
Davis	4.33	5.73	4.79	4.00	5.13	3.64	2.00	5.40	3.33	3.50	5.12	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	5.05	6.57	4.80	6.00	4.37	3.70	5.66	--	6.00	--	6.33	
REGIONAL TOTALS	5.19	5.29	5.00	5.22	4.21	4.48	4.88	4.58	4.72	5.11	5.41	4.87
Central Region												
Juab	7.33	8.00	5.60	--	4.00	3.80	3.75	6.50	6.00	4.33	4.67	
Salt Lake	6.09	5.33	6.00	5.13	3.33	4.67	4.44	--	4.75	5.00	5.70	
Sanpete	5.88	4.92	6.56	5.98	5.43	7.24	5.93	6.39	6.38	8.28	5.10	
Tooele	4.38	3.33	4.57	8.93	3.83	3.67	3.50	--	--	--	3.00	
Utah	4.86	4.56	4.91	5.45	4.09	5.38	4.99	4.02	2.95	--	4.75	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.35	4.70	5.29	5.81	4.46	5.66	5.15	5.01	3.75	7.42	4.89	5.26
Southern Region												
Beaver	7.75	6.00	6.50	7.10	7.25	6.50	5.00	6.50	7.00	5.75	3.25	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	5.25	6.00	5.00	4.25	6.00	8.14	3.00	5.33	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	6.93	5.23	6.88	6.31	6.38	6.30	6.30	6.40	6.00	10.63	3.72	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	5.17	6.17	6.40	5.94	4.70	5.00	4.56	5.14	5.10	5.17	5.69	
Washington	8.00	3.57	6.33	5.00	--	5.90	4.40	3.90	--	--	4.14	
Wayne	7.00	--	10.25	5.00	--	1.00	2.00	--	--	3.33	2.25	
REGIONAL TOTALS	6.37	5.45	6.71	5.96	5.49	6.14	4.98	5.18	5.42	7.35	4.70	5.91
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	4.64	4.55	6.54	6.60	5.50	4.58	7.31	4.50	5.87	4.00	5.75	
Uintah	5.00	5.00	5.75	5.56	3.30	5.50	4.25	5.11	5.50	6.33	5.71	
REGIONAL TOTALS	4.85	4.80	6.12	5.93	3.90	4.89	5.84	4.87	5.72	4.78	5.74	5.17
Southeastern Region												
Carbon	3.00	2.50	6.75	3.33	6.67	7.67	6.00	3.00	--	1.00	--	
Emery	4.86	4.33	5.27	6.00	7.00	6.00	4.42	6.60	5.00	5.20	6.89	
Grand	--	--	--	--	--	--	--	5.50	--	--	--	
San Juan	3.50	4.00	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.40	4.07	5.67	5.00	6.86	6.24	4.64	5.30	5.00	4.82	5.46	5.20
STATE TOTALS	5.37	4.94	5.69	5.79	4.58	5.45	5.11	5.03	4.78	6.71	4.94	5.35

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
Northern Region						
Box Elder	327	17,824	9,334	0.52	8.60	8.16
Cache	175	10,694	4,657	0.44	5.16	4.07
Davis	272	18,505	6,635	0.36	8.92	5.80
Morgan	9	350	61	0.18	0.17	0.05
Rich	--	--	--	0.00	0.00	0.00
Summit	(1)	(20)	(0)	(0.00)	(0.01)	(0.00)
Weber	377	25,635	10,076	0.39	12.36	8.81
REGIONAL TOTALS	1,161	73,030	30,766	0.42	35.22	26.90
Central Region						
Juab	120	5,275	3,379	0.64	2.54	2.95
Salt Lake	256	13,930	5,605	0.40	6.72	4.90
Sanpete	305	16,300	11,807	0.72	7.86	10.32
Tooele	139	6,820	3,008	0.44	3.29	2.63
Utah	679	39,647	25,449	0.64	19.12	22.25
Wasatch	(5)	(123)	(20)	(0.17)	(0.06)	(0.02)
REGIONAL TOTALS	1,504	82,097	49,271	0.60	39.59	43.07
Southern Region						
Beaver	30	1,318	741	0.56	0.64	0.65
Garfield	6	247	144	0.58	0.12	0.13
Iron	32	1,669	535	0.32	0.80	0.47
Kane	(1)	(41)	(0)	(0.00)	(0.02)	(0.00)
Millard	232	12,343	9,499	0.77	5.95	8.30
Piute	3	247	206	0.83	0.12	0.18
Sevier	220	12,446	8,490	0.68	6.00	7.42
Washington	35	1,751	700	0.40	0.84	0.61
Wayne	3	123	41	0.33	0.06	0.04
REGIONAL TOTALS	562	30,189	20,359	0.67	14.56	17.80
Northeastern Region						
Daggett	(2)	(41)	(0)	(0.00)	(0.02)	(0.00)
Duchesne	113	5,584	4,698	0.84	2.69	4.11
Uintah	96	6,037	4,760	0.79	2.91	4.16
REGIONAL TOTALS	211	11,663	9,458	0.81	5.62	8.27
Southeastern Region						
Carbon	66	3,977	1,566	0.39	1.92	1.37
Emery	96	5,790	2,658	0.46	2.79	2.32
Grand	(5)	(247)	(123)	(0.50)	(0.12)	(0.11)
San Juan	6	247	144	0.58	0.12	0.13
REGIONAL TOTALS	173	10,262	4,492	0.44	4.94	3.93
Unknown Counties	4	103	41	0.40	0.05	0.04
STATE TOTALS	3,615	207,346	114,389	0.55	100	100

*Total hunter trips from questionnaire returns.

()Data may be biased 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, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>								
Box Elder	0.94	1.11	1.03	0.86	0.99	0.81	0.66	0.52
Cache	0.81	0.97	0.88	0.74	0.82	0.66	0.42	0.44
Davis	0.63	0.65	0.65	0.63	0.58	0.56	0.46	0.36
Morgan	0.60	0.56	0.57	0.64	0.58	0.44	0.05	0.18
Rich	0.00	0.00	0.00	0.00	(0.67)	(0.80)	(0.17)	0.00
Summit	0.00	0.00	0.00	0.00	(0.96)	(0.80)	(0.00)	0.00
Weber	0.71	0.77	0.72	0.63	0.72	0.69	0.55	0.39
<u>REGIONAL TOTALS</u>	<u>0.77</u>	<u>0.86</u>	<u>0.84</u>	<u>0.71</u>	<u>0.78</u>	<u>0.68</u>	<u>0.53</u>	<u>0.42</u>
<u>Central Region</u>								
Juab	0.87	1.00	0.89	0.76	1.00	0.86	0.70	0.64
Salt Lake	0.62	0.70	0.68	0.57	0.66	0.51	0.53	0.40
Sanpete	1.07	1.18	1.18	1.00	1.20	1.08	0.98	0.72
Tooele	0.58	0.73	0.65	0.43	0.60	0.58	0.60	0.44
Utah	0.82	0.92	0.91	0.73	0.81	0.82	0.65	0.64
Wasatch	0.00	0.00	0.00	0.00	(0.21)	(0.29)	(0.55)	0.17
<u>REGIONAL TOTALS</u>	<u>0.79</u>	<u>0.90</u>	<u>0.89</u>	<u>0.71</u>	<u>0.83</u>	<u>0.79</u>	<u>0.69</u>	<u>0.60</u>
<u>Southern Region</u>								
Beaver	0.56	0.86	1.06	0.77	0.72	0.66	0.52	0.56
Garfield	0.48	0.69	0.53	0.81	0.41	0.52	0.17	0.58
Iron	0.66	0.83	0.74	0.69	0.61	0.43	0.49	0.32
Kane	0.00	0.00	0.00	0.00	(1.00)	(0.50)	(0.00)	(0.00)
Millard	1.04	1.24	1.02	0.97	1.10	0.92	0.88	0.77
Piute	0.95	0.88	0.85	1.00	0.80	0.66	0.56	0.83
Sevier	1.01	1.01	1.03	0.89	0.96	0.87	0.71	0.68
Washington	0.60	0.63	0.45	0.39	0.43	0.24	0.42	0.40
Wayne	1.17	1.43	0.67	0.88	0.50	0.25	1.22	0.33
<u>REGIONAL TOTALS</u>	<u>0.93</u>	<u>1.03</u>	<u>0.95</u>	<u>0.85</u>	<u>0.89</u>	<u>0.79</u>	<u>0.73</u>	<u>0.67</u>
<u>Northeastern Region</u>								
Daggett	0.00	0.00	0.00	0.00	(0.67)	(0.00)	(0.50)	0.00
Duchesne	1.13	1.13	1.09	1.05	1.15	0.99	0.88	0.84
Uintah	0.95	1.09	0.98	0.93	0.98	0.86	0.62	0.79
<u>REGIONAL TOTALS</u>	<u>1.03</u>	<u>1.11</u>	<u>1.04</u>	<u>0.99</u>	<u>1.06</u>	<u>0.92</u>	<u>0.75</u>	<u>0.81</u>
<u>Southeastern Region</u>								
Carbon	0.66	0.94	0.70	0.54	0.59	0.44	0.42	0.39
Emery	0.71	0.85	0.85	0.57	0.60	0.65	0.58	0.46
Grand	0.45	0.33	0.63	0.94	2.44	0.38	(2.00)	(0.50)
San Juan	0.33	0.29	0.68	0.50	0.76	2.50	0.40	0.58
<u>REGIONAL TOTALS</u>	<u>0.68</u>	<u>0.87</u>	<u>0.78</u>	<u>0.56</u>	<u>0.62</u>	<u>0.57</u>	<u>0.51</u>	<u>0.44</u>
Unknown Counties	0.84	1.17	0.77	0.48	1.03	0.47	1.00	0.40
<u>STATE TOTALS</u>	<u>0.81</u>	<u>0.91</u>	<u>0.88</u>	<u>0.74</u>	<u>0.83</u>	<u>0.74</u>	<u>0.63</u>	<u>0.55</u>

() Data may be biased 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, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
Northern Region								
Box Elder	12.04	12.35	12.94	12.40	13.87	10.02	9.84	8.16
Cache	6.93	7.94	8.66	7.07	7.22	4.92	3.61	4.07
Davis	8.15	7.61	5.33	8.27	7.57	7.84	7.34	5.80
Morgan	0.35	0.20	0.23	0.20	0.13	0.08	0.01	0.05
Rich	0.00	0.00	0.00	0.00	(0.02)	(0.04)	(0.01)	0.00
Summit	0.00	0.00	0.00	0.00	(0.15)	0.13	0.00	0.00
Weber	10.84	10.03	7.79	10.18	10.66	12.82	12.28	8.81
REGIONAL TOTALS	38.31	38.13	34.95	38.12	39.46	35.69	33.08	26.90
Central Region								
Juab	1.61	1.75	3.19	2.10	1.87	1.80	2.13	2.95
Salt Lake	7.14	6.29	4.88	5.96	5.86	4.64	5.28	4.90
Sanpete	6.87	7.17	7.28	7.47	7.84	9.11	10.25	10.32
Tooele	1.70	1.52	2.05	1.83	2.08	2.29	2.61	2.63
Utah	17.67	17.65	17.89	16.54	15.73	18.69	17.24	22.25
Wasatch	0.00	0.00	0.00	0.00	(0.02)	(0.06)	(0.09)	(0.02)
REGIONAL TOTALS	34.99	34.38	35.29	33.90	33.38	36.52	37.52	43.07
Southern Region								
Beaver	0.28	0.51	0.91	0.68	0.40	0.58	0.51	0.65
Garfield	0.09	0.07	0.08	0.32	0.05	0.12	0.04	0.13
Iron	0.52	0.88	1.08	1.00	0.83	0.35	0.72	0.47
Kane	0.00	0.00	0.00	--	(0.01)	(0.04)	0.00	0.00
Millard	5.46	5.76	7.77	5.37	4.17	6.93	7.85	8.30
Piute	0.13	0.22	0.30	0.13	0.09	0.24	0.13	0.18
Sevier	5.72	5.04	5.37	5.86	5.04	6.06	6.58	7.42
Washington	0.99	0.86	0.58	0.48	0.50	0.35	0.70	0.61
Wayne	0.14	0.07	0.09	0.11	0.03	0.01	0.16	0.04
REGIONAL TOTALS	13.33	13.43	16.17	13.95	11.11	14.74	16.70	17.80
Northeastern Region								
Daggett	0.00	0.00	0.00	--	(0.00)	(0.00)	(0.03)	0.00
Duchesne	5.25	4.69	4.60	5.51	6.17	4.64	5.04	4.11
Uintah	5.24	5.00	3.99	5.13	6.03	4.87	3.72	4.16
REGIONAL TOTALS	10.49	9.69	8.58	10.64	12.20	9.74	8.76	8.27
Southeastern Region								
Carbon	0.85	1.60	1.73	1.51	1.40	1.01	1.26	1.37
Emery	1.66	2.50	2.84	1.46	1.80	2.13	2.44	2.32
Grand	0.03	0.01	0.11	0.13	0.13	0.05	0.06	0.11
San Juan	0.03	0.01	0.12	0.11	0.10	0.05	0.03	0.13
REGIONAL TOTALS	2.57	4.13	4.80	3.20	3.44	3.25	3.78	3.93
Unknown Counties	0.31	0.24	0.21	0.19	0.40	0.30	0.16	0.04
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, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
Northern Region								
Box Elder	10.37	10.20	11.07	10.77	11.62	9.26	9.38	8.60
Cache	6.95	7.51	8.65	7.11	7.30	5.53	5.39	5.16
Davis	10.48	10.71	7.24	9.83	10.75	10.33	10.00	8.92
Morgan	0.48	0.33	0.33	0.23	0.19	0.14	0.20	0.17
Rich	0.00	0.00	0.00	--	--	(0.04)	(0.05)	0.00
Summit	0.00	0.00	0.00	--	--	(0.12)	(0.04)	(0.01)
Weber	12.42	11.91	9.62	11.92	12.20	13.93	14.05	12.36
REGIONAL TOTALS	40.70	40.66	36.93	39.86	42.06	39.20	39.03	35.22
Central Region								
Juab	1.50	1.60	3.16	2.05	1.55	1.55	1.91	2.54
Salt Lake	9.40	8.21	6.34	7.74	7.31	6.79	6.31	6.72
Sanpete	5.23	5.57	5.46	5.55	5.39	6.28	6.55	7.86
Tooele	2.38	1.89	2.77	3.18	2.85	2.93	2.76	3.29
Utah	17.48	17.64	17.30	16.94	16.00	16.90	16.81	19.12
Wasatch	0.00	0.00	0.00	--	--	(0.17)	(0.10)	(0.06)
REGIONAL TOTALS	35.99	34.91	35.03	35.46	33.10	34.46	34.34	39.59
Southern Region								
Beaver	0.40	0.54	0.74	0.66	0.46	0.65	0.66	0.64
Garfield	0.15	0.09	0.14	0.29	0.11	0.17	0.17	0.12
Iron	0.65	0.97	1.28	1.07	1.12	0.61	0.91	0.80
Kane	0.00	0.00	0.00	--	--	(0.06)	(0.02)	(0.02)
Millard	4.29	4.24	6.74	4.12	3.15	5.61	5.60	5.95
Piute	0.11	0.23	0.31	0.10	0.10	0.28	0.15	0.12
Sevier	4.62	4.57	4.60	4.90	4.34	5.17	5.83	6.00
Washington	1.33	1.24	1.14	0.91	0.95	1.10	1.04	0.84
Wayne	0.10	0.05	0.12	0.09	0.05	0.31	0.08	0.06
REGIONAL TOTALS	11.65	11.93	15.07	12.14	10.28	13.89	14.39	14.56
Northeastern Region								
Daggett	0.00	0.00	0.00	--	--	(0.06)	(0.04)	(0.02)
Duchesne	3.79	3.78	3.71	3.91	4.45	3.48	3.58	2.69
Uintah	4.48	4.20	3.59	4.10	5.08	4.24	3.77	2.91
REGIONAL TOTALS	8.28	7.98	7.30	8.01	9.53	7.72	7.34	5.62
Southeastern Region								
Carbon	1.05	1.57	2.18	2.08	1.97	1.71	1.90	1.92
Emery	1.91	2.67	2.95	1.89	2.51	2.43	2.66	2.79
Grand	0.06	0.04	0.15	0.10	0.04	0.10	0.02	0.12
San Juan	0.07	0.05	0.15	0.16	0.10	0.02	0.05	0.12
REGIONAL TOTALS	3.09	4.33	5.43	4.23	4.62	4.25	4.63	4.94
Unknown Counties	0.32	0.19	0.24	0.31	0.32	0.47	0.25	0.05
STATE TOTALS	100	100	100	100	100	100	100	100

() Data combined in unknown counties because of small sample size.

Table 13. Statewide summary of pheasant harvest statistics, 1948-1986.

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
1985	69,889	146,807	233,328	0.63	2.10
1986	59,987	114,389	207,346	0.55	1.91
<hr/>					
TOTALS (1948-86)	3,202,910	8,865,252	8,689,442	(38.68)	(108.28)
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AVERAGES (1948-85)	82,709	230,286	223,213	1.03	2.80

Table 14. Pheasant field bag check summary, 1986.

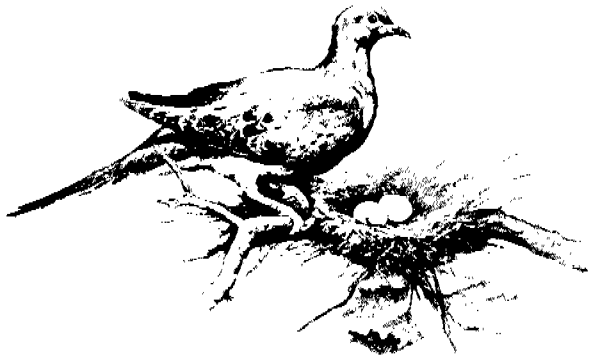
Region and County	ALL HUNTS					COMPLETE HUNTS				
	Total Parties	Total Hunters	Total Hours	Total Birds/100 Hr	Total Complete Hunts	Total Hunters	Total Hours	Total Birds	Total Birds/100 Hr	Birds/Hunter
<u>Northern Region</u>										
Box Elder	224	444	1,162	73 6	189	348	884	48	5	0.14
Cache	37	86	215	16 7	0	0	0	0	--	--
Davis	133	303	883	58 7	40	77	251	15	6	0.19
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	261	479	838	57 7	84	149	255	31	12	0.21
REGIONAL TOTALS	655	1,312	3,098	204 7	313	574	1,390	94	7	0.16
<u>Central Region</u>										
Juab	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--
Utah	230	517	1,289	227 18	54	107	284	79	28	0.74
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	230	517	1,289	227 18	54	107	284	79	28	0.74
<u>Southern Region</u>										
Beaver	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--
Iron	6	11	13	2 15	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--
Millard	209	617	1,747	296 10	197	575	2,571	277	10	0.48
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	37	124	542	81 14	37	124	542	81	14	0.65
Washington	21	37	46	14 30	12	18	27	9	33	0.50
Wayne	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	237	789	3,348	393 11	246	717	3,140	367	11	0.51
<u>Northeastern Region</u>										
Daggett	--	--	--	--	--	--	--	--	--	--
Duchesne	58	220	527	68 13	5	10	40	15	38	1.50
Uintah	40	114	267	30 11	7	24	72	12	17	0.50
REGIONAL TOTALS	98	334	794	98 12	12	34	112	27	24	0.79
<u>Southeastern Region</u>										
Carbon	7	21	71	5 7	2	6	31	2	7	0.33
Emery	86	250	503	97 19	33	95	245	33	14	0.35
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	93	271	574	102 18	35	101	276	35	13	0.35
STATE TOTALS	1,313	3,223	9,103	1,024 11	660	1,533	5,202	602	12	0.39

Table 15. Pheasant hunter success trend as determined by field bag check, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	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	23	0.57	16	0.44	22	0.50	15	0.38	9	0.31	5	0.14
Cache	--	--	10	0.36	--	--	16	0.47	5	0.13	--	--
Davis	4	0.24	14	0.34	12	0.35	13	0.34	16	0.46	6	0.19
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	21	0.72	19	0.39	24	0.59	15	0.35	7	0.18	12	0.21
REGIONAL TOTALS	18	0.56	16	0.41	20	0.47	15	0.38	9	0.27	7	0.16
<u>Central Region</u>												
Juab	16	0.44	21	0.32	54	0.35	--	--	--	--	--	--
Salt Lake	10	0.45	28	1.66	4	0.06	--	--	--	--	--	--
Sanpete	25	1.15	25	1.12	34	0.97	--	--	--	--	--	--
Tooele	67	1.75	118	1.86	80	2.18	--	--	--	--	--	--
Utah	32	0.94	21	0.58	26	0.86	53	1.62	35	0.88	28	0.74
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	28	0.99	24	0.75	31	0.31	53	1.62	35	0.88	28	0.74
<u>Southern Region</u>												
Beaver	25	0.86	20	1.08	--	--	24	0.31	14	0.37	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	26	1.08	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	20	0.75	12	0.40	12	0.71	16	0.66	12	0.59	10	0.48
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	32	1.33	22	0.92	22	1.01	23	0.94	16	0.66	14	0.65
Washington	--	--	--	--	21	0.70	--	--	6	0.07	33	0.50
Wayne	5	0.98	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	23	0.91	17	0.64	15	0.82	17	0.68	14	0.61	11	0.51
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	20	1.48	15	1.48	22	1.87	18	0.84	11	0.40	38	1.50
Uintah	15	0.98	16	1.21	19	1.47	25	0.77	15	0.37	17	0.50
REGIONAL TOTALS	18	1.29	15	1.36	21	1.64	21	0.80	21	0.38	24	0.79
<u>Southeastern Region</u>												
Carbon	--	--	--	--	21	0.55	4	0.09	--	--	7	0.33
Emery	11	0.31	19	0.63	17	0.29	9	0.29	23	1.80	14	0.35
Grand	17	0.33	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	38	1.00	--	--	--	--
REGIONAL TOTALS	12	0.31	19	0.63	20	0.48	9	0.24	23	1.80	13	0.35
STATE TOTALS	20	0.90	17	0.71	20	0.85	19	0.58	13	0.44	12	0.39

MIGRATORY UPLAND GAME BIRDS

SUMMARY



Mourning Doves

The breeding density index increased significantly in 1986 but remained below average.

Harvest statistics derived from the questionnaire showed decreased hunter pressure and harvest compared to 1985. Likewise, hunter success decreased 2 percent.

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

Division personnel collected 3,910 wings for aging during 1986. Aging of wings indicated the juvenile per 100 adult ratio increased to 127 compared to 113 in 1985, and the 19-year average of 115. Significantly, more harvested juvenile birds were hatched earlier than in 1985, but slightly less than the long-term average.

Band-tailed Pigeons

No band-tailed pigeons were banded in Utah in 1986. 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 1986 season is unknown because data was unavailable.



MOURNING DOVE

Call Count Survey

Results of the 1986 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 1986 survey to 1985 and the average for the period 1964-1985:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Average doves heard per route	10.9	+36	-18
Average calls heard per route	46.6	+45	-18
Average doves seen per route	13.6	+30	-6

Coo count data indicated increased breeding activity in late May compared to 1985 but remained 18 percent below the long-term average.

Harvest

Hunter Questionnaire

Information obtained from the hunter questionnaire for 1986 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 1986 compared to 1985 and the 10-year (1976-85) average:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Mourning dove hunters	26,583	-6	-14
Mourning dove harvest	226,985	-11	-25
Hunter-days afield	87,084	-10	-17
Mourning doves per hunter-day	2.61	-2	-10
Mourning doves per hunter	8.54	-6	-12

A significant increase in dove hunter success was predicted due to a 36 percent increase in the spring dove call count index. However, hunter success decreased two percent, and total harvest decreased 11 percent compared to 1985. Numbers of dove hunters, hunter-days afield and doves per hunter-day were significantly 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.

Field Bag Checks

A summary of field bag check data for 1986 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1986 survey compared to 1985 and the average (1967-85) follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	2,309	+29	+27
Total hours hunted	8,957	+47	+40
Doves per hunter (complete hunts)	3.27	-4	-10
Doves bagged per 100 hours	77	-19	-17
Average hours per hunter-day (complete hunts)	4.1	+5	+8
Hours hunted per dove bagged	1.2	+9	+9

September 1, 1986 was the Labor Day holiday so hunters had an excellent opportunity to hunt and the weather was favorable throughout the state. However, rain and scattered showers were common statewide from about August 20 through August 30 and certainly affected the hunting. Field bag checks indicated a decrease in hunter success. This confirms the questionnaire results which also indicated a decrease in hunter success. The total number of hunters checked was up 29 percent from 1985. Dove hunters spent more time afield per hunter-day than in 1985, 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 1977 through 1986 is contained in Table 10. Hatching dates for immature doves harvested in the Northern Region since 1977 are shown in Table 11. Hatching dates for immature doves harvested in Utah in 1986 are shown in Table 12.

Following is a comparison of data collected in 1986 to 1985 and long-term averages (1966-85):

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Sample size	3,910	+2	+18
Immatures/100 adults	127	+12	+10
Percent of immatures hatched on: (N. Region)			
August 3 or later	31.2	-30	-19
July 25 or later	81.8	-4	+1
Before July 25	18.2	+26	-6

More wings were collected for aging during the 1986 season compared to 1985. The 127 immatures per 100 adults indicated an improved hatch compared to the previous 20-year average. Wing analysis indicated slightly earlier but significantly shorter nesting period for 1986 compared with 1985. Doves hatched August 3 or later were 19 percent below the long-term average.

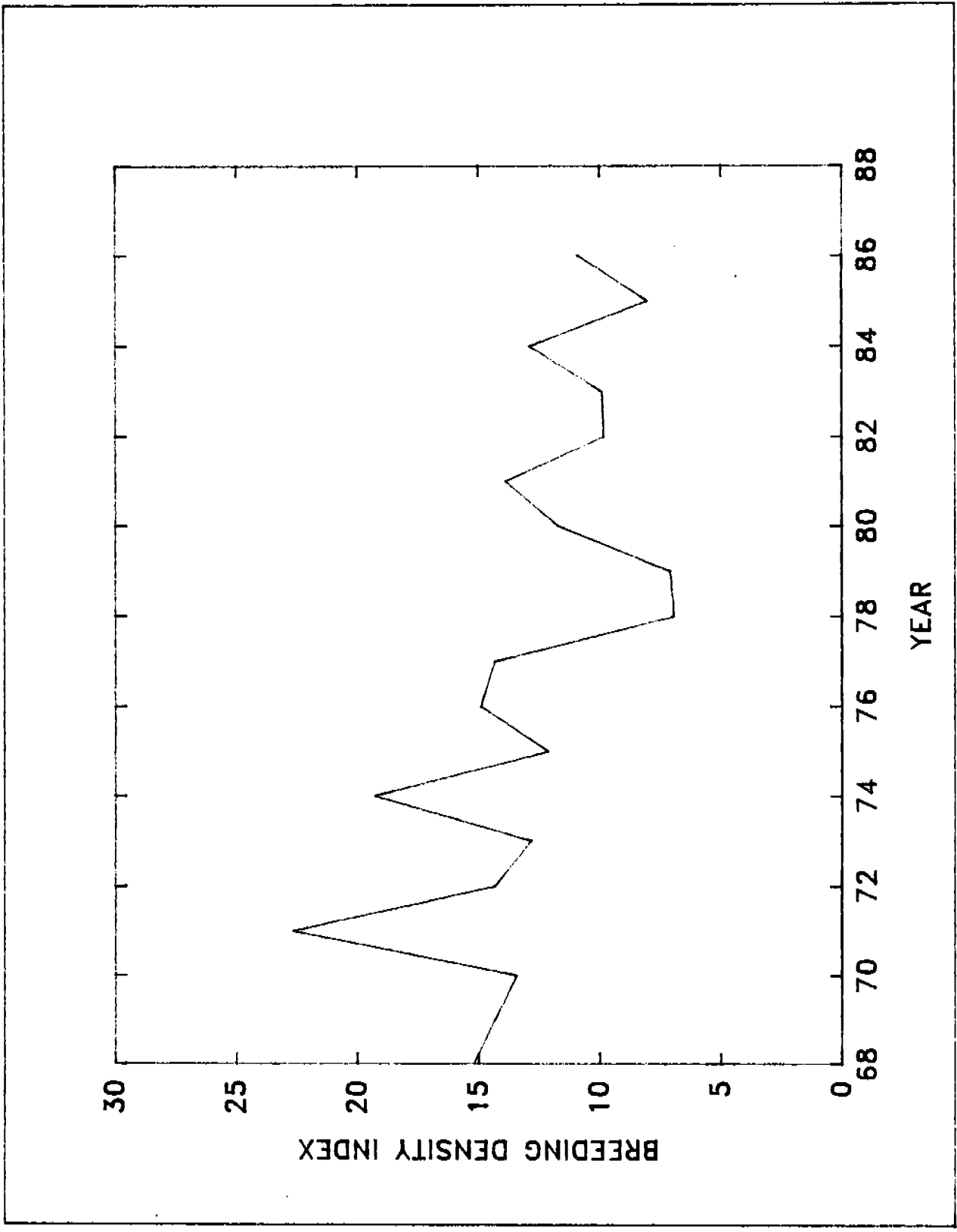


Figure 1. Mourning dove breeding density index trend.

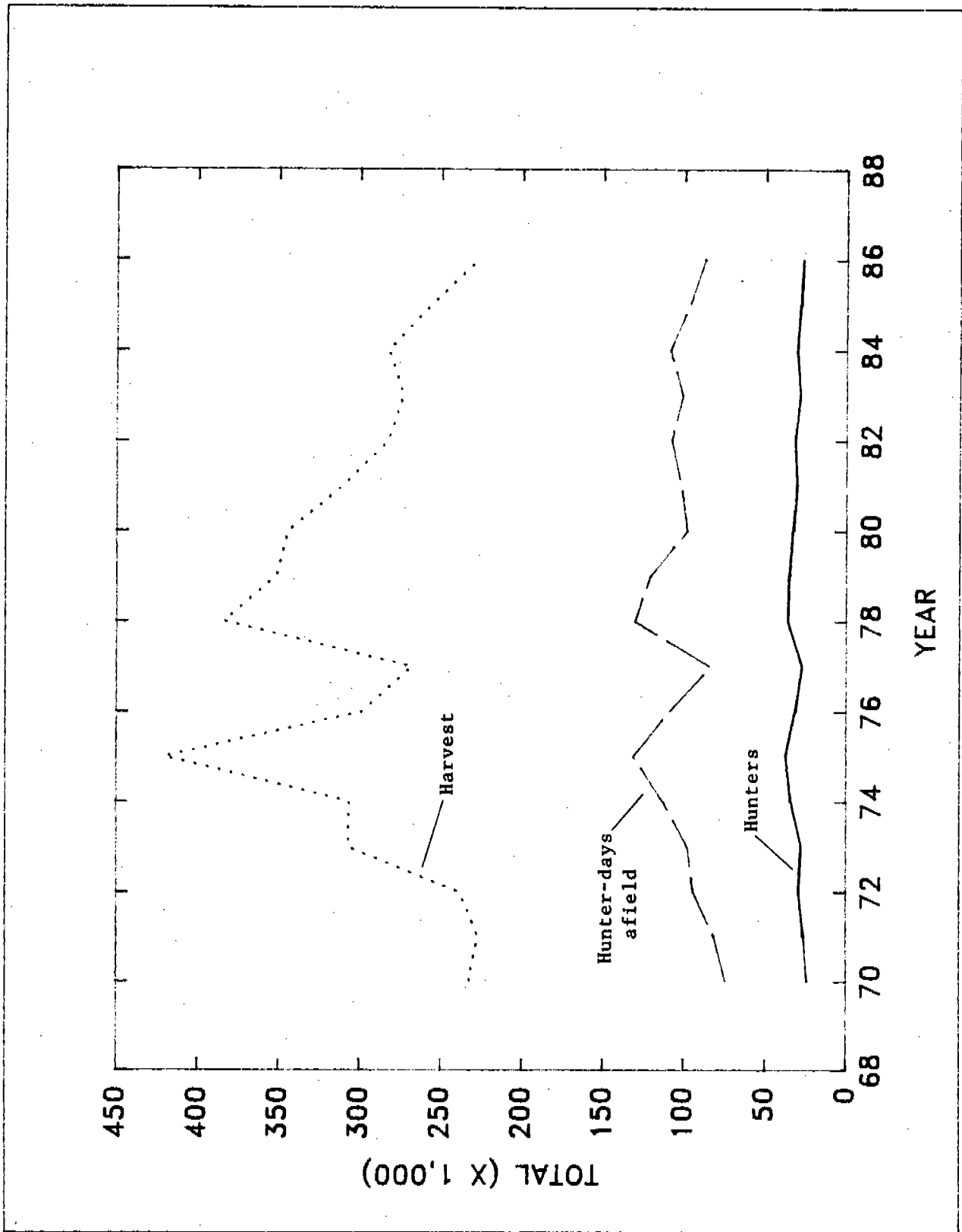


Figure 2. Statewide trends of mourning dove harvest statistics.

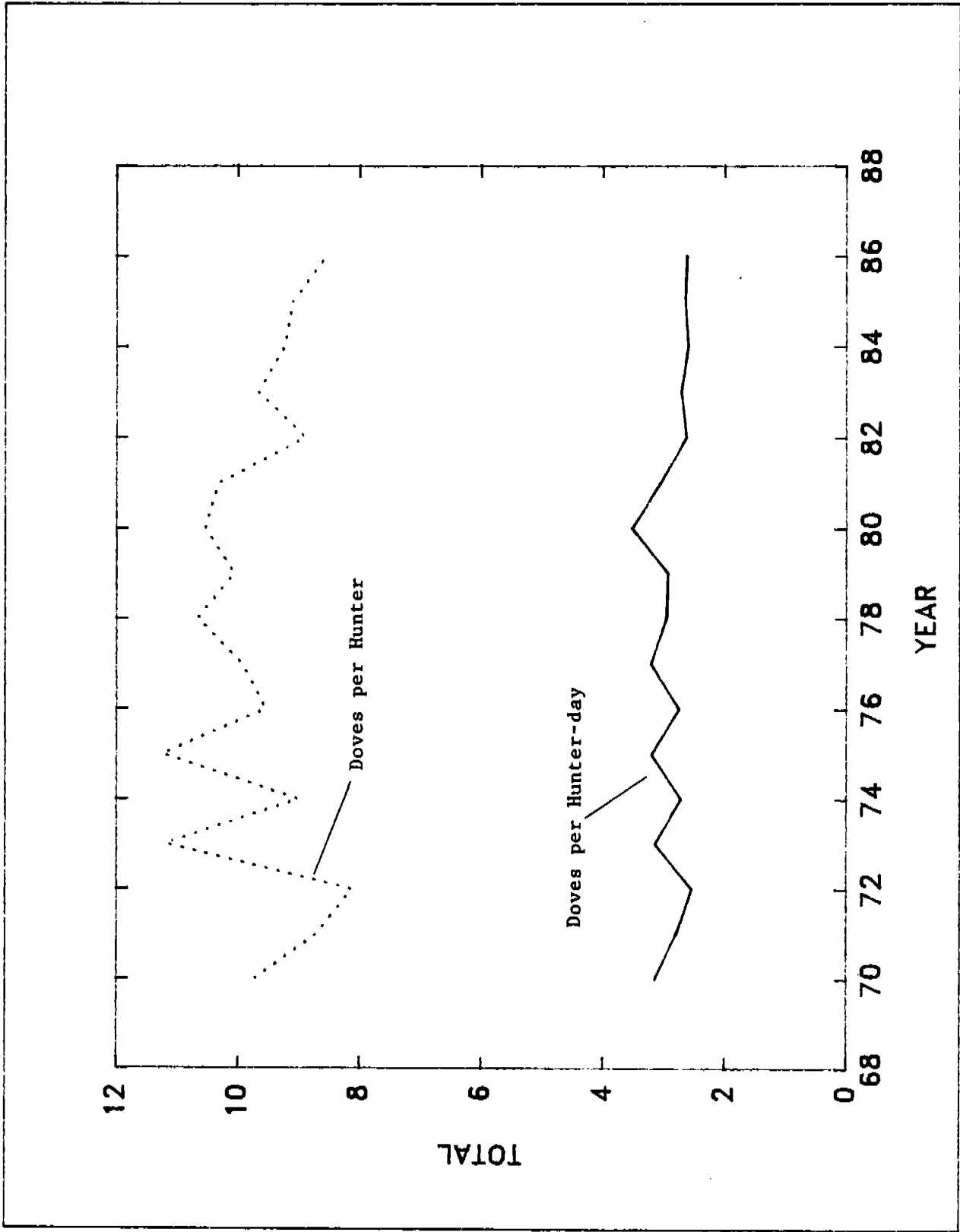


Figure 3. Statewide trends of mourning dove harvest statistics.

Table 1. Summary of the mourning dove call-count survey for 1986.

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	5	15	3
Box Elder	R1500	1	2	4
<u>REGIONAL TOTALS</u>		6	17	7
<u>Central Region</u>				
Juab	R2830	19	101	38
<u>REGIONAL TOTALS</u>		19	101	38
<u>Southern Region</u>				
Sevier-Sanpete	R0370	4	5	19
Wayne-Sevier	R0660	2	8	0
Garfield	R1090	1	4	0
Millard	R3640	2	3	6
Beaver	R3820	4	4	34
Iron	R4000	26	156	3
Washington	R4310	6	9	3
<u>REGIONAL TOTALS</u>		45	189	65
<u>Northeastern Region</u>				
Duchesne	R0080	3	8	3
Uintah	* R0220	20	117	9
<u>REGIONAL TOTALS</u>		23	125	12
<u>Southeastern Region</u>				
Emery	R0540	10	40	1
San Juan	R1171	60	227	82
San Juan	* R1450	0	0	0
<u>REGIONAL TOTALS</u>		70	267	83
<u>STATE TOTALS</u>		163	699	205
<u>STATE AVERAGE</u>		10.9	46.6	13.6
<u>PERCENT CHANGE</u> (from previous year)		+36.0	+45.0	+30.0

*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, 1975-86.

Region and County	Route Number	Number of Doves Heard Per Route														
		1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986			
<u>Northern Region</u>																
Summit	R1020	3	11	10	5	6	5	4	5	--	1	4	5	1	4	5
Box Elder	R1500	5	1	4	2	9	4	8	--	1	0	0	1	0	0	1
REGIONAL TOTALS		8	12	14	7	15	9	12	5	1	1	4	6	1	4	6
<u>Central Region</u>																
Juab	R2830	13	28	25	31	15	31	22	9	25	19	20	19	19	19	19
REGIONAL TOTALS		13	28	25	31	15	31	22	9	25	19	20	19	19	19	19
<u>Southern Region</u>																
Sevier-Sanpete	R0370	0	0	2	0	0	3	0	0	3	5	4	4	4	4	4
Wayne-Sevier	R0660	7	5	8	1	2	5	14	4	--	17	3	2	2	2	2
Garfield	R1090	0	3	1	0	0	0	9	2	3	15	3	1	3	1	1
Millard	R3640	21	6	29	8	4	2	10	9	5	14	2	2	2	2	2
Beaver	R3820	0	0	0	0	5	9	7	13	3	6	6	4	4	4	4
Iron	R4000	42	45	27	12	14	40	36	21	19	31	41	26	26	26	26
Washington	R4310	37	19	15	1	4	3	6	0	14	1	0	6	6	6	6
REGIONAL TOTALS		107	78	82	22	29	62	82	49	47	89	53	45	45	45	45
<u>Northeastern Region</u>																
Duchesne	R0080	9	11	14	2	2	1	13	7	0	1	8	3	3	3	3
Uintah	R0220	7	27	7	4	--	49	19	1	9	10	5	20	20	20	20
REGIONAL TOTALS		16	38	21	6	2	50	32	8	9	11	13	23	23	23	23
<u>Southeastern Region</u>																
Emery	R0540	6	14	4	10	9	7	22	7	11	10	3	10	10	10	10
San Juan	R1170	32	51	67	24	28	14	38	26	30	57	25	60	60	60	60
San Juan	R1450	*	2	1	3	1	3	0	24	5	7	2	0	0	0	0
REGIONAL TOTALS		38	67	72	37	38	24	60	57	46	74	30	70	70	70	70
STATE TOTALS		182	223	214	103	99	176	208	128	128	194	120	163	163	163	163
STATE AVERAGES		12.1	14.9	14.3	6.9	7.1	11.7	13.9	9.8	9.9	12.9	8	10.9	10.9	10.9	10.9
PERCENT CHANGE (from previous year)		-37	+23	-4	-52	+3	+65	+18	-38	0	+30	-38	+36	+36	+36	+36

*Automatic zero.

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	139	7,397	23,512	3.18	8.50	10.36
Cache	55	2,905	5,584	1.92	3.34	2.46
Davis	43	3,812	4,718	1.24	4.38	2.08
Morgan	10	494	1,009	2.04	0.57	0.44
Rich	10	659	2,452	3.72	0.76	1.08
Summit	5	247	267	1.08	0.28	0.12
Weber	58	3,791	6,161	1.63	4.35	2.71
REGIONAL TOTALS	320	19,308	43,707	2.26	22.17	19.26
<u>Central Region</u>						
Juab	143	5,543	25,181	4.54	6.37	11.09
Salt Lake	94	6,408	12,487	1.95	7.36	5.50
Sanpete	63	3,585	12,570	3.51	4.12	5.54
Tooele	169	9,025	25,861	2.87	10.36	11.39
Utah	260	15,269	32,641	2.14	17.53	14.38
Wasatch	12	597	1,174	1.97	0.69	0.52
REGIONAL TOTALS	741	40,430	109,917	2.72	46.43	48.42
<u>Southern Region</u>						
Beaver	21	2,040	4,121	2.02	2.34	1.82
Garfield	1	103	20	0.20	0.12	0.01
Iron	30	2,452	8,675	3.54	2.82	3.82
Kane	8	638	680	1.06	0.73	0.30
Millard	118	5,976	21,389	3.58	6.86	9.42
Piute	4	267	432	1.62	0.31	0.19
Sevier	53	4,348	7,933	1.82	4.99	3.50
Washington	33	1,895	7,397	3.90	2.18	3.26
Wayne	6	288	741	2.57	0.33	0.33
REGIONAL TOTALS	274	18,010	51,393	2.85	20.68	22.64
<u>Northeastern Region</u>						
Daggett	5	309	370	1.20	0.35	0.16
Duchesne	17	886	2,390	2.70	1.02	1.05
Uintah	36	2,287	4,368	1.91	2.63	1.92
REGIONAL TOTALS	58	3,482	7,129	2.05	4.00	3.14
<u>Southeastern Region</u>						
Carbon	25	1,360	3,750	2.76	1.56	1.65
Emery	32	2,575	4,162	1.62	2.96	1.83
Grand	13	659	2,823	4.28	0.76	1.24
San Juan	13	1,257	4,100	3.26	1.44	1.81
REGIONAL TOTALS	83	5,852	14,836	2.54	6.72	6.54
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	1,476	87,084	226,985	2.61	100	100

*Total hunter trips from questionnaire returns.

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
Northern Region								
Box Elder	3.76	4.97	3.04	3.74	3.50	3.19	2.18	3.18
Cache	2.47	2.77	2.83	2.16	2.48	2.05	2.34	1.92
Davis	1.34	1.79	1.59	1.52	1.32	1.66	1.53	1.24
Morgan	3.14	2.91	2.73	4.78	2.65	1.91	1.72	2.04
Rich	1.71	2.00	3.00	1.57	3.08	6.69	2.28	3.72
Summit	3.36	4.71	3.19	2.34	2.08	3.89	1.92	1.08
Weber	1.91	2.29	2.18	1.93	1.81	1.55	1.68	1.63
REGIONAL TOTALS	2.53	3.31	2.57	2.50	2.43	2.27	1.92	2.26
Central Region								
Juab	4.38	4.70	3.82	3.64	5.35	4.44	5.16	4.54
Salt Lake	2.28	2.33	2.65	1.89	2.14	1.95	1.91	1.95
Sanpete	2.61	3.64	3.23	2.48	3.64	2.98	2.71	3.51
Tooele	2.53	3.43	2.30	2.54	2.74	2.90	2.55	2.87
Utah	2.22	3.08	2.96	2.10	2.10	2.21	2.50	2.14
Wasatch	2.59	3.45	1.46	1.39	0.83	2.20	1.50	1.97
REGIONAL TOTALS	2.62	3.23	2.86	2.33	2.64	2.60	2.71	2.72
Southern Region								
Beaver	4.94	5.03	4.86	4.78	5.62	3.45	3.43	2.02
Garfield	4.56	5.17	4.02	4.15	3.07	1.80	0.60	0.20
Iron	4.52	5.02	4.42	3.24	3.60	3.07	4.99	3.54
Kane	4.17	5.86	4.71	2.50	4.38	5.76	2.54	1.06
Millard	4.92	5.43	4.11	4.49	4.63	4.25	4.30	3.58
Piute	2.18	3.90	4.05	0.63	1.65	1.94	1.60	1.62
Sevier	2.91	3.63	2.30	2.51	2.73	2.11	2.33	1.82
Washington	3.25	3.73	4.19	2.92	4.34	2.62	3.17	3.90
Wayne	6.04	2.93	3.76	2.56	2.50	2.00	2.47	2.57
REGIONAL TOTALS	4.05	4.58	3.85	3.49	3.80	3.22	3.53	2.85
Northeastern Region								
Daggett	2.79	1.50	1.00	2.33	1.34	1.48	0.00	1.20
Duchesne	3.13	3.07	3.76	3.09	2.79	1.83	2.50	2.70
Uintah	2.96	3.44	1.81	2.51	2.33	2.61	2.39	1.91
REGIONAL TOTALS	3.01	3.22	2.43	2.74	2.39	2.20	2.39	2.05
Southeastern Region								
Carbon	3.14	3.88	3.42	3.13	2.06	2.13	2.76	2.76
Emery	2.54	3.04	3.62	2.37	2.00	2.24	3.28	1.62
Grand	3.68	4.66	4.12	2.99	2.85	2.46	2.00	4.28
San Juan	3.97	3.80	3.75	3.68	3.70	3.51	3.38	3.26
REGIONAL TOTALS	3.09	3.69	3.75	2.99	2.41	2.41	3.01	2.54
Unknown Counties	5.09	5.00	0.64	1.56	7.20	0.00	0.00	0.00
STATE TOTALS	2.92	3.52	3.05	2.62	2.71	2.59	2.65	2.61

Table 5. Percentage distribution of mourning dove harvest by region and county, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>								
Box Elder	10.01	10.46	8.89	10.36	11.40	9.96	5.48	10.36
Cache	3.00	2.12	2.77	2.85	4.85	4.71	3.85	2.46
Davis	2.39	1.38	1.90	2.73	2.71	3.35	2.91	2.08
Morgan	1.03	0.96	1.05	1.27	0.64	0.30	0.76	0.44
Rich	0.22	0.27	0.23	0.26	0.54	0.77	0.55	1.08
Summit	0.19	0.16	0.46	0.48	0.12	0.25	0.84	0.12
Weber	3.78	3.72	3.37	5.67	4.31	3.57	4.21	2.71
<u>REGIONAL TOTALS</u>	<u>20.63</u>	<u>19.07</u>	<u>18.66</u>	<u>23.62</u>	<u>24.56</u>	<u>22.92</u>	<u>18.61</u>	<u>19.26</u>
<u>Central Region</u>								
Juab	9.55	9.25	6.99	7.97	8.93	9.42	10.97	11.09
Salt Lake	9.39	7.89	7.09	7.12	7.34	7.90	5.59	5.50
Sanpete	4.34	3.94	2.59	2.65	3.44	3.49	4.08	5.54
Tooele	5.57	7.55	5.31	8.27	9.46	8.67	7.42	11.39
Utah	12.73	14.92	17.37	15.20	14.14	13.94	17.75	14.38
Wasatch	0.63	0.80	0.78	0.58	0.24	0.86	0.98	0.52
<u>REGIONAL TOTALS</u>	<u>42.22</u>	<u>44.35</u>	<u>40.13</u>	<u>41.79</u>	<u>43.56</u>	<u>44.27</u>	<u>46.79</u>	<u>48.42</u>
<u>Southern Region</u>								
Beaver	1.62	1.69	1.70	2.60	1.65	2.31	1.55	1.82
Garfield	1.11	1.07	1.54	1.17	0.90	0.26	0.02	0.01
Iron	2.60	2.60	4.20	2.64	2.71	1.68	4.05	3.82
Kane	0.80	0.40	1.36	0.11	0.84	1.41	0.28	0.30
Millard	10.84	8.55	7.73	6.80	6.17	10.20	10.25	9.42
Piute	0.45	0.60	1.03	0.03	0.41	0.45	0.56	0.19
Sevier	5.23	3.63	2.91	3.37	3.23	3.98	3.24	3.50
Washington	2.45	3.39	3.16	3.25	3.70	2.37	2.44	3.26
Wayne	1.25	0.22	0.64	0.35	0.12	0.11	0.35	0.33
<u>REGIONAL TOTALS</u>	<u>26.36</u>	<u>22.15</u>	<u>24.26</u>	<u>20.42</u>	<u>19.74</u>	<u>22.77</u>	<u>22.75</u>	<u>22.64</u>
<u>Northeastern Region</u>								
Daggett	0.22	0.04	0.12	0.15	0.21	0.42	0.00	0.16
Duchesne	1.66	2.07	2.40	2.30	1.53	0.99	1.42	1.05
Uintah	2.79	2.29	1.99	2.52	2.49	2.66	2.78	1.92
<u>REGIONAL TOTALS</u>	<u>4.67</u>	<u>4.41</u>	<u>4.50</u>	<u>4.97</u>	<u>4.24</u>	<u>4.07</u>	<u>4.20</u>	<u>3.14</u>
<u>Southeastern Region</u>								
Carbon	1.96	2.82	2.44	3.94	2.28	2.39	2.93	1.65
Emery	1.92	2.85	3.32	2.00	2.37	1.45	3.35	1.83
Grand	0.90	1.98	3.90	1.20	0.99	0.88	0.27	1.24
San Juan	1.10	2.30	2.75	1.90	2.08	1.24	1.10	1.81
<u>REGIONAL TOTALS</u>	<u>5.89</u>	<u>9.95</u>	<u>12.40</u>	<u>9.04</u>	<u>7.73</u>	<u>5.97</u>	<u>7.65</u>	<u>6.54</u>
Unknown counties	0.23	0.07	0.05	0.15	0.18	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 6. Percentage distribution of mourning dove hunting pressure by region and county, 1979-86.

Region and County	Year							
	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>								
Box Elder	7.76	7.40	8.91	7.25	8.84	8.10	6.68	8.50
Cache	3.54	2.69	2.98	3.46	5.29	5.97	4.37	3.34
Davis	5.21	2.71	3.65	4.69	5.57	5.24	5.04	4.38
Morgan	0.95	1.16	1.17	0.70	0.65	0.41	1.18	0.57
Rich	0.37	0.49	0.23	0.43	0.48	0.30	0.64	0.76
Summit	0.17	0.12	0.44	0.54	0.16	0.17	1.15	0.28
Weber	5.76	5.72	4.72	7.71	6.45	5.97	6.66	4.35
<u>REGIONAL TOTALS</u>	<u>23.77</u>	<u>20.30</u>	<u>22.10</u>	<u>24.78</u>	<u>27.45</u>	<u>26.16</u>	<u>25.74</u>	<u>22.17</u>
<u>Central Region</u>								
Juab	6.36	6.93	5.57	5.73	4.53	5.50	5.64	6.37
Salt Lake	12.00	11.94	8.16	9.90	9.30	10.51	7.75	7.36
Sanpete	4.86	3.81	2.44	2.80	2.57	3.04	4.00	4.12
Tooele	6.42	7.75	7.05	8.52	9.39	7.76	7.73	10.36
Utah	16.70	17.05	17.90	18.92	18.28	16.38	18.88	17.53
Wasatch	0.71	0.82	1.63	1.08	0.78	1.01	1.73	0.69
<u>REGIONAL TOTALS</u>	<u>47.04</u>	<u>48.29</u>	<u>42.76</u>	<u>46.95</u>	<u>44.85</u>	<u>44.21</u>	<u>45.73</u>	<u>46.43</u>
<u>Southern Region</u>								
Beaver	0.95	1.18	1.06	1.48	0.80	1.74	1.20	2.34
Garfield	0.71	0.73	1.17	0.74	0.80	0.37	0.11	0.12
Iron	1.68	1.82	2.90	2.13	2.05	1.42	2.15	2.82
Kane	0.56	0.24	0.88	0.11	0.52	0.63	0.29	0.73
Millard	6.43	5.54	5.74	3.97	3.62	6.23	6.33	6.86
Piute	0.60	0.54	0.77	0.11	0.68	0.60	0.93	0.31
Sevier	5.24	3.53	3.86	3.51	3.20	4.89	3.69	4.99
Washington	2.20	3.20	2.30	2.92	2.31	2.35	2.04	2.18
Wayne	0.60	0.26	0.52	0.35	0.13	0.15	0.38	0.33
<u>REGIONAL TOTALS</u>	<u>18.98</u>	<u>17.05</u>	<u>19.20</u>	<u>15.34</u>	<u>14.11</u>	<u>18.38</u>	<u>17.12</u>	<u>20.68</u>
<u>Northeastern Region</u>								
Daggett	0.23	0.1	0.35	0.17	0.42	0.75	0.07	0.35
Duchesne	1.55	2.38	1.94	1.95	1.49	1.40	1.51	1.02
Uintah	2.74	2.35	3.34	2.63	2.90	2.65	3.09	2.63
<u>REGIONAL TOTALS</u>	<u>4.52</u>	<u>4.83</u>	<u>5.63</u>	<u>4.75</u>	<u>4.81</u>	<u>4.80</u>	<u>4.66</u>	<u>4.00</u>
<u>Southeastern Region</u>								
Carbon	1.82	2.56	2.17	3.30	3.00	2.91	2.82	1.56
Emery	2.21	3.30	2.80	2.21	3.23	1.68	2.71	2.96
Grand	0.71	1.50	2.88	1.05	0.94	0.93	0.35	0.76
San Juan	0.81	2.14	2.23	1.35	0.53	0.91	0.87	1.44
<u>REGIONAL TOTALS</u>	<u>5.56</u>	<u>9.49</u>	<u>10.08</u>	<u>7.91</u>	<u>8.71</u>	<u>6.44</u>	<u>6.75</u>	<u>6.72</u>
Unknown counties	0.13	0.05	0.23	0.26	0.07	0.02	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 7. Statewide summary of mourning dove harvest statistics, 1951-86.

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
1985	28,183	256,045	96,507	2.65	9.09
1986	26,583	226,985	87,084	2.61	8.54
<hr/>					
TOTALS					
(1951-86)	799,261	7,552,002	2,422,018	(124.82)	(328.54)
(1976-85)	308,943	3,019,212	1,046,161	(28.92)	(97.37)
<hr/>					
AVERAGES					
(1951-86)	22,202	209,778	67,278	3.47	9.13
(1976-85)	30,894	301,921	104,616	2.89	9.74

*Estimated.

**Bag Limit increased to 15.

Table 8. Mourning dove field bag check summary, 1986.

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	189	445	1,935	1,840	165	386	1,735	1,645	95 4.26
Cache	13	31	73	22 30	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	6	15	36	21 58	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	2	2	1	2 200	--	--	--	--	--
REGIONAL TOTALS	210	493	2,045	1,885 92	165	386	1,735	1,645	95 4.26
<u>Central Region</u>									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
<u>Southern Region</u>									
Beaver	10	19	64	100 156	1	4	12	17 142	4.25
Garfield	3	4	12	11 92	--	--	--	--	--
Iron	20	37	80	94 117	1	3	3	0 0	0.00
Kane	1	2	12	8 67	1	2	12	8 67	4.00
Millard	28	63	99	180 182	3	8	18	20 111	2.50
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	34	64	107	192 179	2	6	12	28 233	4.66
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	96	189	374	585 156	8	23	57	73 128	3.17
<u>Northeastern Region</u>									
Daggett	2	3	4	1 25	1	1	2	0 0	0.00
Duchesne	4	5	13	13 100	2	2	6	13 217	6.50
Uintah	7	14	22	63 286	2	2	3	11 366	5.50
REGIONAL TOTALS	13	22	39	77 197	5	5	11	24 218	4.80
<u>Southeastern Region</u>									
Carbon	7	15	61	55 90	6	13	57	52 91	4.00
Emery	18	39	83	102 123	17	37	82	102 124	2.76
Grand	--	--	--	--	--	--	--	--	--
San Juan	18	39	115	165 143	5	12	25	76 304	6.33
REGIONAL TOTALS	43	93	259	322 124	28	62	164	230 140	3.71
LEHI CHECK STATION	427	1,029	4,345	2,398 55	264	634	2,615	1,519 58	2.40
NEPHI CHECK STATION*	190	483	1,895	1,640 87	90	215	885	850 96	3.95
STATE TOTALS	979	2,309	8,957	6,907 77	560	1,325	5,467	4,341 79	3.27

*Includes Millard and Juab counties.

Table 9. Mourning dove hunter success trend determined by field bag checks, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter	Doves/ 100 Hr Hunter
<u>Northern Region</u>												
Box Elder	135	5.52	109	4.80	128	5.61	101	4.35	50	1.94	95	4.26
Cache	--	--	--	--	33	1.67	--	--	--	--	--	--
Davis	59	1.70	122	3.30	75	2.00	116	2.42	--	--	--	--
Morgan	--	--	--	--	100	1.00	--	--	--	--	--	--
Rich	--	--	406	14.60	--	--	156	6.25	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	317	9.50	214	3.00	182	6.20	--	--	--	--
REGIONAL TOTALS	128	4.99	120	4.99	126	5.12	103	4.36	50	1.94	95	4.26
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	61	1.40	--	--	--	--	--	--
Sanpete	200	1.00	37	0.92	--	--	--	--	--	--	--	--
Tooele	139	0.93	--	2.77*	133	3.33	--	--	--	--	--	--
Utah	--	--	--	--	172	7.86	62	1.33	40	2.00	--	--
Wasatch	--	--	--	--	0	0.00	--	--	23	1.00	--	--
REGIONAL TOTALS	63	0.96	37	0.92	122	3.90	62	1.33	34	1.63	--	--
<u>Southern Region</u>												
Beaver	78	2.89	113	5.42	--	--	88	8.36	--	--	142	4.25
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	720	14.00	0	0.00
Kane	--	--	--	--	35	6.13	--	--	--	--	67	4.00
Millard	152	5.96	--	3.75*	113	6.03	101	4.85	300	6.00	111	2.50
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	1.88*	--	1.83*	--	2.15*	75	1.50	--	--
Washington	--	--	--	--	236	4.71	--	--	--	--	233	4.66
Wayne	150	2.77	30	1.13	--	--	--	--	--	--	--	--
REGIONAL TOTALS	125	4.45	97	4.41	148	6.80	94	6.09	397	7.94	128	3.17
<u>Northeastern Region</u>												
Daggett	226	5.20	--	--	--	--	--	--	--	--	0	0.00
Duchesne	--	--	66	2.00	67	1.60	135	3.45	2,300	11.00	217	6.50
Uintah	166	2.92	400	4.00	146	2.11	50	0.94	500	15.00	366	5.50
REGIONAL TOTALS	198	3.95	200	3.33	108	1.93	90	1.93	925	12.33	218	4.80
<u>Southeastern Region</u>												
Carbon	1,000	10.00	230	6.68	183	2.20	750	9.38	103	10.33	91	4.00
Emery	664	9.13	205	4.79	193	5.80	428	15.00	182	3.50	124	2.76
Grand	--	--	32	10.50	--	--	--	--	--	--	--	--
San Juan	115	2.50	--	--	566	11.33	188	4.45	200	4.00	304	6.33
REGIONAL TOTALS	415	6.75	153	5.90	231	5.74	358	7.33	150	4.36	140	3.71
NEPHI CHECK STATION	116	5.62	91	3.94	155	7.40	56	2.61	167	7.47	96	3.95
LEHI CHECK STATION	95	3.97	185	3.16	83	5.14	135	6.50	62	2.37	58	2.40
STATE TOTALS	107	4.34	125	3.98	117	5.76	87	3.80	87	3.42	79	3.27

*Doves per hunter index based on all hunts.

Table 10. Age composition (Immatures/100 Adults) of mourning doves harvested, 1977-86.

Region and County	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1976-85 Avg.
	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	216 (1296)	88 (999)	84 (1271)	121 (1454)	107 (700)	124 (716)	143 (515)	135 (1172)	146 (137)	131 (1086)	
Cache	0 (2)	--	106 (33)	151 (113)	--	--	67 (5)	--	181 (45)	--	
Davis	150 (10)	--	71 (65)	169 (43)	--	107 (56)	55 (17)	121 (42)	85 (74)	--	
Morgan	--	--	--	--	--	--	188 (46)	--	--	--	
Rich	--	--	92 (25)	--	--	4,200 (43)	--	53 (23)	600 (7)	--	
Summit	--	--	--	--	--	--	--	--	--	--	
Weber	233 (20)	--	190 (29)	--	--	--	183 (34)	--	--	--	
REGIONAL TOTALS	216 (1328)	88 (999)	86 (1423)	124 (1610)	107 (700)	135 (815)	143 (617)	133 (1237)	138 (443)	131 (1086)	127 (1107)
Central Region											
Juab	283 (199)	63 (75)	--	--	--	--	--	--	--	--	
Salt Lake	275 (120)	--	--	--	--	--	--	--	--	--	
Sanpete	139 (74)	--	--	--	--	--	--	--	--	--	
Tooele	195 (177)	60 (262)	84 (103)	118 (96)	78 (71)	80 (137)	--	--	--	--	
Utah	113 (286)	61 (1814)	80 (1823)	45 (29)	--	100 (32)	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	177 (856)	61 (2151)	81 (1926)	95 (125)	78 (71)	89 (169)	--	--	--	--	109 (851)
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	
Duchesne	--	--	--	--	--	--	--	--	--	--	
Uintah	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	67 (167)	--	--	160 (138)	--	--	--	--	
Emery	--	--	--	--	260 (18)	76 (88)	--	--	--	52 (64)	
Grand	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	50 (84)	--	--	--	--	53 (227)	
REGIONAL TOTALS	--	--	67 (167)	281 (80)	65 (102)	119 (226)	--	--	--	53 (291)	109 (196)
NEPHI CHECK STATION	--	87 (2013)	114 (1814)	100 (862)	105 (1067)	62 (754)	108 (1239)	198 (1130)	107 (1678)	140 (1137)	110 (1320)
LEHI CHECK STATION	--	--	--	98 (1204)	75 (2075)	83 (1075)	84 (1021)	96 (1517)	107 (1391)	137 (1396)	91 (1381)
STATE TOTALS	200 (2184)	75 (5163)	91 (5330)	111 (3881)	87 (4015)	91 (3143)	106 (2877)	131 (3884)	117 (3512)	127 (3910)	113 (3685)

Table 11. Percent of harvest by hatching date of immature mourning doves in northern Utah, 1977-86.

Date Hatched	Age*	PERCENT OF HARVEST BY HATCH DATE															S A M P L E S I Z E									
		1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986					
Aug 3	29	36.4	52.8	45.6	35.6	46.1	32.6	22.8	43.1	44.7	31.2	329	246	265	316	166	152	77	304	115	192					
Jul 31	32	27.9	25.3	22.7	26.9	33.6	24.9	21.3	29.4	26.8	35.0	252	118	132	239	121	116	72	207	69	215					
Jul 25	38	17.3	12.0	14.3	16.4	14.2	21.7	21.0	19.0	14.0	15.6	156	56	83	146	51	101	71	134	36	96					
Jul 18	45	6.7	5.8	8.1	11.6	5.0	7.7	14.8	6.0	3.9	8.6	60	27	47	103	18	36	50	42	10	53					
Jul 9	54	4.3	3.0	5.0	5.1	0.6	4.7	9.2	2.1	1.9	4.7	39	14	29	45	2	22	31	15	5	29					
Jun 30	63	2.4	0.4	1.5	2.4	--	4.1	6.2	0.4	1.6	2.8	22	2	9	21	0	19	21	3	4	17					
Jun 21	72	2.9	0.2	1.7	1.5	--	2.8	2.1	0.0	0.0	1.3	26	1	10	13	0	13	7	0	0	8					
Jun 8	85	2.2	--	--	0.3	--	1.3	2.4	--	0.0	0.5	20	0	0	3	0	6	8	0	0	3					
May 22	102	--	0.2	0.2	--	0.3	0.2	0.0	--	0.0	0.3	--	1	1	0	1	1	1	0	0	2					
Apr 27	127	--	0.2	0.9	0.2	0.3	--	--	--	0.0	0.0	--	1	5	2	1	0	0	0	0	0					
Apr 21	133	--	--	--	--	--	--	--	--	7.0	0.0	--	--	0	0	0	0	0	0	18	0					

100 100 100 100 100 100 100 100 100 100 100 100 904 466 581 888 360 466 338 705 257 615

*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, 1986.

Date Hatched	Age* (Days)	P	PERCENT OF HARVEST BY HATCH DATE										S A M P L E S I Z E										
			N Region		Mephi CS		Lehi CS		C Region		Total		N Region		Mephi CS		Lehi CS		C Region		Total		SE Region
			Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	Other	Total	
Aug 3	29	none	31.2	45.0	45.1	45.0	45.0	51	192	180	146	180	146	146	180	146	146	180	146	146	180	51	
Jul 31	32	1	35.0	31.3	32.1	31.6	25	215	215	125	104	125	104	104	125	104	104	125	104	104	125	25	
Jul 25	38	2	15.6	15.0	17.6	16.1	16	96	96	60	57	60	57	57	60	57	57	60	57	57	60	16	
Jul 18	45	3	8.6	5.5	4.3	5.0	8	53	29	22	14	22	14	14	22	14	14	22	14	14	22	8	
Jul 9	54	4	4.7	2.0	0.6	1.4	—	17	29	8	2	8	2	2	8	2	2	8	2	2	8	—	
Jun 30	63	5	2.8	1.0	0.3	0.7	—	8	17	4	1	4	1	1	4	1	1	4	1	1	4	—	
Jun 21	72	6	1.3	0.3	0.0	0.1	—	3	8	1	0	1	0	0	1	0	0	1	0	0	1	—	
Jun 8	85	7	0.5	0.0	0.0	0.0	—	2	3	0	0	0	0	0	0	0	0	0	0	0	0	—	
May 22	102	8	0.3	0.0	0.0	0.0	—	2	2	0	0	0	0	0	0	0	0	0	0	0	0	—	
Apr 27	127	9	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	
Apr 21	133	10	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	—	
			100	100	100	100	100	615	615	400	324	400	324	324	400	324	324	400	324	324	400	100	

*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 1986 band-tailed pigeon harvest are unknown, because no hunter reports were received. Permits were not required, therefore, a questionnaire was not sent to participants. Harvest trends since 1970 are shown in Table 14.

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</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 1986, however, it is assumed that a majority of the 1986 harvest again occurred in Iron and Washington counties.

Table 13. Band-tailed pigeon harvest statistics, 1986.

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

*Based on hunter-days.

Table 14. Band-tailed pigeon harvest trend, 1970-86.

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	—	—	—	—	—
1985	—	—	—	—	—
1986	—	—	—	—	—
TOTALS (1970-86)	746	2,036	1,787	1.1	2.7
AVERAGES (1970-82)	57	157	137	1.1	2.8

CHUKAR PARTRIDGE

SUMMARY

The statewide breeding population of chukars increased slightly in 1986 following a more normal winter in northwestern Utah. Late winter and early spring precipitation, critical to successful chukar production, was above average. Above normal temperatures from January through March also resulted in more exposed winter feed for chukars.

Results of the brood survey indicated that brood production was above average, although breeding populations were down. Favorable nesting conditions and adequate forage were available as a result of accumulated precipitation during late winter and early spring. The indicated chukar density increased significantly during 1986, and chukars observed per 100 hours of effort were 69 percent above average.

Harvest statistics reflected a slight increase in harvest. However, hunter success (chukars per hunter-day) decreased 7 percent from 1985. Chukar hunters increased 18 percent and spent 30 percent more time afield than in 1985. Apparently, hunting pressure increased in response to larger populations.



Brood Counts

Results of the annual random brood survey for 1986 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 1986 compared to 1985 and the 10-year (1976-85) average:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total chukars observed	870	+126	+30
Young per 100 adults	631	-6	+77
Mean brood size	8.13	-4	+1
Chukars observed per 100 hours	633	+121	+69
Total hours effort	124	-8	-36

Harvest data for 1985 indicated breeding populations for 1986 were still significantly below statewide average. Fortunately, the 1985-86 winter weather was not as severe as the previous two winters. Late winter and early spring precipitation (January-April) was slightly above average over the entire state (Figure 2). However, significant above average temperatures were common from January through June. Slightly above normal precipitation occurred in July during the brood rearing period.

Effort on chukar brood counts decreased slightly from 1985 and remained far below average.

Brood count sample sizes were again extremely small for all regions. The Central Region counted 25 and the Southeastern Region counted 5 of the state total of 30 broods. Chukar density was 69 percent above the 10-year average but production was down slightly from 1985.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1986 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 1986 harvest statistics to 1985 and the 28-year average:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Chukar hunters	9,397	+18	-36
Chukars harvested	25,346	+21	-39
Hunter-days afield	31,672	+30	-24
Chukars per hunter-day	0.80	-7	-17
Chukars per hunter	2.70	+2	-2

Chukar hunters spent 30 percent more time afield and harvested about 21 percent more birds than in 1985. Chukars per hunter-day was slightly below the 1985 level and 17 percent below the statewide average. The Central Region again had the highest percentage of the harvest (52%) in 1986, and also had the highest percentage of hunter pressure (49%).

Field Bag Check

A summary of field bag check data for 1986 is shown in Table 10. The hunter success trend determined by field bag checks since 1981 is shown in Table 11. Data for the 1986 season compared to 1985 and the (1966-85) average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	521	-10	+4
Total hours hunted	3,036	-9	+35
Chukars per hunter (complete hunts)	0.15	+25	-85
Chukars bagged per 100 hours	4	+33	-82
Average hours per hunter-day (complete hunts)	6.0	0	+30
Hours hunted per chukar bagged (complete hunts)	39.7	-21	+373

Field bag checks indicate hunter success was up 25 percent from 1985 but remained well below average (85%). However, these data were significantly influenced by the large sample from the Box Elder County Checking Station where 82% of total hunters were checked. Box Elder county hunters accumulated 89% of total hours afield but harvested only 19% of total birds. It can be assumed that many of these Box Elder County hunters were spending much of their time hunting other species particularly sage grouse. Other regions indicated improved hunter success although sample sizes were small. If Box Elder County data was not considered, then, fewer hunters pursued chukars in 1986 and spent less time afield. The hours required to bag a chukar was 60% less than average. When Box Elder County data is added, the time required to bag a chukar was 373% more than average.

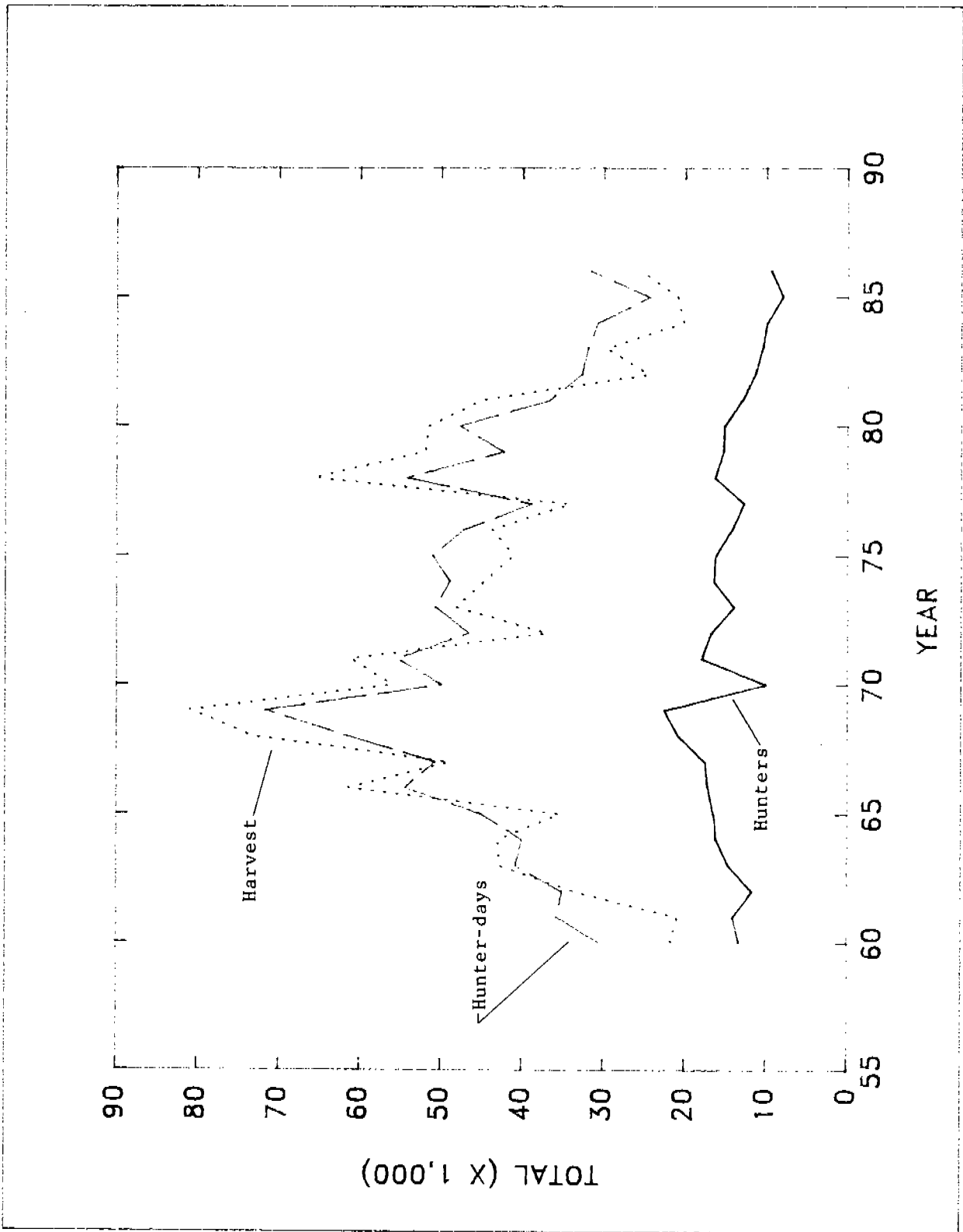


Figure 1. Statewide trends of chukar partridge harvest statistics.

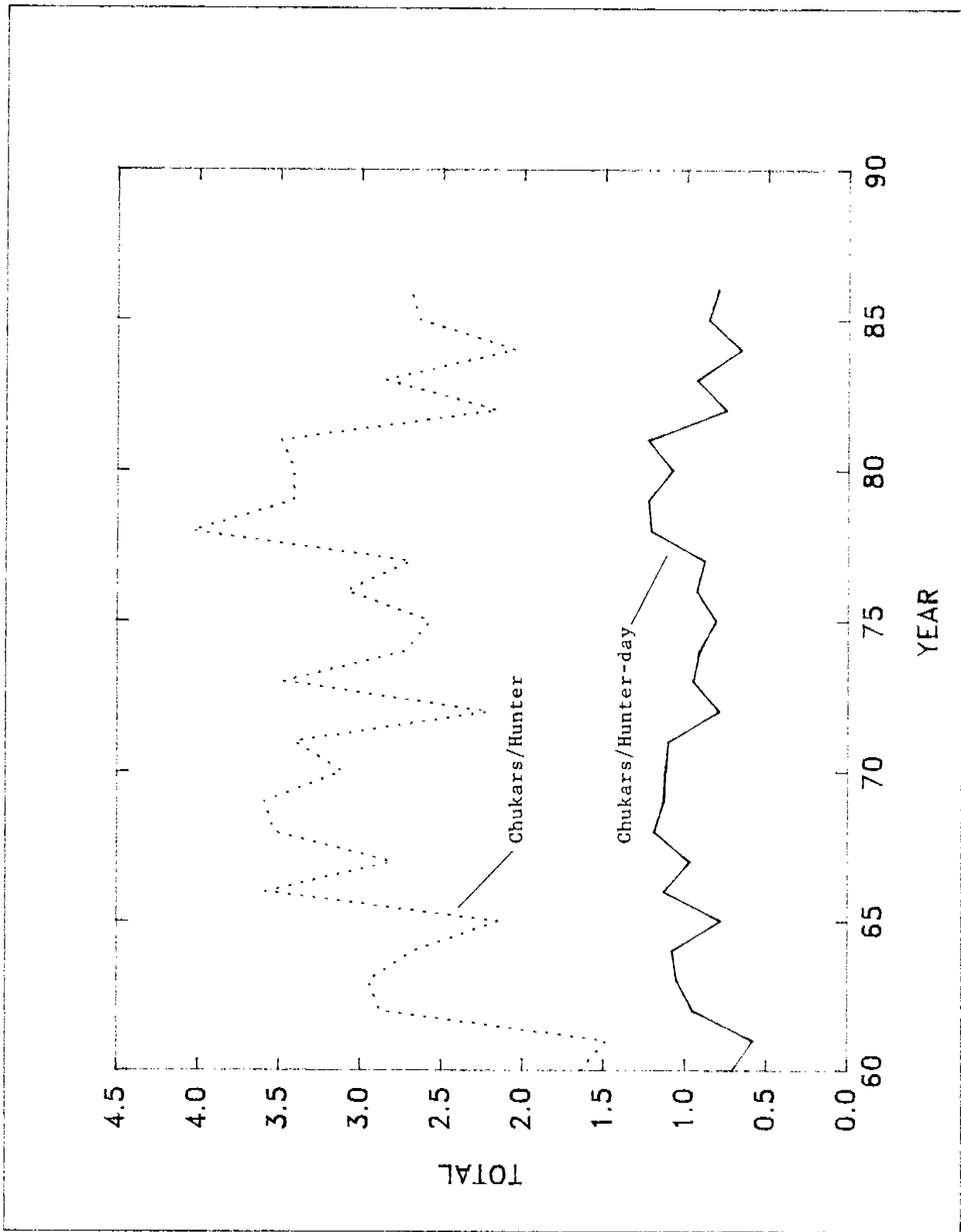


Figure 2. Statewide trends of chukar partridge harvest statistics.

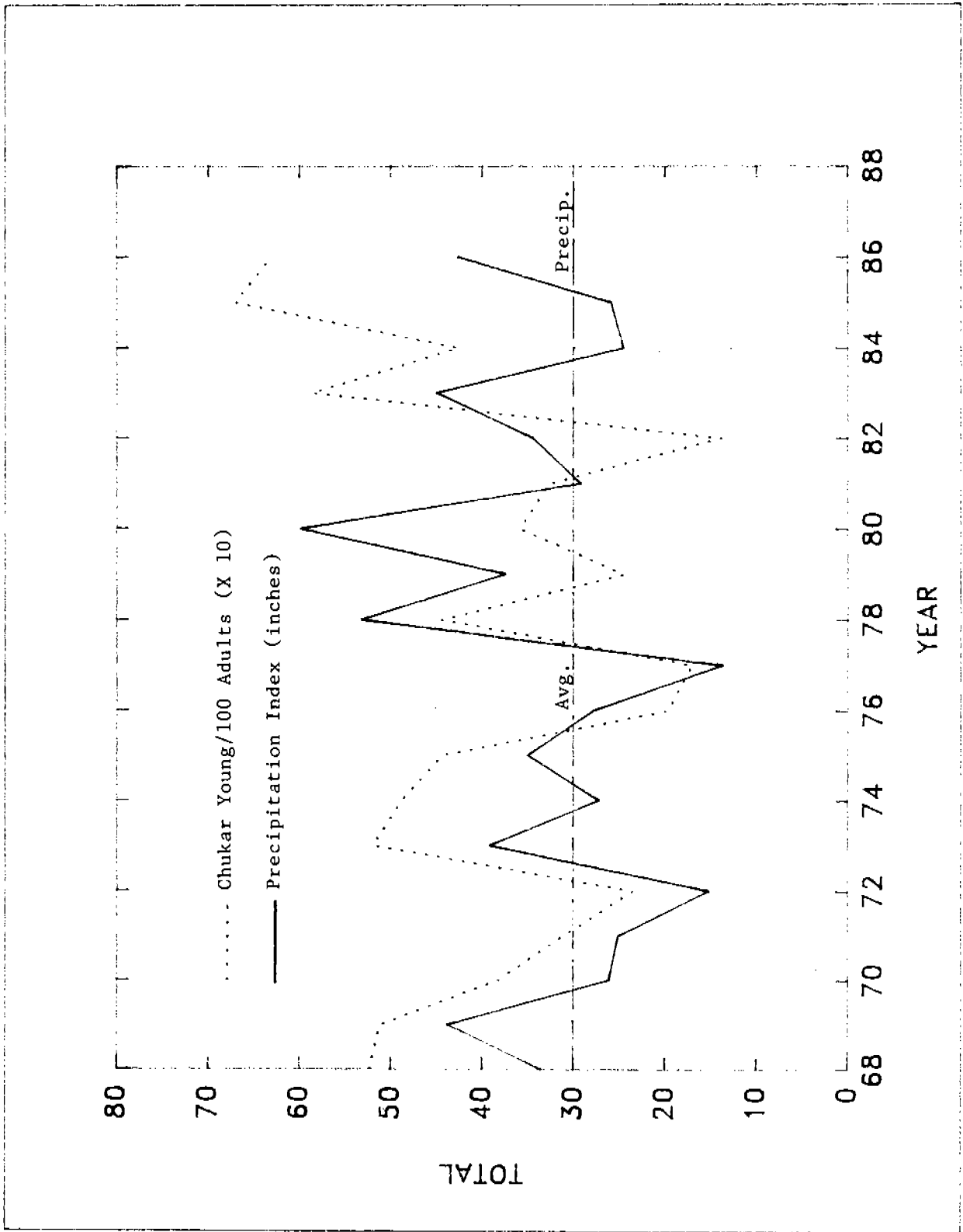


Figure 3. Relationship between late winter and early spring (Jan.-April) precipitation and chukar production.

Table 1. Chukar summer inventory summary, 1986.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr
	# Ad	Yng		Ad	Yng					Veh.	Horse Walk	
Northern Region												
Box Elder	0	0	--	8	56	0	56	700	45	15	0	23 38 168
Cache	0	0	--	0	0	0	0	--	345	18	0	0 18 --
Davis	0	0	--	0	0	2	0	--	4	1	0	8 9 22
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0	0	--	8	56	2	56	560	394	34	0	31 65 102
Central Region												
Juab	11	11	82	7.45	17	125	0	28	207	739	100	8 0 1 9 2,611
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	14	14	110	7.86	18	139	12	44	249	566	332	23 0 5 28 1,046
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	25	25	192	7.68	35	264	12	71	456	642	432	31 0 6 37 1,424
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	* 1	1	2	2	11	13	0	12	15	125	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	0	0	0	0	0	0	0	0	0	0	135	14 0 0 14 0
REGIONAL TOTALS	0	0	0	0	0	0	0	0	0	0	135	14 0 0 14 0
Southeastern Region												
Carbon	4	4	50	12.50	2	28	0	6	78	1,300	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	0	0	0	--	20	146	80	20	146	730	68	8 0 0 8 2,075
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	* 5	5	52	10.40	33	187	80	38	239	287	68	8 0 0 8 2,075
STATE TOTALS	30	30	244	8.13	76	507	94	119	751	631	1,029	87 0 37 124 633

*Data collected by Southeastern Region and included in Southeastern Region total.

Table 2. Trend of chukar young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	733	300	562	198	111	326	120	--	--	4,200	700	--
Cache	1,900	--	--	300	--	--	--	600	--	--	--	--
Davis	--	--	--	3	43	65	7	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	750	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	750	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	722	300	562	81	53	193	27	262	4,200	560	335	
<u>Central Region</u>												
Juab	352	356	1,100	--	557	315	600	--	800	--	739	--
Salt Lake	--	380	--	283	--	400	50	--	--	--	--	--
Sanpete	488	331	440	500	767	--	400	--	--	--	--	--
Tooele	417	96	686	771	697	359	585	--	436	550	566	--
Utah	800	150	0	205	243	--	--	--	--	300	--	--
Wasatch	--	--	--	--	--	--	--	800	--	--	--	--
REGIONAL TOTALS	411	230	386	518	572	348	512	800	481	457	642	472
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	450	--	--	350	--	--	122	--	--	--	125*	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	340	--	--	--	--	--	--	--
Millard	264	95	150	450	550	200	--	--	--	--	--	--
Piute	--	--	0	500	--	938	642	--	--	--	--	--
Sevier	--	--	--	--	600	800	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	900	--	--	--	600	737	--	--	--	--
REGIONAL TOTALS	294	95	233	420	425	410	389	737	--	--	--	375
<u>Northeastern Region</u>												
Daggett	--	--	--	575	--	--	--	--	--	--	--	--
Duchesne	800	375	0	--	--	163	--	--	--	--	--	--
Uintah	766	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	755	375	--	--	--	78	--	--	--	--	--	402
<u>Southeastern Region</u>												
Carbon	--	125	--	--	700	--	--	--	359	--	1,300	--
Emery	200	--	500	--	--	--	220	--	--	--	--	--
Grand	98	0	980	416	--	577	518	617	775	730	730	--
San Juan	40	58	220	--	--	533	--	--	337	--	--	--
REGIONAL TOTALS	97	59	591	416	700	575	426	617	392	408	287*	428
STATE TOTALS	196	170	444	245	358	326	138	586	426	670	631	356

Table 3. Trend of chukar mean brood size from 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	10.50	6.00	14.60	9.57	--	8.33	12.00	--	--	9.00	--	--
Cache	19.00	--	--	3.00	--	--	--	6.00	--	--	--	--
Davis	--	--	--	2.00	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	7.50	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	7.50	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	13.33	6.00	14.60	8.00	--	8.33	3.00	7.00	--	9.00	--	8.66
Central Region												
Juab	7.75	9.00	11.00	--	7.70	5.45	6.00	--	8.00	--	7.45	--
Salt Lake	--	--	--	5.67	--	4.00	--	--	--	--	--	--
Sanpete	11.00	6.50	5.00	6.33	--	--	--	--	--	--	--	--
Tooele	7.20	6.00	6.50	14.07	9.91	8.92	10.60	--	6.00	8.43	7.86	--
Utah	8.00	3.00	0.00	6.00	4.00	--	--	--	--	10.00	--	--
Wasatch	--	--	--	--	6.00	--	--	--	--	--	--	--
REGIONAL TOTALS	7.68	6.64	6.50	11.38	8.16	7.13	10.14	--	6.80	8.63	7.68	8.12
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield*	9.50	--	--	--	--	--	--	--	--	--	2.00*	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	6.71	3.50	0.00	6.00	10.00	--	--	--	--	--	--	--
Piute	--	--	0.00	10.00	--	10.50	3.00	--	--	--	--	--
Sevier	--	--	--	--	--	8.00	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	9.00	--	--	--	9.00	--	--	--	--	--
REGIONAL TOTALS	7.33	3.50	9.00	8.00	10.00	9.67	7.00	--	--	--	--	7.79
Northeastern Region												
Daggett	--	--	--	--	--	9.00	--	--	--	--	--	--
Duchesne	8.00	3.75	0.00	--	--	--	--	--	--	--	--	--
Uintah	7.67	--	--	--	--	--	10.00	--	--	--	--	--
REGIONAL TOTALS	7.75	3.75	--	--	--	9.00	--	10.00	--	--	--	7.63
Southeastern Region												
Carbon	9.00	--	--	--	--	--	--	--	5.50	--	12.50	--
Emery	12.00	6.17	--	5.00	--	--	--	--	--	5.00	--	--
Grand	4.00	6.00	--	0.00	12.50	--	11.90	8.25	7.75	9.00	--	--
San Juan	4.33	3.00	--	1.00	--	--	5.33	--	--	--	--	--
REGIONAL TOTALS	6.00	5.58	--	3.00	12.50	--	11.30	8.25	7.00	7.67	10.40*	7.66
STATE TOTALS	7.12	7.10	5.77	8.75	10.35	8.23	9.48	8.00	6.91	8.46	8.13	8.02

Table 4. Trend of chukars observed per 100 hours, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	208	32	307	438	43	645	90	--	--	239	168	
Cache	167	--	--	57	--	--	--	700	--	--	--	
Davis	--	--	--	608	760	810	1,127	100	--	--	22	
Morgan	100	--	--	--	--	--	--	850	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	197	32	307	430	140	502	479	227	--	155	102	274
Central Region												
Juab	413	152	109	1,500	206	692	363	--	200	--	2,611	
Salt Lake	0	400	--	209	--	500	43	--	--	--	--	
Sanpete	157	192	142	200	248	--	857	--	--	--	--	
Tooele	452	136	917	1,038	1,468	985	1,013	--	441	681	1,046	
Utah	129	33	133	1,220	533	--	38	--	--	578	--	
Wasatch	--	--	--	--	350	--	--	491	--	--	--	
REGIONAL TOTALS	302	157	243	623	440	722	578	164	291	542	1,424	406
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	440	--	--	1,200	--	--	500	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	1,020	216	182	220	236	1,467	--	--	--	--	--	
Piute	0	--	0	120	--	1,660	433	--	--	--	--	
Sevier	--	--	--	--	1,400	900	17	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	10	83	--	--	--	700	3,350	--	--	--	
REGIONAL TOTALS	616	114	115	242	525	1,436	266	3,350	--	--	--	821
Northeastern Region												
Daggett	--	0	--	--	--	--	--	--	--	--	--	
Duchesne	22	73	0	0	--	300	790	--	--	--	--	
Uintah	96	0	--	0	--	614	454	86	--	--	0	
REGIONAL TOTALS	52	27	0	0	--	533	348	27	--	--	0	141
Southeastern Region												
Carbon	--	450	--	0	1,600	--	--	--	420	--	--	
Emery	370	0	200	--	--	--	--	--	--	833	--	
Grand	2,950	40	379	1,020	--	2,891	1,167	2,871	291	424	2,075	
San Juan	492	136	67	0	--	1,120	--	--	1,750	--	--	
REGIONAL TOTALS	883	98	185	230	160	2,338	1,578	2,871	858	530	2,075	1,026
STATE TOTALS	370	96	213	396	336	978	496	398	176	286	633	375

Table 5. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	78	3,915	1,937	0.49	12.36	7.64
Cache	12	453	61	0.14	1.43	0.24
Davis	3	82	41	0.50	0.26	0.16
Morgan	1	288	0	0.00	0.91	0.00
Rich	1	20	0	0.00	0.07	0.00
Summit	1	20	0	0.00	0.07	0.00
Weber	5	473	0	0.00	1.50	0.00
REGIONAL TOTALS	101	5,254	2,040	0.39	16.59	8.04
<u>Central Region</u>						
Juab	36	2,287	1,998	0.87	7.22	7.89
Salt Lake	14	783	844	1.08	2.47	3.33
Sanpete	25	1,360	1,195	0.88	4.29	4.72
Tooele	119	7,645	6,862	0.90	24.14	27.07
Utah	64	3,523	2,287	0.65	11.13	9.02
Wasatch	3	61	0	0.00	0.20	0.00
REGIONAL TOTALS	261	15,661	13,188	0.84	49.45	52.03
<u>Southern Region</u>						
Beaver	6	309	41	0.13	0.98	0.16
Garfield	4	185	61	0.33	0.59	0.24
Iron	0	0	0	0.00	0.00	0.00
Kane	1	82	0	0.00	0.26	0.00
Millard	43	2,534	4,760	1.88	8.00	18.78
Piute	8	783	103	0.13	2.47	0.40
Sevier	39	3,152	1,504	0.48	9.95	5.93
Washington	0	0	0	0.00	0.00	0.00
Wayne	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	101	7,047	6,470	0.92	22.25	25.53
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	0	0	0	0.00	0.00	0.00
Uintah	4	247	0	0.00	0.78	0.00
REGIONAL TOTALS	4	247	0	0.00	0.78	0.00
<u>Southeastern Region</u>						
Carbon	15	741	659	0.89	2.34	2.60
Emery	25	1,421	1,050	0.74	4.49	4.15
Grand	27	1,153	1,813	1.57	3.64	7.15
San Juan	3	144	123	0.86	0.46	0.49
REGIONAL TOTALS	70	3,461	3,647	1.05	10.93	14.39
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	537	31,672	25,346	0.80	100	100

*Total hunter trips from questionnaire returns.

Table 6. Summary of chukars bagged per hunter-day by region and county, 1978-86.

Region and County	Year								
	1978	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>									
Box Elder	1.80	1.34	1.41	1.55	0.75	1.00	0.30	0.55	0.49
Cache	0.89	0.60	0.74	0.42	0.38	0.42	0.43	0.13	0.14
Davis	2.20	2.19	0.75	0.33	0.47	0.17	0.53	0.43	0.50
Morgan	1.08	1.38	0.75	0.75	1.21	1.02	0.10	0.30	0.00
Rich	1.22	0.38	0.60	0.50	0.67	0.83	0.80	0.00	0.00
Summit	0.75	1.02	0.78	0.73	0.00	1.38	0.67	0.00	0.00
Weber	0.77	0.67	0.48	1.25	0.91	0.61	2.46	0.18	0.00
<u>REGIONAL TOTALS</u>	1.57	1.25	1.25	1.28	0.74	0.91	0.41	0.46	0.39
<u>Central Region</u>									
Juab	0.63	1.13	0.86	0.66	0.57	1.00	0.92	1.63	0.87
Salt Lake	0.89	1.20	0.89	1.32	0.96	0.95	1.59	0.96	1.08
Sanpete	0.70	1.15	0.90	1.72	0.57	0.77	1.14	1.28	0.88
Tooele	1.06	1.37	0.89	0.97	0.73	0.94	0.95	1.12	0.90
Utah	0.66	0.83	1.01	0.81	0.74	0.85	0.62	0.71	0.65
Wasatch	1.29	0.44	0.58	0.33	0.94	0.61	0.07	0.07	0.00
<u>REGIONAL TOTALS</u>	0.91	1.15	0.92	0.98	0.73	0.90	0.88	1.06	0.84
<u>Southern Region</u>									
Beaver	0.00	0.00	0.86	2.33	0.61	1.80	1.60	0.00	0.13
Garfield	2.00	1.71	2.55	1.11	1.00	0.38	1.83	0.00	0.33
Iron	0.00	0.00	0.00	1.00	0.17	--	2.00	0.00	0.00
Kane	0.00	3.00	4.00	0.00	0.00	0.38	0.67	0.00	0.00
Millard	0.98	1.29	1.04	1.92	1.57	1.28	0.80	1.55	1.88
Piute	1.35	0.78	0.56	1.78	0.59	0.68	0.50	0.71	0.13
Sevier	0.76	0.67	0.39	1.48	0.41	0.40	0.37	0.21	0.48
Washington	0.00	1.67	0.00	0.00	0.00	--	0.50	0.00	0.00
Wayne	1.10	3.00	2.85	2.29	0.83	0.50	0.00	1.00	0.00
<u>REGIONAL TOTALS</u>	0.95	0.89	0.85	1.71	0.68	0.71	0.63	0.72	0.92
<u>Northeastern Region</u>									
Daggett	0.00	2.25	0.00	0.00	0.00	--	--	0.00	0.00
Duchesne	1.78	1.20	1.28	1.30	0.43	0.50	0.22	2.00	0.00
Uintah	1.88	1.38	0.27	1.20	2.06	1.00	1.45	1.00	0.00
<u>REGIONAL TOTALS</u>	1.56	1.38	1.00	1.25	1.15	0.63	0.90	1.09	0.00
<u>Southeastern Region</u>									
Carbon	0.58	1.88	1.01	1.24	0.76	0.88	0.42	0.42	0.89
Emery	0.18	1.27	1.37	1.06	0.83	1.54	0.44	0.62	0.74
Grand	0.33	3.39	1.80	1.89	1.02	1.61	0.37	1.31	1.57
San Juan	1.56	4.00	1.67	0.67	2.20	1.82	0.25	0.00	0.86
<u>REGIONAL TOTALS</u>	0.40	2.14	1.44	1.42	0.90	1.43	0.40	0.65	1.05
Unknown Counties	1.48	1.00	0.17	1.83	1.00	1.27	0.00	0.00	0.00
<u>STATE TOTALS</u>	1.21	1.23	1.08	1.23	0.75	0.93	0.66	0.86	0.80

Table 7. Percentage distribution of chukar harvest by region and county, 1978-86.

Region and County	Year								
	1978	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>									
Box Elder	49.32	27.64	38.93	26.85	25.31	23.59	6.64	8.39	7.64
Cache	4.51	1.29	1.84	1.27	1.25	1.49	1.81	0.20	0.24
Davis	2.95	2.58	0.49	0.09	0.56	0.09	1.61	0.61	0.16
Morgan	2.74	2.75	2.24	1.98	3.20	2.16	0.30	0.31	0.00
Rich	0.33	0.34	0.10	0.05	0.13	0.22	0.41	0.00	0.00
Summit	0.27	1.15	0.23	0.52	0.00	1.31	0.20	0.00	0.00
Weber	2.19	0.87	0.49	0.94	1.94	1.40	3.22	0.41	0.00
<u>REGIONAL TOTALS</u>	<u>62.31</u>	<u>36.61</u>	<u>44.33</u>	<u>31.71</u>	<u>32.39</u>	<u>30.25</u>	<u>14.18</u>	<u>9.92</u>	<u>8.04</u>
<u>Central Region</u>									
Juab	0.88	2.94	3.33	2.31	2.07	3.16	7.24	11.67	7.89
Salt Lake	3.65	4.12	2.90	6.94	4.51	4.15	7.04	5.12	3.33
Sanpete	1.43	4.63	2.14	2.93	3.01	3.56	2.51	8.90	4.72
Tooele	16.74	20.44	14.56	14.11	18.23	20.34	26.66	32.85	27.07
Utah	5.18	8.05	12.71	7.69	13.97	12.76	11.97	10.75	9.02
Wasatch	1.10	0.20	0.46	0.05	1.07	0.63	0.10	0.10	0.00
<u>REGIONAL TOTALS</u>	<u>28.98</u>	<u>40.37</u>	<u>36.10</u>	<u>34.03</u>	<u>42.86</u>	<u>44.60</u>	<u>55.53</u>	<u>69.40</u>	<u>52.03</u>
<u>Southern Region</u>									
Beaver	0.00	0.00	0.40	0.99	1.07	0.40	0.80	0.00	0.16
Garfield	0.55	0.34	1.84	0.47	0.38	0.13	1.11	0.00	0.24
Iron	0.00	0.00	0.00	0.05	0.06	0.00	0.20	0.00	0.00
Kane	0.00	0.50	0.13	0.00	0.00	0.27	0.20	0.00	0.00
Millard	1.49	2.47	1.65	3.63	5.33	4.55	10.96	10.64	18.78
Piute	0.70	1.57	0.92	6.13	0.63	0.94	3.22	1.53	0.40
Sevier	1.83	3.59	1.68	5.10	4.07	2.34	3.72	0.72	5.93
Washington	0.00	0.14	0.00	0.00	0.00	0.00	0.10	0.00	0.00
Wayne	0.33	0.17	1.22	0.76	0.31	0.09	0.00	0.31	0.00
<u>REGIONAL TOTALS</u>	<u>4.90</u>	<u>8.77</u>	<u>7.84</u>	<u>17.13</u>	<u>11.84</u>	<u>8.73</u>	<u>20.32</u>	<u>13.20</u>	<u>25.53</u>
<u>Northeastern Region</u>									
Daggett	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Duchesne	0.49	0.67	1.35	0.61	0.63	0.22	0.20	0.20	0.00
Uintah	0.27	0.50	0.10	0.57	2.32	0.31	1.61	1.02	0.00
<u>REGIONAL TOTALS</u>	<u>0.76</u>	<u>1.43</u>	<u>1.45</u>	<u>1.18</u>	<u>2.94</u>	<u>0.53</u>	<u>1.81</u>	<u>1.23</u>	<u>0.00</u>
<u>Southeastern Region</u>									
Carbon	0.33	5.21	2.34	2.64	2.82	1.94	2.51	1.33	2.60
Emery	0.21	1.99	2.34	4.29	3.38	8.12	2.72	3.17	4.15
Grand	0.76	5.33	5.20	8.31	3.01	4.28	2.81	1.74	7.15
San Juan	0.43	0.22	0.33	0.19	0.69	0.90	0.10	0.00	0.49
<u>REGIONAL TOTALS</u>	<u>1.74</u>	<u>12.76</u>	<u>10.21</u>	<u>15.43</u>	<u>9.90</u>	<u>15.24</u>	<u>8.15</u>	<u>6.24</u>	<u>14.39</u>
Unknown Counties	1.31	0.06	0.07	0.52	0.06	0.63	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>	<u>100</u>

Table 8. Percentage distribution of chukar hunting pressure by region and county, 1978-86.

Region and County	Year								
	1978	1979	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>									
Box Elder	33.14	25.32	29.87	21.19	25.13	22.01	14.54	13.02	12.36
Cache	6.13	2.65	2.70	3.71	2.44	3.27	2.77	1.04	1.43
Davis	1.62	1.45	0.71	0.35	0.89	0.50	1.98	1.23	0.26
Morgan	3.06	2.45	3.23	3.24	1.97	1.97	1.98	0.88	0.91
Rich	0.33	1.10	0.18	0.12	0.14	0.25	0.33	0.09	0.07
Summit	0.44	1.38	0.32	0.87	0.70	0.88	0.20	0.09	0.07
Weber	3.43	1.58	1.10	0.93	1.59	2.14	0.86	1.93	1.50
<u>REGIONAL TOTALS</u>	<u>48.15</u>	<u>35.93</u>	<u>39.10</u>	<u>30.40</u>	<u>32.86</u>	<u>31.01</u>	<u>22.67</u>	<u>18.66</u>	<u>16.59</u>
<u>Central Region</u>									
Juab	1.70	3.20	4.19	4.28	2.72	2.93	5.15	6.16	7.22
Salt Lake	4.98	4.24	3.52	6.43	3.52	4.07	2.91	4.58	2.47
Sanpete	2.47	4.96	2.56	2.08	3.94	4.32	1.45	5.98	4.29
Tooele	19.08	18.39	17.54	17.83	18.71	20.16	18.44	25.26	24.14
Utah	9.45	11.95	13.64	11.70	14.16	13.87	12.62	13.02	11.13
Wasatch	1.03	0.55	0.85	0.17	0.84	0.96	0.99	1.32	0.20
<u>REGIONAL TOTALS</u>	<u>38.71</u>	<u>43.30</u>	<u>42.29</u>	<u>42.50</u>	<u>43.88</u>	<u>46.31</u>	<u>41.57</u>	<u>56.34</u>	<u>49.45</u>
<u>Southern Region</u>									
Beaver	0.07	0.00	0.50	0.52	1.31	0.21	0.33	1.85	0.98
Garfield	0.33	0.24	0.78	0.52	0.28	0.33	0.39	0.97	0.59
Iron	0.07	0.07	0.04	0.06	0.28	0.08	0.07	0.00	0.00
Kane	0.00	0.21	0.04	0.00	0.14	0.67	0.20	0.89	0.26
Millard	1.85	2.34	1.70	2.32	2.53	3.31	8.99	5.89	8.00
Piute	0.63	2.48	1.78	4.23	0.80	1.30	4.23	1.85	2.47
Sevier	2.92	6.58	4.65	4.23	7.36	5.45	6.61	2.99	9.95
Washington	0.00	0.10	0.00	0.00	0.05	0.00	0.13	1.06	0.00
Wayne	0.37	0.07	0.46	0.41	0.28	0.17	0.20	0.26	0.00
<u>REGIONAL TOTALS</u>	<u>6.24</u>	<u>12.09</u>	<u>9.94</u>	<u>12.28</u>	<u>13.03</u>	<u>11.51</u>	<u>21.14</u>	<u>15.76</u>	<u>22.25</u>
<u>Northeastern Region</u>									
Daggett	0.07	0.14	0.04	0.00	0.00	0.08	0.00	0.00	0.00
Duchesne	0.33	0.69	1.14	0.58	1.08	0.42	0.59	0.09	0.00
Uintah	0.18	0.45	0.39	0.58	0.84	0.29	0.73	0.88	0.78
<u>REGIONAL TOTALS</u>	<u>0.59</u>	<u>1.27</u>	<u>1.56</u>	<u>1.16</u>	<u>1.92</u>	<u>0.79</u>	<u>1.32</u>	<u>0.97</u>	<u>0.78</u>
<u>Southeastern Region</u>									
Carbon	0.70	3.41	2.49	2.61	2.77	2.05	3.90	2.73	2.34
Emery	1.44	1.93	1.85	4.98	3.05	4.90	4.10	4.40	4.49
Grand	2.77	1.93	3.13	5.39	2.20	2.47	5.02	1.14	3.64
San Juan	0.33	0.07	0.21	0.35	0.23	0.46	0.26	0.00	0.46
<u>REGIONAL TOTALS</u>	<u>5.24</u>	<u>7.34</u>	<u>7.67</u>	<u>13.32</u>	<u>8.25</u>	<u>9.89</u>	<u>13.28</u>	<u>8.27</u>	<u>10.93</u>
Unknown Counties	1.07	0.07	0.43	0.35	0.05	0.46	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>	<u>100</u>

Table 9. Statewide summary of chukar partridge harvest statistics, 1958-86.

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
1985	7,930	20,938	24,346	0.86	2.64
1986	9,397	25,346	31,672	0.80	2.70
TOTALS (1958-86)	420,516	1,190,543	1,192,500	(26.92) 1.00	(79.83) 2.83
AVERAGES (1958-85)	14,682	41,614	41,458	0.96	2.75

Table 10. Chukar field bag check summary, 1986.

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	Birds/100 Hr Hunter		
<u>Northern Region</u>											
Box Elder	162	427	2,692	22	1	162	427	2,692	22	1	0.05
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	162	427	2,692	22	1	162	427	2,692	22	1	0.05
<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	1	3	9	3	33	0	0	0	0	--	--
Emery	9	22	96	36	38	3	3	9	9	100	3.00
Grand	20	47	156	51	33	11	23	77	35	45	1.52
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	30	72	261	90	35	14	26	86	44	51	1.69
STATE TOTALS	192	521	3,036	118	4	189	475	2,861	72	3	0.15

Table 11. Chukar hunter success trend as determined by field bag checks, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	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	47	1.90	5	0.28	11	0.50	2	0.09	--	0.01	7	0.27
Cache	9	0.33	--	--	--	--	6	0.50	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	29	1.00	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	46	1.83	5	0.28	11	0.51	3	0.10	--	0.01	7	0.27
<u>Central Region</u>												
Juab	62	2.10	--	--	--	--	--	--	36	1.36	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	44	1.60	10	0.50	16	0.83	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	50	1.77	10	0.50	16	0.83	--	--	36	1.36	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	28	0.88	--	--
Garfield	--	--	25	0.74	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	550	2.75	--	--	15	1.00	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	33	0.67	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	25	0.96	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	26	0.92	25	0.74	550	2.75	--	--	23	0.91	--	--
<u>Northeastern Region</u>												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	33	0.67	26	0.81	79	3.00	--	--	--	--	100	3.00
Grand	60	2.00	--	--	83	3.29	--	--	40	3.14	45	1.52
San Juan	--	--	--	--	--	--	25	1.50	--	--	--	--
REGIONAL TOTALS	54	1.56	20	0.67	81	3.17	12	0.38	40	3.14	51	1.69
STATE TOTALS	44	1.69	9	0.40	22	0.98	4	0.14	2	0.12	3	0.15

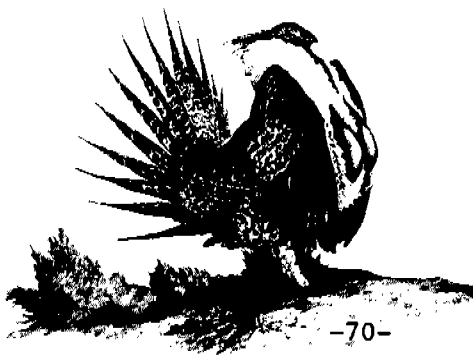
SAGE GROUSE

SUMMARY

Harvest data for 1985 indicated below average breeding populations of sage grouse for 1986. Strutting ground surveys indicated a slight increase in the average male grouse attendance from 1985.

Brood surveys showed decreased production throughout the state. However, birds observed per 100 hours increased 2 percent compared to 1985, but remained significantly below average.

The decrease in production, as indicated from brood counts, in 1986, was not apparent in harvest statistics collected from questionnaires and from field bag checks. Total statewide harvest increased 3 percent but was 21 percent below the 23-year average. Sage grouse bagged per hunter and sage grouse bagged per hunter-day also increased from the previous year. Total hunters and hunter-days afield both decreased 5 percent from 1985. Age ratios derived from wings indicated a 28 percent increase in young per 100 adults.



Strutting Ground Counts

The status of the sage grouse breeding population for 1986, as indicated by strutting ground counts, is shown in Table 1 of this section. Results of this survey for 1986 compared to 1985 and the 1967-85 average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Number of grounds counted	118	+22	+11
Total male grouse counted	1,708	+38	-17
Average male grouse per ground	14	+8	-26
Percent change from previous year (comparable grounds)	+5	--	--

Access for spring 1986 strutting ground counts was generally good in all regions of the state. The numbers of grouse observed increased statewide. Harvest data for 1985 indicated significantly below average populations going into the winter of 1985-86, but the numbers of juvenile birds indicated increased production during 1986. Declines in breeding populations and loss of habitat continue to be the trend in most areas of the state.

Brood Counts

Results of the summer inventory survey for 1986 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 1986 are compared to 1985 and the previous 10-year (1976-85) average as follows:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total sage grouse counted	1,125	+4	-57
Young per 100 adults	114	-22	-27
Mean brood size	4.53	+12	+1
Sage grouse observed per 100 hours	291	+2	-24
Total hours effort	387	+2	-41

The effort devoted to sage grouse brood counts was 41 percent below average, and the total number of grouse counted was 57 percent below average.

Sage grouse density increased 2 percent from 1985, but production showed a 22 percent decrease, however, both remained 24 and 27 percent below average, respectively. A decrease in young grouse was observed, but the average brood size was 1 percent higher than the 10-year average.

Harvest

Hunter Questionnaire

Results of the 1986 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 1986 hunting season compared to 1985 and the 1963-85 average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Sage grouse hunters	7,233	-5	-32
Sage grouse harvested	11,766	+3	-21
Hunter-days afield	13,992	-5	-21
Sage grouse per hunter-day	0.84	+8	0
Sage grouse per hunter	1.63	+8	+16

Sage grouse populations remain below average and production decreased slightly in 1986. However, total statewide harvest increased 3 percent, while total sage grouse hunters and hunter-days afield decreased. Hunter success increased 37 percent in the Northern Region where five of the seven counties were closed to sage grouse hunting. Nevertheless, 32 percent of the harvest and 40 percent of the hunting pressure still occurred in the Northern region.

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

Field Bag Checks

A summary of field bag check data for 1986 is shown in Table 11. Hunter success trends determined via this method are shown in Table 12. Results of the 1986 survey compared to 1985 and the 1976-85 average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	1,185	+20	-36
Total hours hunted	5,543	+16	-28
Sage grouse per hunter (complete hunts)	1.02	+10	+19
Sage grouse bagged per 100 hours	18	+6	-5
Average hours per hunter-day (complete hunts)	5.2	+11	+13
Hours hunted per grouse bagged	5.1	-12	-12

Sex and Age Composition of the Harvest

A summary of the sex and age composition of harvested sage grouse in 1986 is found in Table 13 and the trend from 1983-86 in Table 14.

Following are data derived from wing surveys in 1986 compared to 1985 and the 1981-85 average:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Sample size	706	-11	-33
Percent males	45	-2	+29
Percent females	55	+2	-5
Young per 100 adults	246	+28	+68
Young per 100 hens (adult)	398	+40	+80

Analysis of wings collected at checking stations during the 1986 season indicates that statewide production was up compared to 1985, and above the previous 5-year average.

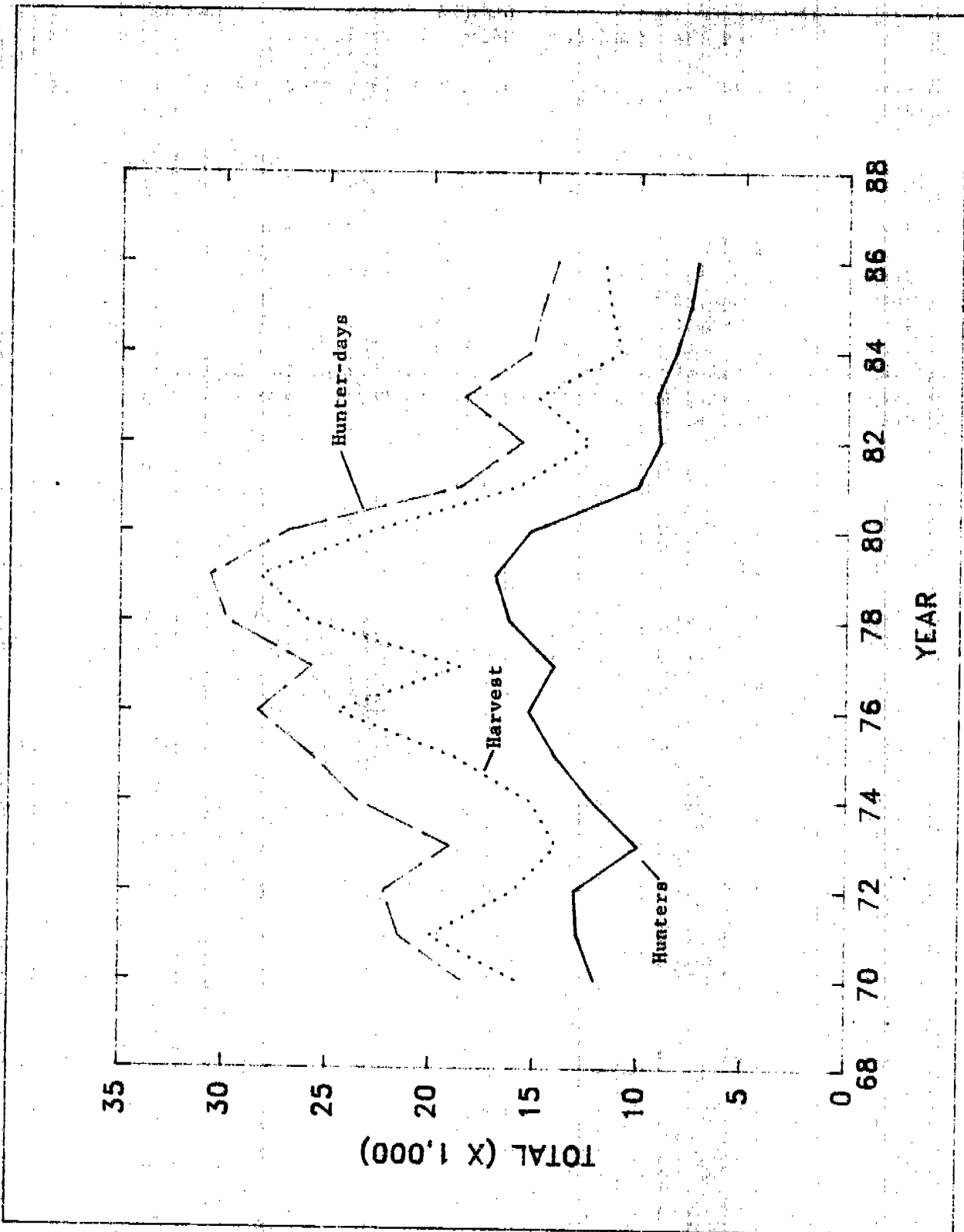


Figure 1. Statewide trend of sage grouse harvest statistics.

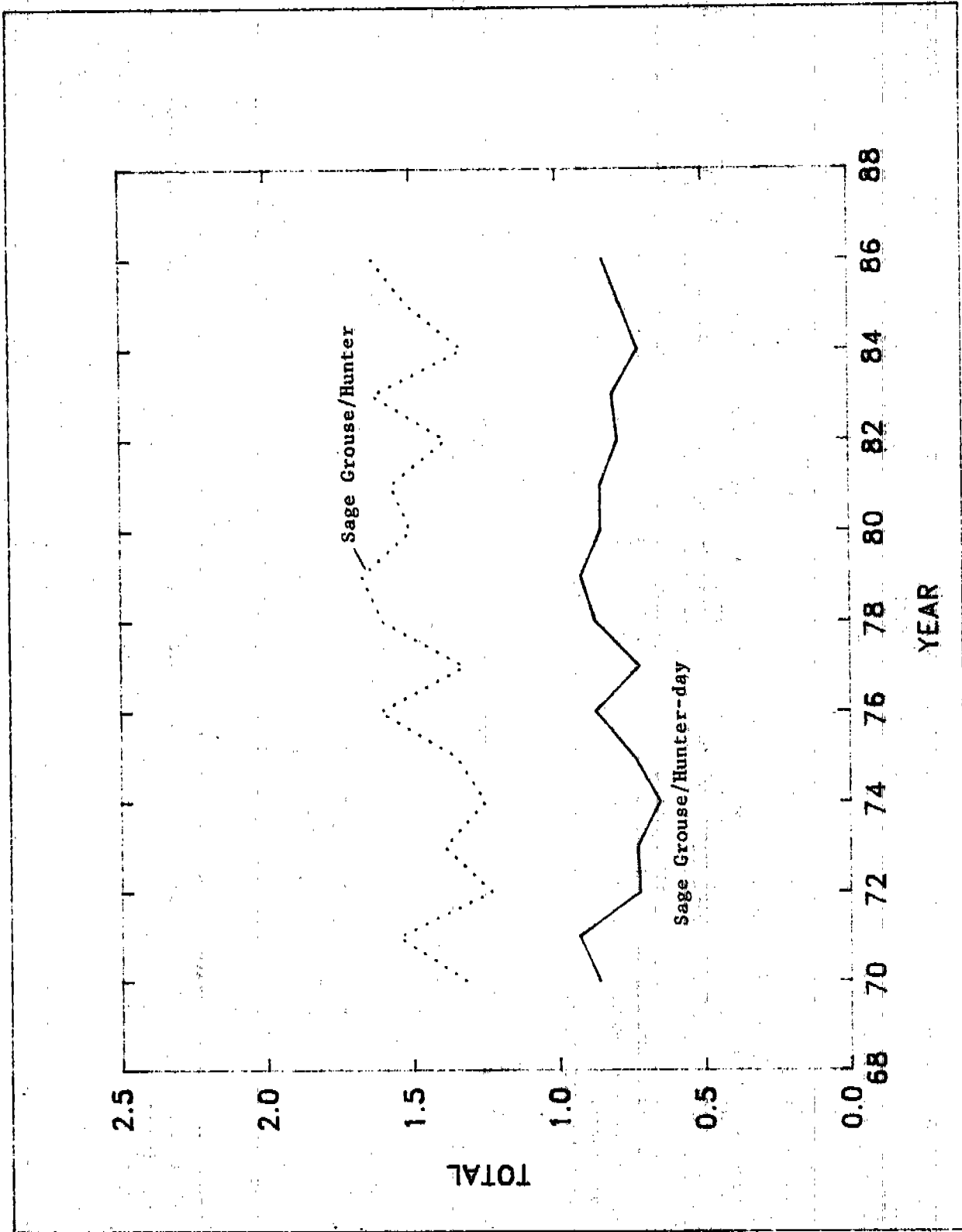


Figure 2. Statewide trend of sage grouse harvest statistics.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1976-86.

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Northern Region											
BOX ELDER											
No. strutting grounds counted	15	22	18	24	28	35	15	17	8	32	10
Total male grouse counted	239	621	452	763	899	711	384	322	216	309	288
County average	16	28	25	32	32	20	26	19	27	10	29
(all strutting grounds)											
% change from previous year - comparable grounds	0	+53	+3	+69	+9	-35	-24	-29	-8	+7	+17
CACHE											
No. strutting grounds counted	3	3	1	3	1	3	1	0	1	0	2
Total male grouse counted	35	45	15	32	18	18	19	0	5	--	8
County average	12	15	15	11	18	6	19	--	5	--	4
(all strutting grounds)											
% change from previous year - comparable grounds	-68	+29	-40	0	+20	-33	+58	--	--	--	--
MORGAN											
No. strutting grounds counted	3	3	3	3	3	3	3	3	1	3	3
Total male grouse counted	52	43	111	75	131	57	65	31	2	33	22
County average	17	14	37	25	44	19	22	10	2	11	7
(all strutting grounds)											
% change from previous year - comparable grounds	+27	-17	+158	-32	+76	-57	+16	-31	-91	+1,000	-33
RICH											
No. strutting grounds counted	8	13	15	11	11	13	7	9	6	18	11
Total male grouse counted	326	321	417	382	236	259	153	188	103	399	296
County average	41	25	28	35	21	20	22	21	17	22	27
(all strutting grounds)											
% change from previous year - comparable grounds	+57	-13	+17	+11	-40	+5	-21	+2	-2	+49	-28

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
SUMMIT											
No. strutting grounds counted	6	6	6	8	1	7	2	7	1	0	7
Total male grouse counted	107	169	91	116	15	60	11	46	16	--	23
County average (all strutting grounds)	18	28	15	15	15	9	6	7	16	--	3
% change from previous year - comparable grounds	-10	+52	-29	+5	+15	+13	-50	-9	+78	--	--
REGIONAL TOTALS											
No. strutting grounds counted	35	47	43	49	44	61	28	36	17	53	33
Total male grouse counted	759	1,199	1,086	1,368	1,299	1,105	632	587	342	741	637
Average grouse per ground (all strutting grounds)	23	26	25	28	30	18	23	16	20	14	19
% change from previous year - comparable grounds	+8	+19	+10	+29	-2	-27	-20	-22	-9	+27	-8
Southern Region											
GARFIELD											
No. strutting grounds counted	14	10	11	9	8	11	9	8	7	--	8
Total male grouse counted	201	192	224	211	97	298	359	197	133	--	152
County average (all strutting grounds)	14	19	20	23	12	27	39	25	19	--	19
% change from previous year - comparable grounds	-14	+2	+24	0	-48	+114	+78	-12	-46	--	+13
WAYNE											
No. strutting grounds counted	13	12	12	9	8	14	14	1*	(12)*	--	13
Total male grouse counted	260	256	166	221	32	284	300	123	(89)	--	120
County average (all strutting grounds)	20	21	14	25	4	20	21	123	(7)	--	9
% change from previous year - comparable grounds	+3	+19	-31	-59	--	--	--	--	--	--	-15

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

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
BEAVER											
No. strutting grounds counted	8	7	7	6	5	7	7	7	4	3	4
Total male grouse counted	108	90	66	134	113	140	131	117	48	45	55
County average											
(all strutting grounds)	14	13	9	22	23	20	19	17	12	15	14
% change from previous year - comparable grounds	-32	+8	-27	+137	+1	+6	-6	-11	+78	--	+22
IRON											
No. strutting grounds counted	9	5	10	5	6	7	9	4	--	5	6
Total male grouse counted	26	54	87	83	84	101	111	105	--	81	131
County average											
(all strutting grounds)	3	11	9	17	14	14	12	26	--	16	22
% change from previous year - comparable grounds	-50	+108	+11	+48	+1	+20	-3	+27	--	--	+49
SEVIER											
No. strutting grounds counted	2	3	4	4	--*	2	4	--	--	--	2
Total male grouse counted	2	26	23	9	--	0	5	--	--	--	0
County average											
(all strutting grounds)	1	9	6	2	--	0	1	--	--	--	--
% change from previous year - comparable grounds	--	+200	-11	60	--	--	--	--	--	--	--
MILLAR											
No. strutting grounds counted	1	1	1	--	--*	1	1	--	1	1	1
Total male grouse counted	11	3	14	--	--	22	22	--	4	2	3
County average											
(all strutting grounds)	11	3	14	--	--	22	22	--	4	2	3
% change from previous year - comparable grounds	--	-73	+367	--	--	--	0	--	--	--	+33

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
REGIONAL TOTALS											
No. strutting grounds counted	47	37	45	33	27	42	44	23	12	21	34
Total male grouse counted	608	618	580	691	326	845	928	563	185	391	461
Average grouse per ground (all strutting grounds)	13	17	13	21	12	20	21	24	15	19	14
% change from previous year - comparable grounds	-13	+14	-13	-22	-32	+46	+33	-9	-33	--	+12
Central Region											
SANPETE											
No. strutting grounds counted	2	2	2	2	2	2	2	2	2	2	2
Total male grouse counted	10	4	7	6	9	9	11	8	0	0	0
County average (all strutting grounds)	5	2	4	3	5	5	6	4	--	--	--
% change from previous year - comparable grounds	+100	-60	+75	-14	+17	0	+22	-27	-100	0	--
TOOELE											
No. strutting grounds counted	5	5	5	5	5	5	5	6	6	6	6
Total male grouse counted	80	77	37	116	131	46	28	28	23	55	82
County average (all strutting grounds)	16	15	7	23	26	9	6	5	4	9	16
% change from previous year - comparable grounds	+15	-4	-52	-38	+13	-64	-64	0	-18	+139	+149
WASATCH											
No. strutting grounds counted	2	2	2	2	2	2	2	2	2	2	2
Total male grouse counted	216	206	184	119	45	45	18	54	57	63	117
County average (all strutting grounds)	108	103	92	60	23	23	9	27	29	32	59
% change from previous year - comparable grounds	+7	-5	-11	-35	-62	0	-60	+200	+6	+11	+205

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
REGIONAL TOTALS											
No. strutting grounds counted	9	9	9	9	9	9	9	10	10	10	10
Total male grouse counted	306	287	228	197	185	100	57	90	80	118	199
Average grouse per ground (all strutting grounds)	34	32	25	22	21	11	6	9	8	12	18
% change from previous year - comparable grounds	+12	-6	-21	-35	-24	-51	-43	+58	-11	+48	+170
Northeastern Region											
DAGGETT											
No. strutting grounds counted	3	3	3	3	5	6	6	6	--	5	6
Total male grouse counted	40	55	78	47	51	68	18	45	--	25	22
County average (all strutting grounds)	13	18	26	16	10	11	3	7	--	5	3
% change from previous year - comparable grounds	+33	+38	+42	-40	-19	+20	-57	+56	--	-43	--
DUCHESNE											
No. strutting grounds counted	15	14	14	10	16	16	15	15	--	13	15
Total male grouse counted	245	161	227	93	120	112	156	178	--	121	123
County average (all strutting grounds)	16	12	16	9	8	7	10	12	--	9	8
% change from previous year - comparable grounds	-14	-20	+37	-35	+5	0	+15	+17	--	-29	--
UINTAH											
No. strutting grounds counted	10	11	13	11	12	10	12	16	--	12	13
Total male grouse counted	257	245	454	338	126	174	242	273	--	190	194
County average (all strutting grounds)	26	22	35	31	11	17	20	17	--	16	15
% change from previous year - comparable grounds	0	-16	+63	-18	-67	+56	+40	-21	--	-21	--

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
REGIONAL TOTALS (N.E.)											
No. strutting grounds counted	28	28	30	24	33	32	33	37	--	30	34
Total male grouse counted	542	461	759	478	297	354	416	396	--	336	339
Average grouse per ground (all strutting grounds)	19	17	25	20	9	11	13	13	--	11	10
% change from previous year - comparable grounds	-3	-13	+51	-25	-48	+27	+17	-3	--	-26	--
Southeastern Region											
CARBON											
No. strutting grounds counted	5	9	5	--	--	6	1	1	--	--	2
Total male grouse counted	134	140	41	--	--	2	0	16	--	--	32
County average (all strutting grounds)	27	16	8	--	--	3	--	16	--	--	16
% change from previous year - comparable grounds	+83	-10	-64	--	--	--	--	+100	--	--	--
EMERY											
No. strutting grounds counted	1	2	1	--	--	--	2	--	--	1	1
Total male grouse counted	13	33	12	--	--	--	9	--	--	12	11
County average (all strutting grounds)	13	17	12	--	--	--	5	--	--	12	11
% change from previous year - comparable grounds	--	+23	-25	--	--	--	--	--	--	--	-8
SAN JUAN											
No. strutting grounds counted	6	4	5	4	5	4	4	6	4	4	4
Total male grouse counted	98	117	96	67	41	63	47	59	57	39	29
County average (all strutting grounds)	16	29	18	17	8	16	12	10	14	10	7
% change from previous year - comparable grounds	-14	+22	-17	+1	-33	+65	-25	+52	-14	-29	-26

Table 1 (continued)

Region and County	Year										
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
REGIONAL TOTALS											
No. strutting grounds counted	12	15	11	4	5	10	7	7	4	4	7
Total male grouse counted	245	290	149	67	41	65	56	75	57	39	72
Average grouse per ground (all strutting grounds)	20	19	14	17	8	7	8	11	14	10	10
%change from previous year - comparable grounds	+20	+4	-37	+1	-33	+58	-28	+34	-14	-29	-26
STATE TOTALS											
No. strutting grounds counted	131	136	138	120	116	154	121	113	43	97	118
Total male grouse counted	2,460	2,855	2,802	2,808	2,148	2,469	2,089	1,711	664	1,234	1,708
Average grouse per ground (all strutting grounds)	19	21	20	23	19	16	17	15	15	13	14
%change from previous year - comparable grounds	+2	+6	-15	-13	-20	-9	-1	-8	-18	-1	+5

*No counts because of snow conditions.

Table 2. Sage grouse summer inventory summary, 1986.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults		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	7	7	25	6	16	10	23	41	178	39	8	12	1	21	304
Cache	0	0	0	0	0	0	0	0	--	110	16	0	0	16	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	0	0	0	0	0	0	0	0	--	17	4	18	0	22	--
Rich	26	26	132	5.08	24	21	119	169	91	805	75	0	39	114	282
Summit	1	1	4	4.00	0	0	.1	4	400	53	10	12	2	24	21
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	34	34	161	4.74	30	37	129	198	103	1,024	113	42	42	197	198
Central Region															
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	12	12	39	3.25	4	11	31	47	106	116	6	2	5	13	746
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	3	3	15	5.00	0	1	5	6	200	165	16	10	0	26	92
REGIONAL TOTALS	15	15	54	3.60	4	12	36	55	120	281	22	12	5	39	310
Southern Region															
Beaver	0	0	0	--	0	0	0	0	--	50	5	0	0	5	--
Garfield	2	2	4	2.00	2	6	4	8	125	59	8	0	0	8	225
Iro.	2	2	8	4.00	5	12	1	8	250	0	0	6	0	6	466
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	0	0	0	--	4	15	0	4	38	40	4	0	2	6	316
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	3	3	18	6.00	0	1	40	43	44	20	3	15	0	18	344
REGIONAL TOTALS	7	7	30	4.29	11	34	45	63	105	169	20	21	2	43	300
Northeastern Region															
Daggett	2	2	2	1.00	2	6	4	8	100	135	14	0	0	14	114
Duchesne	7	7	30	4.29	1	6	12	20	180	360	19	6	9	34	165
Uintah	25	25	136	5.44	43	73	97	165	127	453	40	0	6	46	813
REGIONAL TOTALS	34	34	168	4.94	46	85	113	193	131	948	73	6	15	94	474
Southeastern Region															
Carbon	2	2	8	4.00	0	0	4	6	133	60	7	--	--	7	200
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	3	3	9	3.00	0	0	12	15	60	86	6	0	1	7	400
REGIONAL TOTALS	5	5	17	3.40	0	0	16	21	81	146	13	0	1	14	271
STATE TOTALS	95	95	430	4.53	91	168	339	525	114	2,568	241	81	65	387	291

[] Estimate

Table 3. Trend of sage grouse young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	250	75	125	81	84	68	127	135	75	265	178	
Cache	486	450	--	0	300	122	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	71	35	414	66	89	120	--	240	--	300	--	
Rich	106	81	273	101	33	85	85	--	164	96	91	
Summit	247	106	316	221	74	114	80	67	--	--	400	
Weber	200	0	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	170	77	194	99	67	82	91	145	126	130	103	118
<u>Central Region</u>												
Juab	--	76	46	262	204	245	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	414	257	224	154	267	348	314	305	--	--	--	
Tooele	286	123	283	449	143	101	107	176	100	125	106	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	123	54	93	163	170	236	166	157	175	43	200	
REGIONAL TOTALS	187	77	112	204	171	171	209	214	155	64	120	156
<u>Southern Region</u>												
Beaver	181	69	156	100	142	104	32	--	400	43	--	
Garfield	174	174	176	272	383	84	128	133	140	229	125	
Iron	--	80	313	229	269	113	148	150	63	--	250	
Kane	0	--	--	57	--	--	--	1,000	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	0	--	--	--	--	--	--	--	--	--	38	
Sevier	533	0	625	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	286	115	308	288	291	263	193	104	411	152	44	
REGIONAL TOTALS	194	103	224	230	235	154	130	98	92	137	105	160
<u>Northeastern Region</u>												
Daggett	190	169	198	169	200	230	369	88	250	170	100	
Duchesne	161	53	199	127	248	235	305	240	145	297	180	
Uintah	249	235	269	279	401	253	183	375	67	261	127	
REGIONAL TOTALS	206	154	226	191	297	242	237	265	126	255	131	220
<u>Southeastern Region</u>												
Carbon	214	46	164	400	--	64	--	--	238	400	133	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	25	3	--	71	--	--	--	--	--	--	--	
San Juan	22	24	94	--	400	350	--	57	500	88	60	
REGIONAL TOTALS	68	25	142	223	450	83	--	57	267	122	81	160
STATE TOTALS	171	87	181	175	163	142	179	202	125	147	114	157

Table 4. Trend of sage grouse mean brood size, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	5.59	4.36	4.76	4.32	3.36	3.97	3.92	5.00	5.75	5.31	3.57	
Cache	6.25	4.50	--	--	1.00	3.50	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	4.25	3.50	6.44	4.00	5.60	5.14	--	4.20	--	3.00	--	
Rich	6.04	3.83	5.24	4.58	3.36	3.67	4.45	--	3.92	3.96	5.08	
Summit	5.00	4.50	5.77	5.00	3.78	3.67	2.67	3.33	--	--	4.00	
Weber	2.00	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.45	4.17	5.20	4.52	3.61	3.94	4.00	4.25	4.36	4.39	4.74	4.39
<u>Central Region</u>												
Juab	--	4.50	3.33	4.25	5.00	2.00	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	5.67	3.20	4.57	6.44	5.58	4.80	6.36	5.83	--	--	--	
Tooele	5.07	4.17	5.13	5.64	4.09	3.00	3.33	4.33	3.33	3.29	3.25	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	4.70	3.27	4.90	4.90	4.09	3.83	4.81	3.14	4.90	2.00	5.00	
REGIONAL TOTALS	4.98	3.44	4.82	5.18	4.41	3.44	5.32	4.37	4.54	2.56	3.60	4.30
<u>Southern Region</u>												
Beaver	4.95	3.57	4.29	4.00	4.14	5.50	4.00	--	4.00	5.00	--	
Garfield	3.50	4.00	4.00	4.39	5.00	4.50	3.43	3.43	4.00	4.50	2.00	
Iron	--	3.00	5.50	4.68	4.12	3.57	6.40	3.00	3.50	--	4.00	
Kane	--	--	--	--	--	--	--	5.00	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	5.33	--	6.25	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	3.95	4.40	4.56	4.74	4.60	3.96	4.43	3.67	5.00	3.57	6.00	
REGIONAL TOTALS	4.18	4.00	4.55	4.61	4.48	3.93	4.52	3.62	4.27	4.00	4.29	4.22
<u>Northeastern Region</u>												
Daggett	4.55	4.80	5.05	5.10	4.75	4.11	5.13	5.80	4.63	3.00	1.00	
Duchesne	4.11	3.56	4.00	4.73	4.42	3.91	5.32	4.59	3.77	4.73	4.29	
Uintah	5.21	4.48	4.87	4.67	5.55	5.27	4.95	5.13	3.00	5.00	5.44	
REGIONAL TOTALS	4.70	4.30	4.94	4.79	5.05	4.50	5.10	5.00	3.96	4.43	4.94	4.68
<u>Southeastern Region</u>												
Carbon	5.05	4.14	5.17	4.67	--	--	--	--	4.33	4.00	4.00	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	3.00	--	--	5.00	--	--	--	--	--	--	--	
San Juan	--	3.29	--	--	--	3.50	--	4.00	5.00	3.50	3.00	
REGIONAL TOTALS	4.77	3.71	5.17	3.25	--	3.50	--	4.00	4.50	3.67	3.40	4.07
STATE TOTALS	4.89	3.99	4.97	4.77	4.51	4.05	4.85	4.58	4.27	4.04	4.53	4.49

Table 5. Trend of sage grouse observed per 100 hours, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	457	670	452	1,835	575	571	238	90	195	380	304	
Cache	410	29	--	0	154	232	--	--	11	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	433	218	160	412	427	471	77	93	--	19	--	
Rich	724	580	838	952	393	648	188	--	198	288	282	
Summit	268	361	369	226	111	135	100	81	--	--	21	
Weber	12	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	429	461	400	545	315	440	144	82	110	186	198	311
Central Region												
Juab	0	580	255	588	206	380	--	--	--	0.00	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	263	255	594	743	319	303	426	214	--	--	--	
Tooele	781	311	265	776	710	627	207	203	105	242	746	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	1,353	1,253	767	652	360	147	362	41	122	267	92	
REGIONAL TOTALS	740	618	556	695	410	347	342	111	118	244	310	418
Southern Region												
Beaver	555	428	242	89	920	613	62	767	167	429	--	
Garfield	226	211	545	468	229	480	291	300	257	295	225	
Iron	--	771	220	1,315	342	1,085	315	71	260	--	466	
Kane	233	0	--	588	--	--	--	275	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	100	--	--	--	--	--	--	--	--	--	316	
Sevier	950	83	207	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	491	240	444	494	338	538	783	612	381	358	344	
REGIONAL TOTALS	348	265	380	617	346	653	429	392	304	342	300	408
Northeastern Region												
Daggett	352	575	637	1,274	489	800	300	467	308	284	114	
Duchesne	347	446	392	258	446	574	845	433	454	325	165	
Uintah	716	513	397	705	474	398	1,036	866	314	888	813	
REGIONAL TOTALS	473	509	427	673	483	507	800	631	364	490	474	536
Southeastern Region												
Carbon	147	283	295	200	5	219	--	--	415	--	200	
Emery	--	0	0	--	--	--	--	--	--	--	--	
Grand	1,125	550	71	240	--	--	--	--	--	--	--	
San Juan	304	341	194	--	100	50	--	50	57	231	400	
REGIONAL TOTALS	220	332	237	210	36	141	--	50	194	235	271	184
STATE TOTALS	428	445	407	621	374	444	401	258	180	284	291	384

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunter pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged	Birds per Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	67	2,452	2,307	0.94	17.53	19.61
Cache+	13	576	103	0.18	4.12	0.88
Davis+	5	164	41	0.25	1.18	0.35
Morgan+	9	618	288	0.47	4.42	2.45
Rich	34	989	576	0.58	7.07	4.90
Summit+	7	206	103	0.50	1.47	0.88
Weber+	18	576	329	0.57	4.12	2.80
<u>REGIONAL TOTALS</u>	<u>153</u>	<u>5,584</u>	<u>3,750</u>	<u>0.67</u>	<u>39.91</u>	<u>31.87</u>
<u>Central Region</u>						
Juab+	3	82	247	3.00	0.59	2.10
Salt Lake+	2	267	680	2.54	1.91	5.78
Sanpete+	8	494	185	0.38	3.53	1.58
Tooele+	8	267	412	1.54	1.91	3.50
Utah+	24	1,092	453	0.42	7.81	3.85
Wasatch	8	473	309	0.65	3.39	2.63
<u>REGIONAL TOTALS</u>	<u>53</u>	<u>2,678</u>	<u>2,287</u>	<u>0.85</u>	<u>19.15</u>	<u>19.44</u>
<u>Southern Region</u>						
Beaver	6	206	185	0.90	1.47	1.58
Garfield	19	762	515	0.68	5.45	4.38
Iron	10	350	288	0.82	2.50	2.45
Kane	6	164	20	0.13	1.18	0.18
Millard+	2	41	20	0.50	0.29	0.18
Piute	3	82	41	0.50	0.59	0.35
Sevier	12	473	206	0.43	3.39	1.75
Washington	--	--	--	0.00	0.00	0.00
Wayne	22	659	783	1.19	4.71	6.65
<u>REGIONAL TOTALS</u>	<u>80</u>	<u>2,740</u>	<u>2,060</u>	<u>0.75</u>	<u>19.59</u>	<u>17.50</u>
<u>Northeastern Region</u>						
Daggett	7	226	103	0.45	1.62	0.88
Duchesne	13	432	432	1.00	3.09	3.68
Uintah	41	1,648	2,143	1.30	11.78	18.21
<u>REGIONAL TOTALS</u>	<u>61</u>	<u>2,307</u>	<u>2,678</u>	<u>1.16</u>	<u>16.49</u>	<u>22.78</u>
<u>Southeastern Region</u>						
Carbon	10	350	432	1.24	2.50	3.68
Emery	3	144	391	2.71	1.03	3.33
Grand	4	103	41	0.40	0.74	0.35
San Juan	3	61	82	1.33	0.44	0.70
<u>REGIONAL TOTALS</u>	<u>20</u>	<u>659</u>	<u>947</u>	<u>1.44</u>	<u>4.71</u>	<u>8.06</u>
Unknown Counties	1	20	41	2.00	0.15	0.35
Closed Areas	(83)	(3,764)	(2,717)	(0.72)	(26.90)	(23.09)
<u>STATE TOTALS</u>	<u>368</u>	<u>13,992</u>	<u>11,766</u>	<u>0.84</u>	<u>100</u>	<u>100</u>

*Total hunter trips from questionnaire returns.

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

()Data reported for closed areas.

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>							
Box Elder	1.41	1.26	0.78	0.88	0.80	0.73	0.94
Cache	0.61	0.40	0.50	0.47	0.54	0.21*	0.18*
Davis	0.27	0.22*	0.36*	0.45*	0.18*	0.25*	0.25*
Morgan	0.57	0.74	0.30	0.15	0.32	0.25*	0.47*
Rich	0.53	0.53	0.51	0.44	0.50	0.30	0.58
Summit	0.48	0.38	0.32	0.50	0.23	0.20*	0.50*
Weber	0.85	0.16	0.39	0.47	0.67	0.43*	0.57*
<u>REGIONAL TOTALS</u>	0.94	0.76	0.56	0.58	0.55	0.49	0.67
<u>Central Region</u>							
Juab	0.94	1.14*	0.17	0.36*	0.33*	4.00*	3.00*
Salt Lake	0.64*	0.75*	2.08*	0.50*	0.25*	0.08*	2.54*
Sanpete	0.56	1.40*	0.31*	0.33*	0.64*	0.44*	0.38*
Tooele	0.86	0.54	0.86*	0.30*	0.53*	0.23*	1.54*
Utah	0.57	0.64	0.50*	1.08*	0.77*	0.45*	0.42
Wasatch	0.58	0.50	0.54	0.65	0.28	0.19	0.65*
<u>REGIONAL TOTALS</u>	0.64	0.68	0.62	0.63	0.51	0.46	0.85
<u>Southern Region</u>							
Beaver	0.86	1.06	1.24	0.95	1.29	0.33	0.90
Garfield	1.20	1.34	1.12	1.33	1.33	0.78	0.68
Iron	0.82	0.92	0.92	1.35	1.00	1.85	0.82
Kane	0.00	0.71	0.00	--	0.00	0.50	0.13
Millard	0.70	0.00	1.00*	1.88*	0.67*	2.00*	0.50*
Piute	0.79	2.00	0.93	1.30	1.44	0.95	0.50
Sevier	0.58	0.45	0.85	0.67	0.67	0.40	0.43
Washington	1.75	0.00	5.50*	--	0.00*	0.50*	0.00
Wayne	1.19	1.42	1.22	1.26	1.25	1.19	1.19
<u>REGIONAL TOTALS</u>	0.96	1.17	1.21	0.16	1.19	0.92	0.75
<u>Northeastern Region</u>							
Daggett	0.77	0.84	1.00	1.04	0.16	0.92	0.45
Duchesne	0.70	1.00	0.85	1.31	0.50	0.67	1.00
Uintah	0.94	1.01	1.16	1.15	0.98	1.08	1.30
<u>REGIONAL TOTALS</u>	0.82	0.97	1.04	1.17	0.76	0.95	1.16
<u>Southeastern Region</u>							
Carbon	0.53	0.19*	0.44*	0.27*	0.33*	0.60	1.24
Emery	1.26	1.00*	0.00*	0.08*	1.50*	0.63	2.71
Grand	1.50	0.38	0.25	--	0.00	1.00	0.40
San Juan	0.17	0.00	1.50*	1.00*	0.00*	0.00	1.33
<u>REGIONAL TOTALS</u>	0.69	0.28	0.47	0.26	0.90	0.60	1.44
Unknown counties	1.25	0.22	2.00	--	7.50	5.67	2.00
Illegal areas (Total)	0.00	0.00	(0.62)*	(0.60)*	(0.60)*	(0.46)*	(0.72)
<u>STATE TOTALS</u>	0.85	0.85	0.79	0.81	0.72	0.78	0.84

*Closed season.

Table 8. Percentage distribution of sage grouse harvest by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
Northern Region							
Box Elder	31.07	23.29	18.19	15.56	18.95	14.20	19.61
Cache	3.06	1.87	3.84	4.56	4.83	1.31*	0.88*
Davis	0.60	0.27*	0.50*	2.86*	0.92*	0.18*	0.35*
Morgan	1.19	2.68	1.36	0.44	2.60	0.37*	2.45*
Rich	5.74	4.95	4.33	3.48	3.90	2.80	4.90
Summit	3.50	2.95	2.35	3.13	1.86	0.37*	0.88*
Weber	1.64	0.40	1.86	1.52	3.34	1.12*	2.80*
REGIONAL TOTALS	46.80	36.41	32.43	31.55	36.43	20.37	31.87
Central Region							
Juab	1.12*	2.14*	0.12*	0.35*	0.37*	2.98*	2.10*
Salt Lake	0.67*	1.61*	3.09*	0.71*	0.18*	0.18*	5.78*
Sanpete	1.34	0.94*	1.11*	1.42*	1.30*	1.49*	1.58*
Tooele	3.28	2.54	1.49*	0.62*	1.48*	0.56*	3.50*
Utah	3.80	4.55*	2.85*	5.72*	5.02*	4.67*	3.85
Wasatch	5.96	1.74	3.22	1.34	1.86	0.75	2.63*
REGIONAL TOTALS	16.17	13.52	11.88	10.17	10.22	10.65	19.44
Southern Region							
Beaver	2.38	4.55	2.60	1.87	1.67	1.12	1.58
Garfield	5.29	14.86	9.28	10.46	9.66	6.54	4.38
Iron	1.04	1.61	2.85	3.13	1.30	4.48	2.45
Kane	0.00	0.67	0.00	0.00	0.00	0.18	0.18
Millard	0.52	0.00	0.62*	2.68*	0.74*	1.87*	0.18*
Piute	1.64	0.80	1.73	2.32	4.27	3.36	0.35
Sevier	2.09	1.34	2.72	2.86	1.48	1.12	1.75
Washington	0.52*	0.00	4.08*	0.00*	0.00*	0.37*	0.00
Wayne	5.07	6.29	9.53	9.21	7.44	8.03	6.65
REGIONAL TOTALS	18.55	30.12	33.42	32.54	26.58	27.10	17.50
Northeastern Region							
Daggett	1.27	4.28	1.36	2.14	0.55	2.24	0.88
Duchesne	4.92	4.15	5.69	5.72	2.60	5.23	3.68
Uintah	7.60	10.31	13.49	16.99	15.98	19.43	18.21
REGIONAL TOTALS	13.79	18.74	20.55	24.85	19.15	26.91	22.78
Southeastern Region							
Carbon	2.24	0.40*	0.50*	0.53*	0.92*	1.12	3.68
Emery	1.79	0.13*	0.00*	0.09*	3.90*	0.93	3.33
Grand	0.22	0.40	0.12	--	0.00	0.18	0.35
San Juan	0.07	0.00	0.37*	0.27*	0.00*	0.00	0.70
REGIONAL TOTALS	4.32	0.94	0.99	0.89	4.83	2.24	8.06
Unknown counties	0.37	0.27	0.74	0.00	2.78	12.71	0.35
Closed areas	(2.31)	(10.04)	(17.95)	(15.25)	(14.83)	(11.47)	(23.09)
STATE TOTALS	100	100	100	100	100	100	100

*Closed season; ()Percent of total harvest in closed areas.

Table 9. Percentage distribution of sage grouse hunting pressure by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>							
Box Elder	17.48	15.74	18.40	14.33	16.89	15.15	17.53
Cache	4.23	3.99	6.07	7.89	6.38	4.71*	4.12*
Davis	1.89	1.03*	1.08*	5.14*	3.72*	0.58*	1.18*
Morgan	1.77	3.08	3.62	2.39	5.85	1.16*	4.42*
Rich	9.15	7.98	6.75	6.44	5.58	7.28	7.07
Summit	6.18	6.61	5.77	5.07	5.71	1.46*	1.47*
Weber	1.64	2.17	3.72	2.60	3.59	2.04*	4.12*
REGIONAL TOTALS	42.33	40.59	45.40	43.87	47.74	32.51	39.91
<u>Central Region</u>							
Juab	1.01*	1.60*	0.59*	0.79*	0.79*	0.58*	0.59*
Salt Lake	0.88*	1.82*	1.17*	1.15*	0.53*	1.75*	1.91*
Sanpete	2.02	0.57*	2.84*	3.55*	1.46*	2.62*	3.53*
Tooele	3.22	3.99	1.37*	1.66*	1.99*	1.89*	1.91*
Utah	5.62	6.04*	4.50*	4.27*	4.65*	8.01*	7.81
Wasatch	8.77	2.96	4.70	1.66	4.78	3.06	3.39*
REGIONAL TOTALS	21.51	16.99	15.17	13.09	14.23	17.93	19.15
<u>Southern Region</u>							
Beaver	2.33	3.65	1.66	1.59	0.93	2.62	1.47
Garfield	3.72	9.46	6.56	6.37	5.18	6.56	5.45
Iron	1.07	1.48	2.45	1.88	0.93	1.89	2.50
Kane	0.00	0.80	0.00	0.65	0.00	0.29	1.18
Millard	0.63	0.00	0.49*	1.15*	0.79*	0.73*	0.29*
Piute	1.77	0.34	1.47	1.45	2.12	2.77	0.59
Sevier	3.03	2.51	2.54	3.47	1.59	2.18	3.39
Washington	0.25*	0.00	0.59*	0.14*	0.13*	0.58*	0.00
Wayne	3.75	3.76	6.16	5.93	4.25	5.24	4.71
REGIONAL TOTALS	16.40	22.01	21.92	22.64	15.96	22.88	19.59
<u>Northeastern Region</u>							
Daggett	1.39	4.33	1.08	1.66	2.25	1.89	1.62
Duchesne	5.93	3.53	5.28	3.54	3.84	6.12	3.09
Uintah	6.88	3.67	9.20	11.95	11.70	13.99	11.78
REGIONAL TOTALS	14.20	16.53	15.56	17.15	17.95	22.01	16.49
<u>Southeastern Region</u>							
Carbon	3.60	1.82*	0.88*	1.59*	1.99*	1.46	2.50
Emery	1.20	0.11*	0.20*	0.94*	1.86*	1.16	1.03
Grand	0.12	0.91	0.39	0.00	0.00	0.14	0.74
San Juan	0.38	0.00	0.20*	0.22*	0.00*	0.14	0.44
REGIONAL TOTALS	5.30	2.85	1.66	2.75	3.85	2.91	4.71
Unknown counties	0.25	1.03	0.29	0.50	0.26	1.75	0.15
Closed areas	0.00	(12.99)	(13.91)	(20.60)	(17.91)	(26.21)	(26.90)
STATE TOTALS	100	100	100	100	100	100	100

*Closed season; ()Percent of total pressure in closed areas.

Table 10. Statewide summary of sage grouse harvest statistics, 1951-86.

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
1985	7,586	11,466	14,702	0.78	1.51
1986	7,233	11,766	13,992	0.84	1.63
<hr/>					
TOTALS					
(1963-1986)	253,245	354,359	420,753	(20.10)	(34.13)
<hr/>					
AVERAGES					
(1963-1985)	10,696	14,895	17,685	0.84	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, 1986.

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 Hunter	
Northern Region											
Box Elder	199	526	3,089	530	17	170	453	2,785	480	17	1.06
Cache	*	3	7	5	19	3	7	27	5	19	0.71
Davis	*	--	--	--	--	--	--	--	--	--	--
Morgan	*	--	--	--	--	--	--	--	--	--	--
Rich		101	240	807	95	66	152	612	86	14	0.57
Summit	*	2	2	3	0	0	0	0	0	--	--
Weber	*	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	305	775	3,926	630	16	239	612	3,424	571	17	0.93
Central Region											
Juab	*	--	--	--	--	--	--	--	--	--	--
Salt Lake	*	--	--	--	--	--	--	--	--	--	--
Sanpete	*	--	--	--	--	--	--	--	--	--	--
Tooele	*	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--
Wasatch	*	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	13	35	91	12	13	3	5	12	1	8	0.20
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	*	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	*	--	--	--	--	--	--	--	--	--	--
Wayne	69	176	937	215	22	62	163	880	202	22	1.23
REGIONAL TOTALS	82	211	1,028	227	22	65	168	892	203	22	1.20
Northeastern Region											
Daggett	10	25	76	26	34	4	9	34	16	47	1.78
Duchesne	6	9	21	16	76	5	8	17	16	94	2.00
Uintah	54	159	487	120	25	23	63	151	74	49	1.17
REGIONAL TOTALS	70	193	584	162	28	32	80	202	106	52	1.33
Southeastern Region											
Carbon	3	6	5	5	100	2	4	2	4	200	1.00
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	6	5	5	100	2	4	2	4	200	1.00
STATE TOTALS	460	1,185	5,543	1,024	18	338	864	4,520	884	20	1.02

*Closed Season

Table 12. Sage grouse hunter success trend determined by field bag checks, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	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	22	1.05	13	0.78	16	1.05	13	0.82	16	0.98	17	1.06
Cache	4	0.15	2	0.05	4	0.13	4	0.18			19	0.71
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	5	0.24	7	0.28	13	0.53	17	0.56	18	0.68	14	0.57
Summit	21	0.43	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	11	0.44	--	--	--	--
REGIONAL TOTALS	19	0.86	12	0.66	15	0.94	13	0.78	16	0.95	17	0.93
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	58	0.95	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	17	0.33	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	58	0.95	--	--	--	--	--	--	17	0.33	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	20	0.60	--	--
Garfield	41	2.00	72	1.88	--	--	--	--	25	1.10	8	0.20
Iron	18	0.18	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	30	1.76	15	0.90	25	1.35	11	0.94	137	0.74	22	1.23
REGIONAL TOTALS	30	1.71	20	1.06	25	1.35	11	0.94	62	0.78	22	1.20
<u>Northeastern Region</u>												
Daggett	41	0.93	30	0.97	33	1.00	33	0.67	23	1.09	47	1.78
Duchesne	--	--	22	0.50	60	1.25	45	0.83	25	0.33	94	2.00
Uintah	23	0.73	34	1.20	34	0.89	25	0.80	40	1.10	49	1.17
REGIONAL TOTALS	25	0.75	33	1.13	35	0.93	26	0.79	36	1.06	52	1.33
<u>Southeastern Region</u>												
Carbon	--	--	--	--	--	--	--	--	--	--	200	1.00
Emery	--	--	--	--	--	--	--	--	133	1.00	--	--
Grand	--	--	--	--	--	--	--	--	100	2.00	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	114	1.33	200	1.00
STATE TOTALS	21	0.91	14	0.74	18	0.99	14	0.81	20	0.93	20	1.02

Table 13. Sex and age composition of harvested sage grouse, 1986.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
<u>Northern Region</u>									
Box Elder	322	40	57	97	91	134	225	232	395
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	54	7	5	12	17	25	42	350	840
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	376	47	62	109	108	159	267	245	431
<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	265	21	51	72	107	86	193	268	378
REGIONAL TOTALS	265	21	51	72	107	86	193	268	378
<u>Northeastern Region</u>									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	65	10	13	23	25	17	42	183	323
REGIONAL TOTALS	65	10	13	23	25	17	42	183	323
<u>Southeastern Region</u>									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	706	78	126	204	240	262	502	246	398

Table 14. Sex and age composition of harvested sage grouse from 1983-86.

Region and County	1983						1984						1985						1986						Averages 1981-85																
	Sex Ratio %			Young/100H			Sex Ratio %			Young/100H			Sex Ratio %			Young/100H			Sex Ratio %			Young/100H			Sex Ratio %			Young/100H			Sex Ratio %			Young/100H							
	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F	n	M	F								
Northern Region																																									
Box Elder	358	41	59	138	95	297	40	60	261	161	296	43	57	258	174	322	41	59	395	232																					
Cache	6	67	33	400	200	4	25	75																																	
Davis																																									
Morgan																																									
Rich	29	55	45	163	81	34	21	79	230	209	70	57	43	307	192	54	44	56	840	350																					
Summit																																									
Weber																																									
REGIONAL TOTALS	393	42	58	141	95	335	38	62	248	160	366	46	54	266	177	376	41	59	431	245																					
Central Region																																									
Juab																																									
Salt Lake																																									
Sanpete																																									
Tooele																																									
Utah																																									
Wasatch																																									
REGIONAL TOTALS																																									
Southern Region																																									
Beaver																																									
Garfield	179	39	61	276	184	118	45	55	500	258																															
Iron	11	27	73	800	267	28	46	54	229	133																															
Kane																																									
Millard																																									
Piute																																									
Sevier																																									
Washington																																									
Wayne	243	41	59	358	242	268	42	58	196	121	236	46	54	327	211	265	48	52	378	268																					
REGIONAL TOTALS	433	39	61	325	216	414	43	57	250	149	236	46	54	327	211	265	48	52	378	268																					
Northeastern Region																																									
Daggett																																									
Duchesne																																									
Uintah	174	44	56	297	200	71	49	51	321	173	195	45	55	277	200	65	47	53	323	183																					
REGIONAL TOTALS	174	44	56	297	200	71	49	51	321	173	195	45	55	277	200	65	54	46	323	183																					
Southeastern Region																																									
Carbon																																									
Emery																																									
Grand																																									
San Juan																																									
REGIONAL TOTALS																																									
STATE TOTALS	1000	43	57	228	152	820	41	59	255	155	797	46	54	285	192	706	45	55	398	246																					

n = wing sample size.

FOREST GROUSE

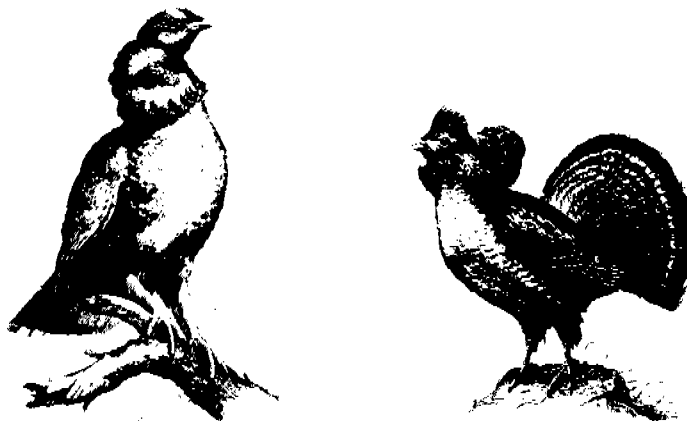
SUMMARY

Judging from harvest statistics for the fall of 1985, the 1986 breeding populations of both ruffed and blue grouse were lower than average, making the fifth consecutive year of below average breeding populations. Production of ruffed grouse appeared to be declining. Harvest data also confirmed a depressed population of ruffed grouse.

Production of blue grouse decreased from 1985 and remained below the 10-year average. Blue grouse observed per 100 hours of effort increase 34 percent above average. A total of 53 forest grouse broods were observed during 1986 compared with 78 in 1985 and 33 in 1984.

Harvest statistics indicated a higher density of forest grouse. Total harvest increased from 23,097 in 1985 to 23,869 in 1986, a 3 percent increase. Total hunters decreased 4 percent in 1986 compared to 1985, and days afield decreased from 31,290 to 30,312.

Limited field bag check data was not conclusive but indicated success was similar with 1985. Likewise blue grouse wing data indicated production in both young per 100 adults and young per 100 hens was similar to 1985 in the Northern region.



Brood Counts

Ruffed Grouse

Results of the annual random brood survey for 1986 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 1986 compared to 1985 and the previous 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total ruffed grouse observed	70	+14	-58
Young per 100 adults	312	-7	-6
Mean brood size	3.60	-23	-23
Ruffed grouse observed per 100 hours	47	+114	+57
Total hours effort	150	-46	-79

Harvest statistics for 1985 indicated a below average breeding population for 1986.

Effort on brood surveys continued to decrease significantly, and was 46 percent less than 1985 and 79 percent below average.

Grouse observed per 100 hours was 57 percent above average, while mean brood size was 23 percent below average indicating poor production.

Blue Grouse

Results of the annual random brood survey for 1986 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 1986 compared to 1985 and the 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total blue grouse observed	315	-19	-43
Young per 100 adults	225	-2	-7
Mean brood size	3.44	-3	-13
Blue grouse observed per 100 hours	110	+9	+34
Total hours effort (forest grouse)	287	-25	-60

Harvest statistics for 1985 indicated the blue grouse breeding population for 1986 was significantly below average.

All indications from the 1986 summer surveys on blue grouse were that production decreased 2 percent from 1985 and remained below the average.

Total observations decreased 19 percent, partially the result of decreased effort. The number of grouse observed per 100 hours of effort increased from 1985 and was 34 percent above average.

Wing samples collected at checking stations were limited, but indicated a production rate similar to 1985 in the Northern Region.

Harvest

Hunter Questionnaire

Results of the 1986 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 1986 compared to 1985 and the 23-year (1963-85) average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Forest grouse hunters	12,117	-4	-18
Forest grouse harvested	23,869	+3	-31
Hunter-days afield	30,312	-3	-13
Forest grouse per hunter-day	0.79	+7	-20
Forest grouse per hunter	1.97	+8	-15
Percent ruffed grouse	36.9	-2	-5
Percent blue grouse	59.3	+2	+9
Percent unidentified	3.7	-12	-45

Although statewide grouse populations are below average, results from the harvest questionnaire confirmed increasing forest grouse population levels as implied by summer surveys. Total harvest increased 3 percent from 1985 but was 31 percent below average. Similarly, hunter success (grouse per hunter-day) was 20 percent below average, and the number of grouse harvested per hunter was 15 percent below average. Hunter pressure decreased slightly from 1985, but was still 13 percent below the 23-year average.

Field Bag Checks

A summary of field bag check data for 1986 is found in Table 15. Hunter success trends determined via this method are shown in Table 16. Results of the 1986 survey compared to 1985 and the 10-year (1976-85) average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	520	+8	-63
Total hours hunted	1,635	-13	-69
Forest grouse per hunter (complete hunts)	0.50	-12	-4
Forest grouse bagged per 100 hours	18	+20	+13
Average hours per hunter-day (complete hunts)	3.61	-12	-9
Hours hunted per grouse bagged (complete hunts)	7.2	0	-11

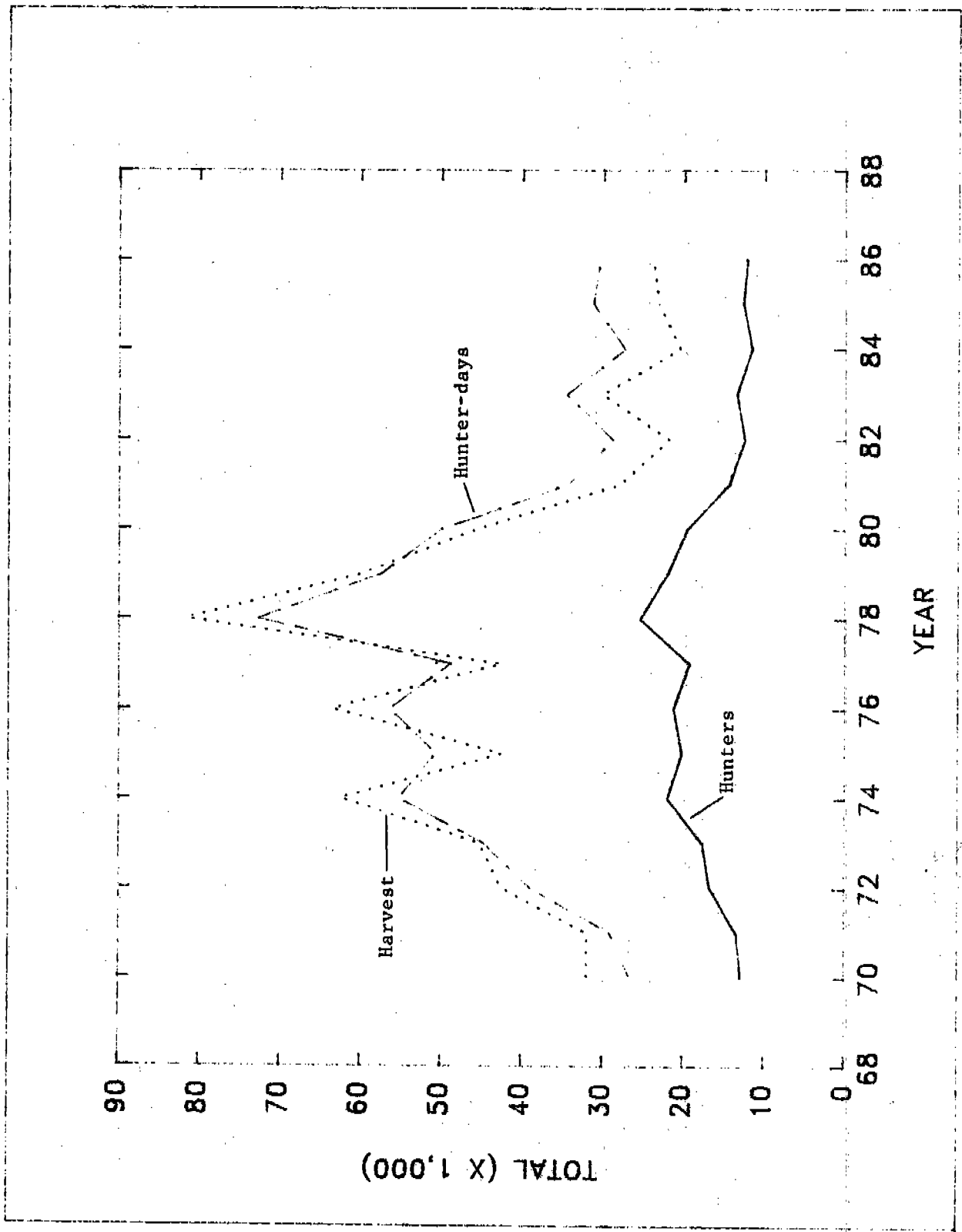


Figure 1. Statewide trends of forest grouse harvest statistics.

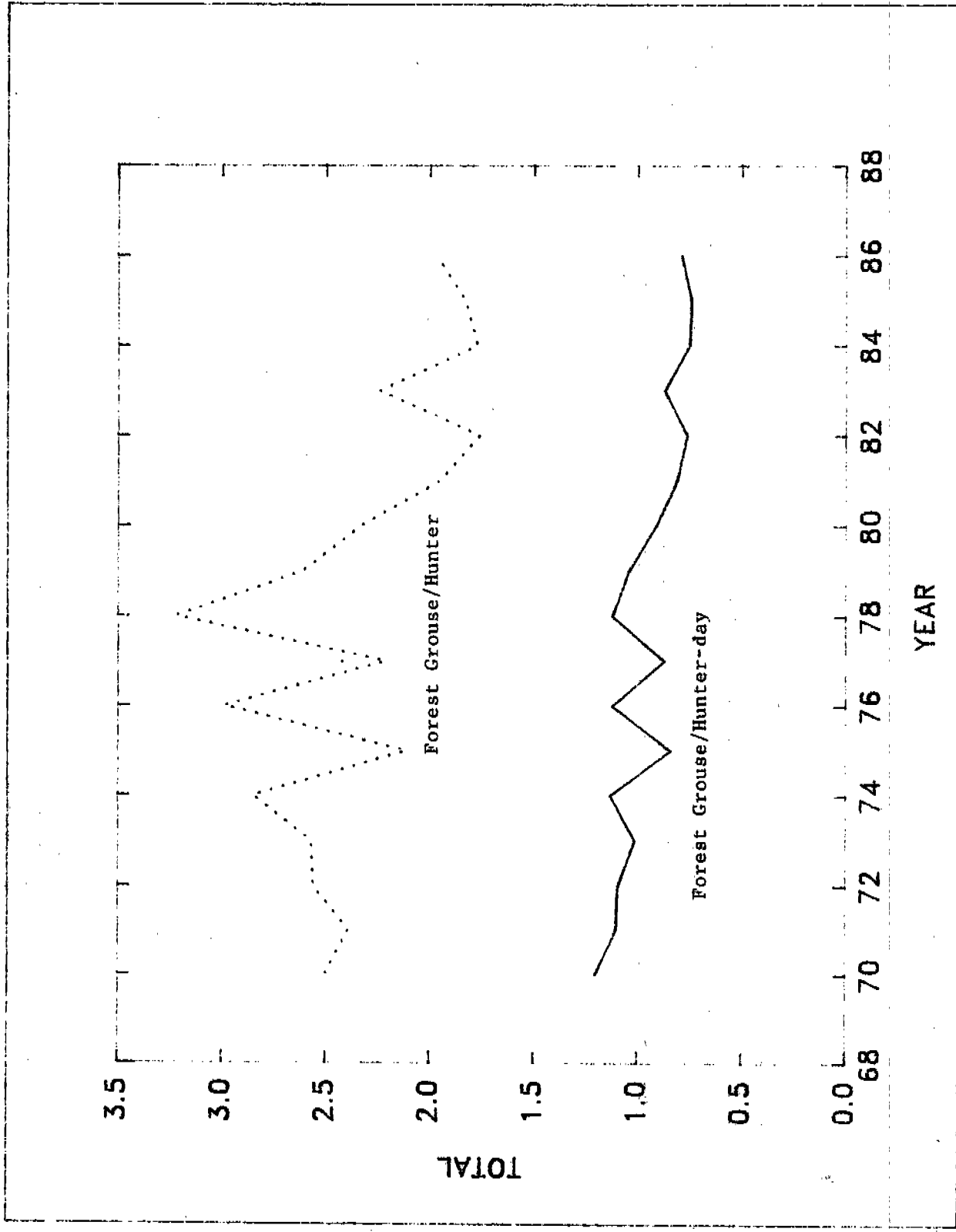


Figure 2. Statewide trends of forest grouse harvest statistics.

Table 1. Ruffed grouse summer inventory, 1986.

Region and County	Distinct Broods		Mean		Mixed Yng & Adults		Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr			
	# Ad	Yng	Brood	Ad	Yng	Ad					Yng	Veh. Horse		Walk	Total	
<u>Northern Region</u>																
Box Elder	1	1	2	2.00	2	11	0	3	13	433	66	4	0	16	20	80
Cache	1	1	1	1.00	0	0	0	1	1	100	145	10	0	0	10	20
Davis	0	0	0	--	0	0	0	0	0	--	59	4	0	6	10	--
Morgan	0	0	0	--	0	0	0	0	0	--	37	8	18	0	26	--
Rich	2	2	6	3.00	0	0	1	3	6	200	100	16	0	1	17	53
Summit	1	1	4	4.00	0	0	0	1	4	400	55	13	0	1	14	36
Weber	0	0	0	--	0	0	0	0	0	--	180	8	0	2	10	--
REGIONAL TOTALS	5	5	13	2.60	2	11	1	8	24	300	642	63	18	26	107	30
<u>Central Region</u>																
Juab	0	0	0	--	0	0	0	0	0	--	140	9	0	0	9	--
Salt Lake	0	0	0	--	2	6	2	4	6	150	50	2	0	4	6	167
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	130	7	11	0	18	--
Utah	5	5	23	4.60	0	0	0	5	23	460	65	5	0	2	7	400
Wasatch	0	0	0	--	0	0	0	0	0	--	15	1	0	2	3	--
REGIONAL TOTALS	5	5	23	4.60	2	6	2	9	29	322	400	24	11	8	43	88
<u>Southern Region</u>																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>Northeastern Region</u>																
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southeastern Region</u>																
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	10	10	36	3.60	4	17	3	17	53	312	1,042	87	29	34	150	47

Table 2. Trend of ruffed grouse young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	250	--	--	--	--	--	--	300	--	--	--	433
Cacoe	300	300	262	450	138	--	--	700	--	350	--	100
Davis	--	--	--	1,100	--	--	--	--	--	--	--	--
Morgan	500	--	100	400	600	--	--	200	--	0	--	--
Rich	300	--	--	--	--	--	--	--	--	667	200	200
Summit	250	475	400	500	200	200	--	--	--	200	400	400
Weber	--	400	--	500	500	267	--	--	--	150	--	--
REGIONAL TOTALS	245	364	260	460	217	250	--	286	--	308	300	299
<u>Central Region</u>												
Juab	100	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	167	0	--	--	200	92	--	--	--	--	150	--
Sanpete	387	289	462	506	373	390	476	475	--	700	--	--
Tooele	--	--	--	--	--	--	300	--	--	--	--	--
Utah	56	150	300	280	217	300	275	--	--	--	460	--
Wasatch	--	--	--	300	--	--	--	300	--	--	--	--
REGIONAL TOTALS	273	246	424	416	295	282	414	392	--	700	322	382
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	575	300	400	600	500	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	575	300	400	600	500	--	--	--	--	--	475
<u>Northeastern Region</u>												
Daggett	500	--	--	240	--	475	--	--	--	--	--	--
Duchesne	124	67	300	450	--	700	--	--	--	--	--	--
Uintah	500	--	600	--	300	--	--	--	--	--	--	--
REGIONAL TOTALS	195	67	343	300	300	520	--	--	--	--	--	288
<u>Southeastern Region</u>												
Carbon	350	300	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	350	300	--	--	--	--	--	--	--	--	--	325
STATE TOTALS	244	298	345	398	294	311	404	353	--	336	312	331

Table 3. Trend of ruffed grouse mean brood size, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	2.50	--	--	--	--	--	--	3.00	--	--	--	2.00
Cache	3.00	4.00	4.33	5.14	3.67	--	--	7.00	--	3.50	--	1.00
Davis	--	--	--	9.00	--	--	--	--	--	--	--	--
Morgan	5.00	--	1.00	4.89	6.00	--	--	5.00	--	--	--	--
Rich	3.00	--	--	--	--	--	--	--	--	6.67	3.00	--
Summit	4.00	4.75	4.00	5.00	4.00	2.00	--	--	--	3.33	4.00	--
Weber	--	4.00	--	5.00	5.00	4.00	--	--	--	3.00	--	--
REGIONAL TOTALS	3.08	4.25	3.88	5.20	4.33	3.33	5.00	5.00	4.44	2.60	4.19	
<u>Central Region</u>												
Juab	2.00	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	5.00	--	--	2.00	2.20	--	--	--	--	--	--	--
Sanpete	5.36	4.44	5.11	5.79	5.14	5.47	5.47	4.75	7.00	--	--	--
Tooele	--	--	--	--	--	--	4.00	--	--	--	--	--
Utah	2.00	3.00	4.00	4.67	3.25	3.00	--	--	--	4.60	--	--
Wasatch	--	--	--	3.00	--	--	9.00	--	--	--	--	--
REGIONAL TOTALS	4.94	4.08	4.83	5.20	4.25	4.57	5.13	5.22	7.00	4.60	5.02	
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	5.75	3.00	4.80	6.00	5.00	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	5.75	3.00	4.80	6.00	5.00	--	--	--	--	4.91	
<u>Northeastern Region</u>												
Daggett	5.00	--	--	4.00	--	4.75	--	--	--	--	--	--
Duchesne	3.50	2.00	4.50	4.50	--	7.00	--	--	--	--	--	--
Uintah	5.00	--	6.00	--	6.00	--	--	--	--	--	--	--
REGIONAL TOTALS	4.10	2.00	4.80	4.20	6.00	5.20	--	--	--	--	4.38	
<u>Southeastern Region</u>												
Carbon	3.50	3.00	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.50	3.00	--	--	--	--	--	--	--	--	3.25	
STATE TOTALS	4.12	4.26	4.46	5.06	4.52	4.57	5.13	5.15	4.70	3.60	4.66	

Table 4. Trend of ruffed grouse observed per 100 hours, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	50	--	--	--	--	--	--	29	--	--	80	--
Cache	13	50	25	18	25	--	3	6	--	17	20	--
Davis	10	--	--	60	--	--	--	--	--	--	--	--
Morgan	33	--	8	149	20	--	--	57	--	2	--	--
Rich	27	--	--	--	--	--	--	--	--	1,150	53	--
Summit	100	144	61	600	21	--	--	--	--	52	36	--
	0	111	--	16	17	31	--	--	--	21	--	--
REGIONAL TOTALS	20	49	18	38	19	10	1	12	--	26	30	21
<u>Central Region</u>												
Juab	40	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	20	4	--	2	150	70	--	--	--	--	167	--
Sanpete	181	125	203	270	200	515	293	271	--	160	--	--
Tooele	0	0	--	--	--	--	880	--	--	--	--	--
Utah	19	25	30	39	37	14	38	3	--	--	400	--
Wasatch	0	--	--	48	3	--	--	86	--	--	--	--
REGIONAL TOTALS	64	56	99	73	47	98	144	63	--	14	88	73
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	0	--	--	--	--	--	--	--	--	--	--
Iron	--	0	--	--	--	--	--	--	--	--	--	--
Kane	--	0	--	--	--	--	--	--	--	--	--	--
Millard	--	0	--	--	--	--	--	--	--	--	--	--
Piute	--	0	--	--	--	--	--	--	--	--	--	--
Sevier	--	12	2	15	3	2	--	--	--	--	--	--
Washington	--	0	--	--	--	--	--	--	--	--	--	--
Wayne	--	0	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	9	2	15	3	2	--	--	--	--	--	6
<u>Northeastern Region</u>												
Daggett	20	0	--	85	--	164	--	--	--	--	--	--
Duchesne	47	9	46	48	--	12	--	--	--	--	--	--
Uintah	62	0	11	--	350	--	--	--	--	--	--	--
REGIONAL TOTALS	44	4	21	26	350	26	--	--	--	--	--	79
<u>Southeastern Region</u>												
Carbon	12	7	--	9	--	--	--	--	--	--	--	--
Emery	--	0	--	33	--	--	--	--	--	--	0	--
Grand	--	--	--	--	--	--	--	--	--	--	0	--
San Juan	--	--	--	--	--	--	--	--	--	--	0	--
REGIONAL TOTALS	7	3	--	12	--	--	--	--	--	--	--	7
STATE TOTALS	25	23	29	37	20	27	66	19	--	22	47	30

Table 5. Blue grouse summer inventory summary, 1986.

Region and County	Distinct Broods		Mean		Mixed Yng & Adults		Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr	
	#	Ad	Yng	Brood	Ad	Yng					w/o Yng	Ad		Veh.
Northern Region														
Box Elder	1	1	2	2.00	0	0	1	2	100	66	4	0	16	20
Cache	0	0	0	--	0	0	0	0	--	145	10	0	0	10
Davis	1	1	3	3.00	0	0	1	2	150	59	4	0	6	10
Morgan	0	0	0	--	0	0	1	1	--	37	8	18	0	26
Rich	0	0	0	--	2	7	0	2	350	100	16	0	1	17
Summit	0	0	0	--	0	0	0	0	--	55	13	0	1	14
Weber	2	2	8	4.00	0	0	0	2	400	180	8	0	2	10
REGIONAL TOTALS	4	4	13	3.25	2	7	3	9	222	642	63	18	26	107
Central Region														
Juab	0	0	0	--	4	9	1	5	180	140	9	0	0	9
Salt Lake	0	0	0	--	0	0	0	0	--	50	2	0	4	6
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	10	10	32	3.20	6	18	14	30	167	130	7	11	0	18
Utah	0	0	0	--	0	0	0	0	--	65	5	0	2	7
Wasatch	0	0	0	--	0	0	0	0	--	15	1	0	2	3
REGIONAL TOTALS	10	10	32	3.20	10	27	15	35	169	400	24	11	8	43
Southern Region														
Beaver	3	3	8	2.67	0	0	0	3	267	70	8	0	0	8
Garfield	6	6	27	4.50	0	0	5	11	245	37	3	22	2	27
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	1	1	1	1.00	2	14	0	3	500	82	7	0	0	7
Millard	1	1	4	4.00	0	0	1	2	200	20	3	0	0	3
Piute	2	2	6	3.00	0	0	0	2	300	45	3	0	0	3
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	2	2	7	3.50	1	0	0	3	233	0	0	0	3	333
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	15	15	53	3.53	3	14	6	24	279	254	24	22	5	51
Northeastern Region														
Daggett	4	4	15	3.75	4	16	3	11	282	135	14	0	0	14
Duchesne	4	4	13	3.25	3	3	0	7	228	270	31	10	4	45
Uintah	1	1	4	4.00	2	3	2	5	140	7	2	0	0	2
REGIONAL TOTALS	9	9	32	3.56	9	22	5	23	54	412	47	10	4	61
Southeastern Region														
Carbon	1	1	5	5.00	0	0	0	1	500	40*	10*	--	--	10*
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	4	4	13	3.25	0	0	1	5	260	60*	15*	--	--	15*
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	5	18	3.60	0	0	1	6	300	100*	25*	--	--	25*
STATE TOTALS	43	43	148	3.44	24	70	30	97	225	1,808	183	61	43	287

* Estimated

Table 6. Trend of blue grouse young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	429	--	400	380	600	360	--	125	350	--	100	
Cache	331	100	322	167	83	254	--	467	--	167	--	
Davis	150	320	500	100	600	--	--	300	250	183	150	
Morgan	341	117	230	0	233	200	--	--	300	900	--	
Rich	500	--	--	--	300	--	--	--	--	--	350	
Summit	333	333	560	325	400	389	--	--	500	450	--	
Weber	400	400	425	280	425	221	400	--	--	400	--	
REGIONAL TOTALS	333	167	357	205	217	271	400	220	300	269	222	274
<u>Central Region</u>												
Juab	--	--	200	200	124	300	--	400	400	0	180	
Salt Lake	333	238	160	230	350	200	38	--	--	--	--	
Sanpete	325	260	89	275	--	--	471	--	--	--	--	
Tooele	227	82	108	225	141	138	--	138	--	168	167	
Utah	300	27	266	169	279	88	100	200	--	175	--	
Wasatch	400	--	800	214	--	--	200	250	--	--	--	
REGIONAL TOTALS	277	120	156	200	167	153	317	156	400	157	169	210
<u>Southern Region</u>												
Beaver	--	--	--	200	--	200	214	700	250	200	267	
Garfield	100	300	380	375	--	--	340	300	241	200	245	
Iron	--	--	200	233	340	--	--	--	--	--	--	
Kane	--	--	400	--	--	--	--	267	--	255	500	
Millard	--	700	567	475	--	--	235	--	100	300	200	
Piute	200	--	--	--	--	387	350	--	200	300	300	
Sevier	106	86	214	100	179	155	238	100	80	417	--	
Washington	500	--	600	400	--	500	--	367	--	--	233	
Wayne	275	567	--	--	--	--	--	400	--	600	--	
REGIONAL TOTALS	142	146	288	158	193	253	245	237	164	282	279	211
<u>Northeastern Region</u>												
Daggett	487	367	343	154	336	442	469	500	--	--	282	
Duchesne	431	380	567	220	409	257	382	340	--	--	228	
Uintah	525	350	500	460	354	380	238	311	--	--	140	
REGIONAL TOTALS	461	372	486	202	366	371	381	402	--	--	235	380
<u>Southeastern Region</u>												
Carbon	321	500	225	100	350	200	--	700	300	150	500	
Emery	--	300	--	--	--	--	--	--	--	--	--	
Grand	110	300	--	--	--	100	--	--	25	200	260	
San Juan	155	100	380	250	200	300	--	100	175	300	--	
REGIONAL TOTALS	209	269	255	140	275	208	--	200	140	206	300	211
STATE TOTALS	281	181	278	188	219	274	297	272	190	229	225	241

Table 7. Trend of blue grouse mean brood size, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	5.75	--	4.00	3.80	6.00	3.60	--	5.00	7.00	--	2.00	
Cache	4.48	3.40	4.46	2.50	3.75	3.67	--	4.33	--	3.33	--	
Davis	4.00	3.67	5.00	3.50	6.00	--	--	3.00	5.50	3.67	3.00	
Morgan	4.45	2.80	3.83	--	3.00	2.00	--	--	3.00	9.00	--	
Rich	5.00	--	--	--	3.00	--	--	--	--	--	--	
Summit	5.00	5.00	5.60	4.33	4.00	3.89	--	--	5.00	4.50	--	
Weber	6.00	4.00	4.25	3.50	4.25	3.57	4.00	--	--	5.33	4.00	
REGIONAL TOTALS	4.67	3.56	4.55	3.63	3.90	3.65	4.00	4.20	4.83	4.73	3.25	4.17
Central Region												
Juab	--	--	4.00	2.00	3.67	4.00	--	4.00	4.00	0.00	--	
Salt Lake	5.00	4.75	2.67	3.29	3.50	--	--	--	--	--	--	
Sanpete	3.25	4.33	4.00	2.75	--	--	5.44	--	--	--	--	
Tooele	3.45	2.50	4.40	4.20	3.58	3.20	--	3.83	--	3.38	3.20	
Utah	4.29	1.50	3.13	3.13	3.00	7.00	3.00	4.00	--	3.50	--	
Wasatch	4.00	--	8.00	5.00	--	--	3.00	5.00	--	--	--	
REGIONAL TOTALS	3.97	3.64	3.61	3.30	3.37	3.89	5.05	4.00	4.00	3.43	3.20	3.83
Southern Region												
Beaver	--	--	--	5.00	--	4.00	2.60	7.00	3.33	2.00	2.67	
Garfield	--	6.00	4.75	5.00	--	--	3.40	3.00	3.22	--	4.50	
Iron	--	--	2.00	3.50	4.25	--	--	--	--	--	--	
Kane	--	--	4.00	--	--	--	--	4.00	--	--	1.00	
Millard	--	7.00	5.67	6.33	--	--	3.64	--	2.67	4.00	4.00	
Piute	2.00	--	--	--	--	4.67	3.50	--	4.00	3.00	3.00	
Sevier	3.17	4.29	4.50	3.29	4.95	3.44	4.04	2.50	2.00	4.16	--	
Washington	5.00	--	6.00	4.00	--	5.00	--	3.67	--	--	3.50	
Wayne	5.50	6.00	--	--	--	--	--	4.00	--	6.00	--	
REGIONAL TOTALS	3.50	4.90	4.65	4.04	4.82	4.15	3.70	3.58	2.95	3.21	3.53	3.95
Northeastern Region												
Daggett	4.88	3.67	4.00	4.00	7.20	4.45	4.91	4.33	--	--	3.75	
Duchesne	4.60	4.22	5.30	3.00	5.00	3.60	3.88	3.40	--	--	3.25	
Uintah	5.25	3.50	5.00	5.75	3.70	4.75	2.71	5.60	--	--	4.00	
REGIONAL TOTALS	4.78	3.94	4.83	3.95	4.90	4.35	4.00	4.63	--	--	3.56	4.42
Southeastern Region												
Carbon	4.25	4.75	4.50	2.00	3.50	2.00	--	7.00	3.00	3.00	5.00	
Emery	--	3.00	--	--	--	--	--	--	--	--	--	
Grand	3.67	6.00	--	--	--	2.50	--	--	--	3.00	3.25	
San Juan	3.40	4.00	6.00	5.00	4.00	3.00	--	4.00	1.75	3.00	--	
REGIONAL TOTALS	3.88	4.57	5.40	3.50	3.67	2.60	--	5.50	2.17	3.00	3.60	3.81
STATE TOTALS	4.29	4.00	4.44	3.69	4.20	3.97	4.06	4.29	3.18	3.56	3.44	3.97

Table 8. Trend of blue grouse observed per 100 hours, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	132	--	39	800	58	230	--	64	38	--	20	
Cache	75	62	41	7	44	74	--	14	--	77	--	
Davis	52	84	188	140	92	7	--	33	110	94	50	
Morgan	417	173	127	--	86	30	--	4	200	23	4	
Rich	40	--	--	--	--	--	--	--	--	--	53	
Summit	93	81	400	850	18	293	--	--	12	38	--	
Weber	162	167	42	51	58	174	71	4	--	167	100	
REGIONAL TOTALS	94	87	65	30	57	121	20	15	28	58	27	56
<u>Central Region</u>												
Juab	0	--	86	38	336	73	--	29	125	30	156	
Salt Lake	98	112	111	70	450	36	48	14	--	--	--	
Sanpete	27	31	65	33	--	--	281	--	--	--	--	
Tooele	354	172	1,080	557	248	271	--	344	--	536	444	
Utah	54	23	96	176	104	52	36	32	--	165	--	
Wasatch	250	--	46	88	3	--	53	50	--	--	--	
REGIONAL TOTALS	91	56	113	109	122	55	127	94	17	183	254	97
<u>Southern Region</u>												
Beaver	--	--	--	107	--	46	220	133	233	33	137	
Garfield	16	53	86	61	--	--	--	--	141	122	141	
Iron	--	0	150	333	275	--	--	--	--	--	--	
Kane	--	0	250	--	--	--	--	122	--	213	257	
Millard	--	133	250	2,300	--	--	248	15	107	133	200	
Piute	75	0	--	--	--	557	225	--	200	67	266	
Sevier	34	28	38	46	68	20	48	50	72	155	--	
Washington	55	0	--	125	--	800	--	117	--	--	333	
Wayne	375	2,000	0	--	--	--	--	--	--	700	--	
REGIONAL TOTALS	40	35	56	61	74	41	74	80	122	140	178	72
<u>Northeastern Region</u>												
Daggett	157	88	100	420	600	736	389	632	--	--	300	
Duchesne	105	84	148	209	130	75	126	51	--	--	51	
Uintah	86	20	19	44	256	308	54	239	--	--	600	
REGIONAL TOTALS	112	63	83	150	220	228	138	232	--	--	126	153
<u>Southeastern Region</u>												
Carbon	77	44	46	19	35	17	--	80	53	33	60	
Emery	--	40	--	33	--	--	--	--	--	--	--	
Grand	68	62	6	--	--	--	--	--	50	360	120	
San Juan	108	24	99	54	46	218	--	100	73	53	--	
REGIONAL TOTALS	81	38	46	29	38	128	--	90	60	123	96	70
STATE TOTALS	81	52	106	68	93	93	91	83	55	101	110	82

Table 9. Summary of effort expended on forest grouse brood counts, 1986.

Region and County	Vehicle Miles Traveled	Hours Effort Expended			Total
		Vehicle	Horseback	Walking	
<u>Northern Region</u>					
Box Elder	66	4	0	16	20
Cache	145	10	0	0	10
Davis	59	4	0	6	10
Morgan	37	8	18	0	26
Rich	100	16	0	1	17
Summit	55	13	0	1	14
Weber	180	8	0	2	10
REGIONAL TOTALS	642	63	18	26	107
<u>Central Region</u>					
Juab	140	9	0	0	9
Salt Lake	50	2	0	4	6
Sanpete	--	--	--	--	--
Tooele	130	7	11	0	18
Utah	65	5	0	2	7
Wasatch	15	1	0	2	3
REGIONAL TOTALS	400	24	11	8	43
<u>Southern Region</u>					
Beaver	70	8	0	0	8
Garfield	37	3	22	2	27
Iron	--	--	--	--	--
Kane	82	7	0	0	7
Millard	20	3	0	0	3
Piute	45	3	0	0	3
Sevier	--	--	--	--	--
Washington	0	0	0	3	3
Wayne	--	--	--	--	--
REGIONAL TOTALS	254	24	22	5	51
<u>Northeastern Region</u>					
Daggett	135	14	0	0	14
Duchesne	270	31	10	4	45
Uintah	7	2	0	0	2
REGIONAL TOTALS	412	47	10	4	61
<u>Southeastern Region</u>					
Carbon	40*	10*	--	--	10*
Emery	--	--	--	--	--
Grand	60*	15*	--	--	15*
San Juan	--	--	--	--	--
REGIONAL TOTALS	100*	25*	--	--	25*
STATE TOTALS	1,808	183	61	43	287

*Estimated

Table 10. Summary of forest grouse hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Birds Bagged			Total	Birds per Hunter-day	% of Pressure	% of Harvest
			Ruffed	Blue	Unident.				
<u>Northern Region</u>									
Box Elder	31	1,030	103	473	42	618	0.60	4.65	2.59
Cache	98	5,254	2,081	2,905	83	5,069	0.96	14.69	21.23
Davis	26	1,195	288	247	62	597	0.50	3.90	2.50
Morgan	21	1,133	412	267	42	721	0.64	3.15	3.02
Rich	27	1,360	391	144	0	535	0.39	4.05	2.24
Summit	30	1,112	535	164	0	699	0.63	4.50	2.93
Weber	60	2,946	1,112	1,360	21	2,493	0.85	9.00	10.44
REGIONAL TOTALS	293	14,033	4,925	5,563	246	10,732	0.76	43.93	44.96
<u>Central Region</u>									
Juab	10	453	20	20	21	61	0.14	1.50	0.26
Salt Lake	16	576	185	123	124	432	0.75	2.40	1.81
Sanpete	31	1,627	391	700	0	1,091	0.67	4.65	4.57
Tooele	26	1,277	329+	803	0	1,132	0.89	3.90	4.74
Utah	70	3,255	494	1,380	42	1,916	0.59	10.49	8.02
Wasatch	30	1,421	432	226	63	721	0.51	4.50	3.02
REGIONAL TOTALS	183	8,613	1,854	3,255	247	5,356	0.62	27.44	22.43
<u>Southern Region</u>									
Beaver	7	206	0+	206	0	206	1.00	1.05	0.86
Garfield	7	226	0+	61	0	61	0.27	1.05	0.26
Iron	15	700	144+	638	62	844	1.21	2.25	3.53
Kane	5	144	20+	0	0	20	0.14	0.75	0.08
Millard	9	721	329+	494	0	824	1.14	1.35	3.45
Piute	8	391	206	350	0	556	1.42	1.20	2.33
Sevier	42	1,772	226	1,112	228	1,566	0.88	6.30	6.56
Washington	2	61	82+	41	0	123	2.01	0.30	0.52
Wayne	5	123	0+	41	0	41	0.33	0.75	0.17
REGIONAL TOTALS	100	4,348	1,009	2,946	286	4,241	0.98	15.00	17.77
<u>Northeastern Region</u>									
Daggett	14	638	370	391	0	762	1.19	2.10	3.19
Duchesne	23	597	329	247	62	638	1.07	3.45	2.67
Uintah	29	1,215	226	1,153	63	1,442	1.19	4.35	6.03
REGIONAL TOTALS	66	2,452	927	1,792	124	2,843	1.16	9.90	11.91
<u>Southeastern Region</u>									
Carbon	3	247	20	185	0	206	0.83	0.45	0.86
Emery	12	350	82	144	0	226	0.65	1.80	0.95
Grand	5	144	0+	185	0	185	1.29	0.75	0.77
San Juan	5	123	0+	82	0	82	0.67	0.75	0.34
REGIONAL TOTALS	25	865	103	597	0	700	0.81	3.75	2.93
Unknown Counties	0	0	0	0	0	0	0.00	0.00	0.00
STATE TOTALS	667	30,312	8,819	14,156	894	23,869	0.79	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, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	1.35	0.68	0.87	0.60	0.45	0.60
Cache	0.87	0.78	1.04	0.76	0.90	0.96
Davis	0.66	0.55	0.98	0.66	0.50	0.50
Morgan	0.59	0.73	1.01	0.44	0.88	0.64
Rich	0.17	0.66	0.65	0.86	0.75	0.39
Summit	0.73	0.81	0.75	0.54	0.70	0.63
Weber	0.75	0.81	0.84	0.60	0.60	0.85
REGIONAL TOTALS	0.77	0.74	0.92	0.66	0.71	0.76
<u>Central Region</u>						
Juab	1.07	0.71	0.77	0.43	1.00	0.14
Salt Lake	0.32	0.86	0.84	1.25	0.65	0.75
Sanpete	0.86	0.70	0.60	0.99	0.72	0.67
Tooele	0.89	1.07	0.97	0.40	1.00	0.89
Utah	0.85	0.77	0.85	0.84	0.86	0.59
Wasatch	0.81	0.55	0.76	0.43	0.59	0.51
REGIONAL TOTALS	0.82	0.75	0.78	0.78	0.75	0.62
<u>Southern Region</u>						
Beaver	0.61	1.00	1.13	1.05	0.59	1.00
Garfield	1.08	0.50	1.09	0.67	0.79	0.27
Iron	0.94	0.73	1.03	0.59	0.94	1.21
Kane	0.79	0.53	0.05	0.67	0.78	0.14
Millard	1.04	0.78	0.54	0.64	0.50	1.14
Piute	1.40	0.70	1.16	1.27	0.94	1.42
Sevier	0.61	0.82	1.03	0.73	0.77	0.88
Washington	0.50	0.00	0.42	0.00	2.14	2.01
Wayne	0.40	0.56	0.46	0.34	1.09	0.33
REGIONAL TOTALS	0.80	0.75	0.89	0.82	0.82	0.98
<u>Northeastern Region</u>						
Daggett	0.92	1.15	1.00	0.47	0.94	1.19
Duchesne	1.25	0.75	0.99	0.67	0.60	1.07
Uintah	1.20	0.93	0.98	1.23	0.94	1.19
REGIONAL TOTALS	1.07	0.91	0.98	0.96	0.83	1.16
<u>Southeastern Region</u>						
Carbon	0.72	0.50	0.48	0.00	0.71	0.83
Emery	0.93	0.79	0.70	0.90	0.35	0.65
Grand	1.53	0.50	0.25	1.60	0.64	1.29
San Juan	1.00	1.00	0.25	0.67	0.20	0.67
REGIONAL TOTALS	0.98	0.69	0.54	0.86	0.52	0.81
Unknown Counties	1.67	0.67	1.33	1.00	1.00	0.00
STATE TOTALS	0.81	0.76	0.87	0.75	0.74	0.79

Table 12. Percentage distribution of forest grouse harvest by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	4.41	4.79	4.31	3.38	2.23	2.59
Cache	19.25	18.02	22.58	15.72	17.35	21.23
Davis	2.51	3.03	5.73	4.48	5.66	2.50
Morgan	5.10	3.17	3.42	2.88	3.90	3.02
Rich	0.53	3.73	2.76	3.78	4.26	2.24
Summit	6.47	4.15	3.78	2.49	3.52	2.93
Weber	6.54	9.71	8.58	7.86	4.91	10.44
REGIONAL TOTALS	44.82	46.59	51.16	49.59	41.85	44.96
<u>Central Region</u>						
Juab	2.21	1.06	1.60	1.19	1.02	0.26
Salt Lake	0.91	2.53	2.80	4.48	2.41	1.81
Sanpete	3.35	4.57	4.89	6.97	5.84	4.57
Tooele	2.51	4.15	3.06	1.00	2.87	4.74
Utah	17.43	12.03	10.67	13.34	9.65	8.02
Wasatch	4.11	3.80	3.69	2.58	5.01	3.02
REGIONAL TOTALS	30.52	28.15	26.71	29.56	26.80	22.43
<u>Southern Region</u>						
Beaver	1.75	0.42	0.80	2.09	2.13	0.86
Garfield	1.07	0.21	1.64	1.39	1.39	0.26
Iron	1.29	1.69	1.64	1.59	2.87	3.53
Kane	0.84	0.70	0.04	0.59	0.65	0.08
Millard	2.05	0.99	0.31	0.70	0.65	3.45
Piute	1.60	2.18	0.98	5.57	1.48	2.33
Sevier	2.89	6.26	4.71	4.38	4.45	6.56
Washington	0.08	0.00	0.22	0.00	1.39	0.52
Wayne	0.15	0.35	0.27	0.40	1.11	0.17
REGIONAL TOTALS	11.72	12.81	10.61	16.72	16.14	17.77
<u>Northeastern Region</u>						
Daggett	2.74	2.67	0.84	0.89	1.48	3.19
Duchesne	1.14	3.24	3.78	1.59	2.50	2.67
Uintah	2.28	3.80	3.73	7.56	6.21	6.03
REGIONAL TOTALS	6.16	9.71	8.35	10.05	10.20	11.91
<u>Southeastern Region</u>						
Carbon	1.60	0.70	0.71	0.00	2.23	0.86
Emery	1.98	0.77	1.38	1.79	1.11	0.95
Grand	1.75	0.28	0.09	0.79	1.48	0.77
San Juan	1.07	0.84	0.13	0.40	0.18	0.34
REGIONAL TOTALS	6.39	2.60	2.30	2.99	5.01	2.93
Unknown Counties	0.38	0.14	0.89	0.10	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 13. Percentage distribution of forest grouse hunting pressure by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	2.66	5.33	4.30	4.25	3.63	4.65
Cache	17.95	17.58	18.86	15.35	14.18	14.69
Davis	3.09	4.16	5.11	5.07	8.29	3.90
Morgan	7.05	3.30	2.94	4.91	3.29	3.15
Rich	2.54	4.26	3.72	3.28	4.18	4.05
Summit	7.18	3.89	4.41	3.42	3.70	4.50
Weber	7.12	9.11	8.87	9.69	6.02	9.00
<u>REGIONAL TOTALS</u>	<u>47.59</u>	<u>47.63</u>	<u>48.22</u>	<u>45.97</u>	<u>43.29</u>	<u>43.93</u>
<u>Central Region</u>						
Juab	1.67	1.12	1.82	2.08	0.75	1.50
Salt Lake	2.29	2.24	2.90	2.68	2.74	2.40
Sanpete	3.16	4.95	7.09	5.29	5.96	4.65
Tooele	2.29	2.93	2.75	1.86	2.12	3.90
Utah	16.71	11.77	10.96	11.84	8.29	10.49
Wasatch	4.15	5.22	4.22	4.54	6.23	4.50
<u>REGIONAL TOTALS</u>	<u>30.26</u>	<u>28.24</u>	<u>29.74</u>	<u>28.31</u>	<u>26.09</u>	<u>27.44</u>
<u>Southern Region</u>						
Beaver	2.35	0.32	0.62	1.49	2.67	1.05
Garfield	0.80	0.32	1.31	1.56	1.30	1.05
Iron	1.11	1.76	1.39	2.01	2.26	2.25
Kane	0.87	1.01	0.85	0.67	0.61	0.75
Millard	1.61	0.96	0.50	0.82	0.96	1.35
Piute	0.93	2.34	0.74	3.28	1.16	1.20
Sevier	3.84	5.75	3.99	4.47	4.24	6.30
Washington	0.12	0.05	0.46	0.00	0.48	0.30
Wayne	0.31	0.48	0.50	0.89	0.75	0.75
<u>REGIONAL TOTALS</u>	<u>11.94</u>	<u>13.00</u>	<u>10.38</u>	<u>15.20</u>	<u>14.45</u>	<u>15.00</u>
<u>Northeastern Region</u>						
Daggett	2.41	1.76	0.74	1.41	1.16	2.10
Duchesne	0.74	3.25	3.33	1.79	3.08	3.45
Uintah	1.55	3.09	3.33	4.62	4.86	4.35
<u>REGIONAL TOTALS</u>	<u>4.70</u>	<u>8.10</u>	<u>7.40</u>	<u>7.82</u>	<u>9.10</u>	<u>9.90</u>
<u>Southeastern Region</u>						
Carbon	1.79	1.07	1.20	0.30	2.33	0.45
Emery	1.73	0.75	1.70	1.49	2.33	1.80
Grand	0.93	0.43	0.31	0.37	1.71	0.75
San Juan	0.87	0.64	0.46	0.44	0.68	0.75
<u>REGIONAL TOTALS</u>	<u>5.32</u>	<u>2.88</u>	<u>3.67</u>	<u>2.61</u>	<u>7.05</u>	<u>3.75</u>
Unknown Counties	0.19	0.16	0.57	0.07	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 14. Statewide summary of forest grouse harvest statistics, 1963-86.

Year	Total Harvest			Hunter-days			Grouse/Hunter-day			Grouse Per Hunter				
	Hunters	Ruffed	Blue	Percent	Unknown	Percent	Total	Afield	Ruffed	Blue	Total	Ruffed	Blue	Total
1963	7,425	5,470	7,372	(54.2)	766	(5.6)	13,608	12,313	0.44	0.66	1.11	0.74	0.99	1.83
1964	6,487	5,354	6,685	(57.7)	652	(5.1)	12,691	10,566	0.51	0.63	1.20	0.82	1.03	1.96
1965	6,005	3,225	4,924	(56.8)	520	(6.0)	8,669	10,504	0.31	0.47	0.83	0.54	0.82	1.44
1966	6,683	6,966	4,659	(37.8)	696	(5.7)	12,321	12,387	0.56	0.38	0.99	1.04	0.68	1.84
1967	9,420	8,476	6,773	(38.6)	2,277	(13.0)	17,526	17,773	0.48	0.38	0.99	0.87	0.69	1.86
1968	13,061	17,048	12,604	(38.9)	2,762	(8.5)	32,414	26,537	0.64	0.47	1.22	1.30	0.96	2.48
1969	12,523	9,490	10,419	(48.5)	1,589	(7.4)	21,498	24,572	0.38	0.42	0.87	0.76	0.83	1.72
1970	12,775	15,590	13,515	(42.4)	2,793	(8.7)	31,898	26,619	0.59	0.51	1.20	1.22	1.06	2.50
1971	13,363	15,759	13,749	(43.1)	2,393	(7.5)	31,901	29,100	0.54	0.47	1.10	1.18	1.03	2.39
1972	16,640	20,648	19,221	(45.2)	2,649	(6.2)	42,518	38,940	0.53	0.49	1.09	1.24	1.16	2.56
1973	17,588	7,153	36,846	(81.4)	1,233	(2.7)	45,232	44,738	0.16	0.82	1.01	0.41	2.09	2.57
1974	21,920	24,561	32,236	(51.6)	5,642	(9.0)	62,439	55,258	0.44	0.58	1.13	1.12	1.47	2.85
1975	20,102	15,750	23,138	(54.5)	3,573	(8.4)	42,461	50,579	0.31	0.45	0.84	0.78	1.15	2.11
1976	21,186	23,551	35,660	(56.2)	4,225	(6.7)	63,436	56,422	0.42	0.63	1.12	1.11	1.68	2.99
1977	19,188	15,766	23,455	(55.2)	3,256	(7.7)	42,477	48,746	0.37	0.48	0.87	0.82	1.22	2.21
1978	25,318	30,340	46,651	(57.2)	4,567	(5.6)	81,558	72,732	0.42	0.64	1.12	1.20	1.84	3.22
1979	21,993	23,156	33,070	(55.3)	3,625	(6.0)	59,851	57,404	0.40	0.58	1.04	1.05	1.50	2.61
1980	19,511	15,457	27,588	(60.6)	2,477	(5.4)	45,522	49,899	0.31	0.55	0.91	0.79	1.41	2.33
1981	14,329	8,557	17,852	(64.0)	1,485	(5.3)	27,894	34,305	0.25	0.52	0.81	0.60	1.25	1.95
1982	12,384	7,509	12,138	(55.7)	2,131	(9.8)	21,778	28,767	0.26	0.42	0.76	0.60	0.98	1.76
1983	13,414	11,366	16,955	(56.4)	1,767	(5.9)	30,088	34,530	0.33	0.49	0.87	0.84	1.26	2.24
1984	11,511	6,780	12,647	(62.0)	969	(4.8)	20,396	27,244	0.25	0.46	0.75	0.59	1.10	1.77
1985	12,646	8,701	13,416	(58.1)	980	(4.2)	23,097	31,290	0.28	0.43	0.74	0.69	1.06	1.83
1986	12,117	8,819	14,156	(59.3)	894	(3.7)	23,869	30,312	0.29	0.47	0.79	0.73	1.17	1.97
TOTALS														
(1963-86)	351,589	315,492	445,729	(54.7)	53,921	(6.6)	815,142	831,537	0.38	0.54	0.98	0.90	1.27	2.32
AVERAGES														
(1963-85)	14,760	13,334	18,764	(54.5)	2,306	(6.7)	34,403	34,836	0.38	0.54	0.99	0.90	1.27	2.33

Table 15. Forest grouse field bag check summary, 1986.

Region and County	ALL HUNTS					COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds	Total Birds/100 Hr	Total Hunts	Total Hunters	Total Hours	Total Birds	Total Birds/100 Hr Hunter	
Northern Region											
Box Elder	6	12	48	17	35	6	12	48	17	35	1.42
Cache	53	113	337	47	14	37	76	281	43	15	0.57
Davis	9	13	34	1	3	4	6	12	0	--	0.00
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	19	36	131	8	6	18	35	129	8	6	0.23
Summit	1	2	2	4	200	1	2	2	4	200	2.00
Weber	29	55	196	18	9	22	48	178	18	10	0.38
REGIONAL TOTALS	117	231	748	93	12	88	179	650	90	14	0.50
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	20	44	168	17	10	20	44	168	17	10	0.39
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	20	44	168	17	10	20	44	168	17	10	0.39
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	3	11	24	36	150	1	1	4	1	25	1.00
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	11	30	81	14	17	5	10	36	6	16	0.60
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	14	41	105	50	47	6	11	40	7	17	0.63
Northeastern Region											
Daggett	6	14	46	4	9	0	0	0	0	--	--
Duchesne	7	19	49	17	35	4	11	37	6	16	0.55
Uintah	57	161	493	100	20	31	88	318	38	12	0.43
REGIONAL TOTALS	72	199	598	124	21	37	104	365	47	13	0.45
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	2	4	3	10	333	2	4	3	10	333	2.50
Grand	4	4	17	2	50	4	4	17	2	50	0.50
San Juan	1	2	6	2	33	1	2	6	2	33	1.00
REGIONAL TOTALS	7	10	26	14	54	7	10	26	14	54	1.40
STATE TOTALS	231	520	1,635	295	18	156	343	1,239	172	14	0.50

Table 16. Forest grouse hunter success trend determined by field bag checks, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	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
Northern Region												
Box Elder	4	0.25	12	0.40	13	0.40	4	0.10	--	--	35	1.42
Cache	11	0.52	8	0.32	10	0.41	15	0.56	15	0.70	15	0.57
Davis	12	0.33	13	0.44	21	0.83	18	0.67	--	--	--	0.00
Morgan	--	--	33	1.00	29	2.00	--	--	--	--	--	--
Rich	8	0.30	2	0.10	2	0.09	13	0.57	6	0.23	6	0.23
Summit	--	--	--	--	--	--	--	--	--	--	200	2.00
Weber	7	0.27	1	0.04	7	0.28	2	0.08	26	0.86	10	0.38
REGIONAL TOTALS	10	0.43	7	0.28	11	0.45	13	0.47	14	0.58	14	0.50
Central Region												
Juab	--	--	59	1.63	--	--	22	0.59	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	50	1.00	--	--	--	--	17	0.50	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	46	1.50	--	--
Utah	12	0.55	14	0.70	15	0.62	9	0.39	4	0.13	10	0.39
Wasatch	--	--	18	0.31	15	0.70	--	--	--	--	--	--
REGIONAL TOTALS	12	0.55	15	0.71	15	0.63	11	0.43	7	0.27	10	0.39
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	9	0.33	--	--	10	0.33	25	1.00
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	16	0.40	--	--	--	--	--	--	--	--	--	--
Millard	--	--	7	0.25	3	0.14	89	1.33	0	0.00	16	0.60
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	9	0.64	88	3.00	--	--	--	--	50	1.50	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	10	0.56	58	2.00	5	0.20	89	1.33	10	0.40	17	0.63
Northeastern Region												
Daggett	--	--	56	1.25	55	1.75	--	--	20	1.10	--	--
Duchesne	17	0.50	20	0.50	--	--	26	1.15	0	0.00	16	0.55
Uintah	34	1.69	19	0.61	14	0.59	29	1.25	32	1.22	12	0.43
REGIONAL TOTALS	32	1.49	21	0.65	24	0.92	28	1.22	25	1.08	13	0.45
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	39	1.17	--	--
Emery	--	--	--	--	--	--	--	--	133	1.33	333	2.50
Grand	100	1.00	--	--	100	2.00	--	--	50	1.00	50	0.50
San Juan	50	1.00	--	--	--	--	--	--	--	--	33	1.00
REGIONAL TOTALS	83	1.00	--	--	100	2.00	--	--	52	1.20	54	1.40
STATE TOTALS	11	0.51	12	0.49	14	0.55	14	0.54	14	0.57	14	0.50

Table 17. Sex and age composition of harvested blue grouse, 1986.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total*		
<u>Northern Region</u>									
Box Elder	14	1	2	3	7	4	11	367	550
Cache+	--	--	--	--	--	--	--	--	--
Davis+	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich+	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber+	48	8	10	18	11	19	30	167	300
REGIONAL TOTALS	62	9	12	21	18	23	41	195	342
<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	62	9	12	21	18	23	41	195	342

*Includes unclassified juveniles.

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

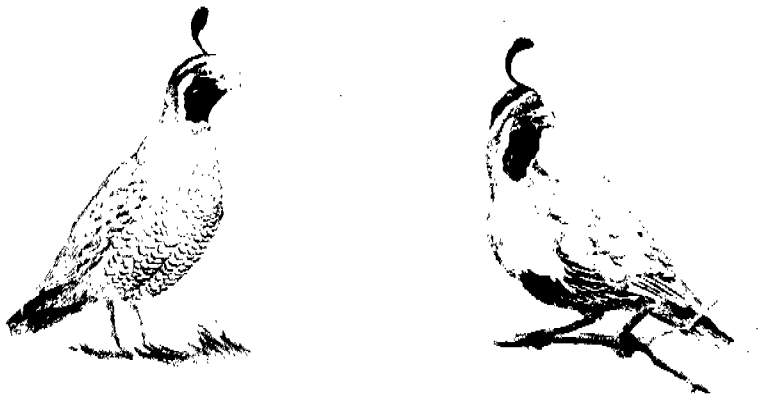
QUAIL

SUMMARY

The 1986 breeding populations of California and Gambel's quail were lower than in 1985, and still lower than average.

Production of Gambel's quail decreased from 1985, and remained well below average. Likewise, quail observation trends remain below average in most areas of the state.

Statewide harvest statistics, when compared to 1985, showed a decrease in total hunters and total harvest. Hunter success (birds per hunter-day) remained below average statewide. There was a decrease in hunter days afield and decrease in total harvest of Gambel's quail reported in Washington County.



Brood Counts

Results of the annual random brood counts for 1986 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 1986 compared to 1985 and the previous 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total quail observed	448	+74	-26
Young per 100 adults	331	-30	+31
Mean brood size	6.70	-22	-4
Quail observed per 100 hours	1,519	+136	+157
Total hours effort	29.5	-26	-71

Harvest statistics for 1985 indicated a decreased breeding population of quail statewide, but there was good overwinter survival as indicated by a 136 percent increase in quail observed per 100 hours of effort.

Brood counts indicated poor production of both California and Gambel's quail. Production decreased significantly from 1985 but was above average.

Temperatures were well above average in the Dixie climatic subdivision through June, and precipitation was above average through April. Drier, cooler temperatures prevailed thereafter, which should have fostered good production. However, September was much cooler and wetter than normal.

Harvest

Results of the annual hunter questionnaire for 1986 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 1986 season to 1985 and the previous 27-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Quail hunters	2,432	-21	-62
Quail harvested	4,574	-35	-75
Hunter-days afield	6,326	-21	-61
Quail per hunter-day	0.72	-18	-36
Quail per hunter	1.88	-18	-31

Harvest for 1986 decreased 35 percent from 1985 and 75 percent below average.

In Washington County (Gambel's quail), hunter success increased 3 percent, but total harvest decreased 47 percent from 1985. Hunter-days afield decreased 48 percent. Approximately 29 percent of the statewide harvest of quail was taken in Washington County during 1986 compared to 36 percent in 1985 and nearly 46 percent in 1984.

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

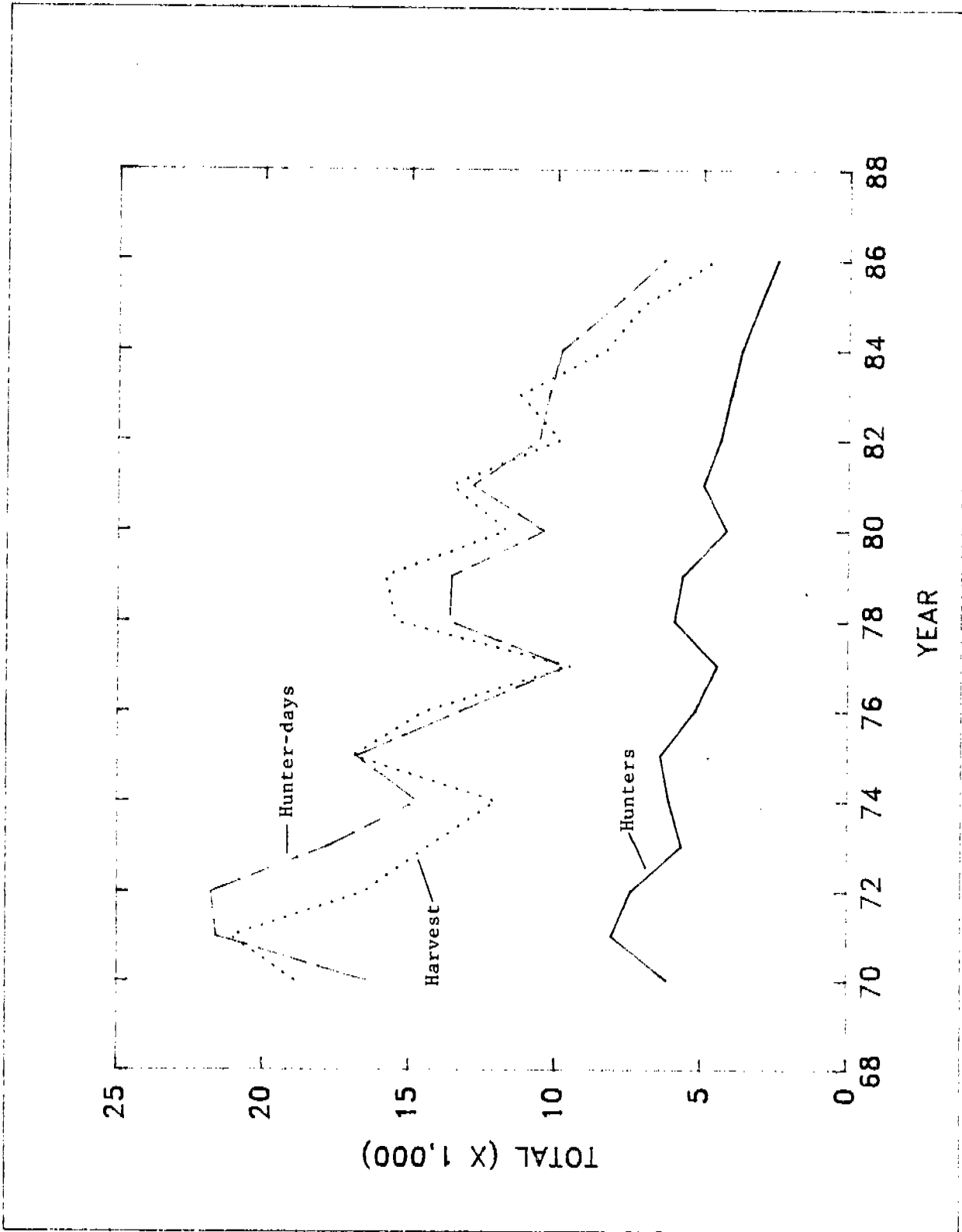


Figure 1. Statewide trend of quail harvest statistics.

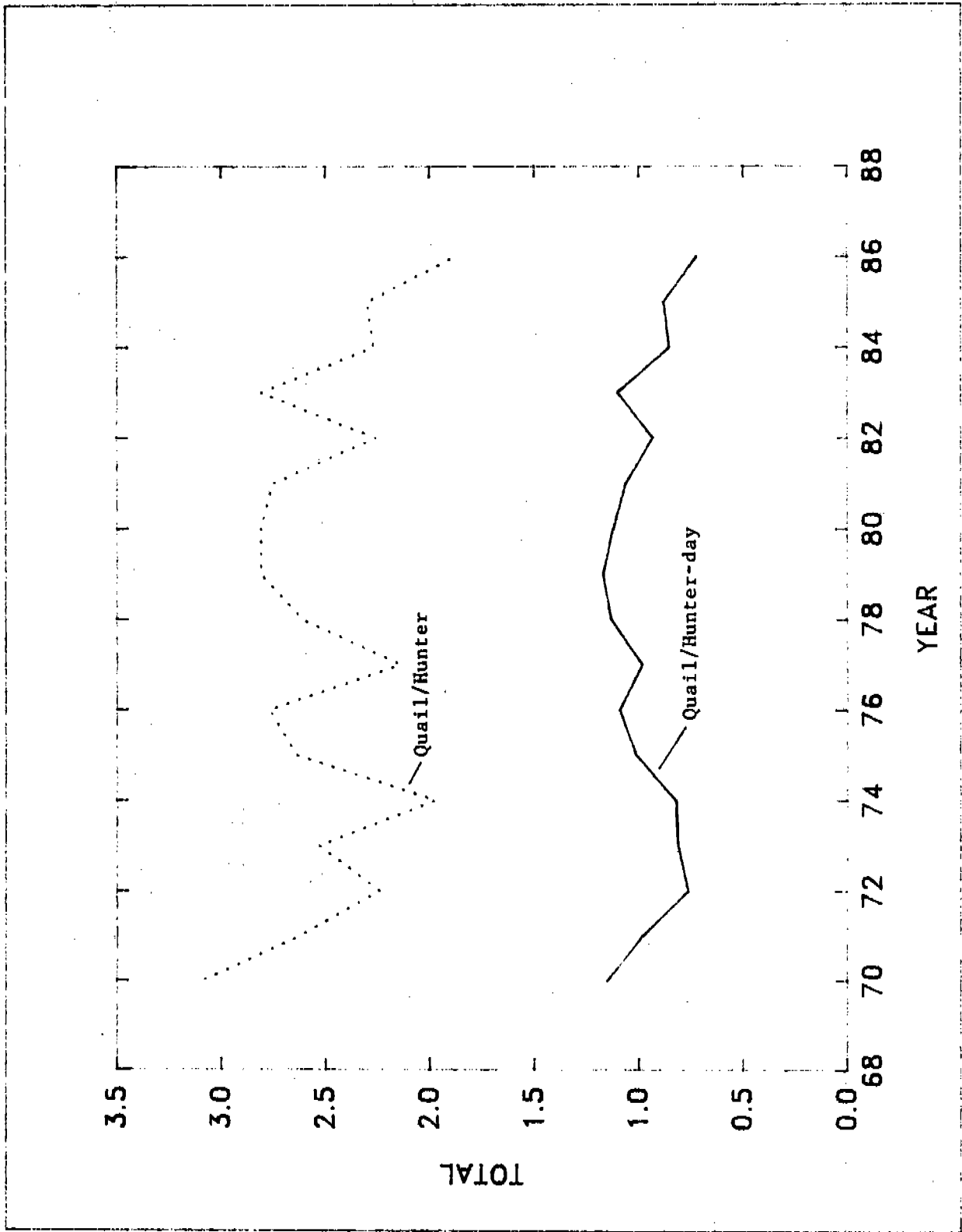


Figure 2. Statewide trend of quail harvest statistics.

Table 1. Quail summer inventory summary, 1986.

Region and County	Distinct Broods		Mixed Yng & Adults		Mean Brood Yng	Total Adults	Total Yng	Young/100 Ad	Veh. Miles	Hours of Effort		Birds/100 Hr				
	#	Ad	Ad	Yng						W/o Yng	Yng		Ad	Miles	Veh.	Walk
<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	2	2	15	7.50	3	20	0	5	35	700	10	2	0	0	2	2,000
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>																
<u>Southern Region</u>																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--				
Garfield	--	--	--	--	--	--	--	--	--	--	--	--				
Iron	--	--	--	--	--	--	--	--	--	--	--	--				
Kane	--	--	--	--	--	--	--	--	--	--	--	--				
Millard	5	10	9	1.80	0	3	17	27	12	44	90	4.5	0	0	4.5	867
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	20	38	157	7.85	31	140	3	72	297	412	216	23	0	0	23	1,604
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>																
	27	50	181	6.70	34	163	20	104	344	331	316	29.5	0	0	29.5	1,519

*waterhole count

Table 2. Trend of quail young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	--	--	--	--	--	440	--	--	--	--	--	--
Cache	--	--	--	--	94	35	--	--	--	--	--	--
Davis	--	--	--	196	500	550	--	--	1,050	--	--	--
Morgan	300	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	0	133	--	233	--	--	125	--	--	--	--	--
REGIONAL TOTALS	180	133	--	209	94	128	130	--	1,050	--	--	156
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	97	86	77	256	400	67	40	40	--	--	--	--
Sanpete	580	230	300	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	64	80	44	240	714	100	--	--	700	700	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	108	95	127	245	656	72	40	40	700	700	700	217
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	146	98	47	204	156	540	300	133	133	138	44	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	700	--	--	250	--	--	--	--	--
*Washington	199	149	555	301	93	226	152	624	224	571	412	--
*Wayne	244	238	1,250	--	--	550	--	--	--	--	--	--
REGIONAL TOTALS	190	146	317	283	114	439	162	544	213	434	456	284
Northeastern Region												
Daggett	600	0	--	--	--	--	--	--	--	--	--	--
Duchesne	0	129	190	340	114	583	600	--	--	--	--	--
Uintah	323	383	800	653	338	305	411	--	--	--	--	--
REGIONAL TOTALS	265	122	336	517	282	367	286	--	--	--	--	311
Southeastern Region												
Carbon	450	--	650	--	--	--	--	--	--	--	--	--
Emery	--	0	19	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	300	--	--	--	--	--	--	--
San Juan	--	41	--	40	--	--	--	--	--	--	--	--
REGIONAL TOTALS	450	38	89	40	300	--	--	--	--	--	--	183
STATE TOTALS	163	112	272	285	155	311	134	412	213	473	331	253

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

Table 3. Trend of quail mean brood size from 1976-86.

Region and County	Year										Average 1976-85	
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985		1986
<u>Northern Region</u>												
Box Elder	--	--	--	--	--	11.00	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	6.75	5.00	1.33	--	--	--	--	--	--
Morgan	--	--	--	5.00	--	--	11.00	--	--	10.50	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	3.75	--	--	--	--	--
REGIONAL TOTALS	--	--	--	6.40	5.00	6.85	--	5.20	--	10.50	--	5.86
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	7.00	6.40	2.00	4.60	4.00	--	--	3.00	--	--	--	--
Sanpete	5.80	4.33	4.75	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	2.50	4.00	4.00	4.00	5.00	3.00	--	--	--	7.00	7.50	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5.64	5.78	3.44	4.43	4.50	3.00	--	3.00	--	7.00	7.50	4.59
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	10.20	6.67	6.25	11.25	5.63	8.54	--	3.00	4.00	9.00	1.80	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	7.00	--	--	--	--	--	--	--	--
*Washington	6.08	7.83	11.80	8.51	5.22	6.42	6.00	13.50	5.09	8.43	7.85	--
*Wayne	9.00	13.00	--	--	--	5.50	--	--	--	--	--	--
REGIONAL TOTALS	7.40	8.07	10.21	8.86	5.45	7.97	6.00	11.17	5.06	8.56	6.64	7.88
<u>Northeastern Region</u>												
Daggett	6.00	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	3.43	6.86	6.00	4.00	9.00	--	--	--	--	--	--
Uintah	3.55	7.67	8.00	6.34	3.55	12.80	6.17	--	--	--	--	--
REGIONAL TOTALS	3.67	4.70	7.53	6.17	3.59	11.71	6.17	--	--	--	--	7.26
<u>Southeastern Region</u>												
Carbon	9.00	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	4.50	--	--	--	--	--	--
San Juan	--	4.50	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	9.00	4.50	--	--	--	4.50	--	--	--	--	--	6.00
STATE TOTALS	5.58	6.25	7.55	8.08	4.52	8.09	6.05	9.71	5.06	8.62	6.70	6.95

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

Table 4. Trend of quail observed per 100 hours, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	--	--	--	--	--	1,800	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	956	729	525	--	--	--	--	--	--
Morgan	1,200	--	--	600	--	--	222	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	22	350	--	1,000	--	--	825	--	--	--	--	--
REGIONAL TOTALS	140	350	--	927	729	891	511	--	--	--	--	591
Central Region												
Juab	0	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	2,838	2,092	575	1,067	167	63	527	1,400	--	--	--	--
Sanpete	262	236	400	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	512	90	217	1,700	900	75	--	--	320	2,000	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1,041	805	378	1,429	296	258	414	247	320	2,000	--	576
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
*Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2,867	1,088	867	1,340	1,536	3,911	800	350	177	344	867	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	50	800	--	--	1,400	--	--	--	--	--
*Washington	632	596	750	2,741	675	275	771	605	380	783	1,604	--
*Wayne	517	645	333	--	--	650	--	--	--	--	--	--
REGIONAL TOTALS	729	702	667	1,951	867	1,053	691	580	357	663	1,484	826
Northeastern Region												
Daggett	41	--	--	--	--	--	--	--	--	--	--	--
Duchesne	43	240	310	209	79	205	27	42	--	--	--	--
Uintah	715	483	563	890	613	708	328	100	--	--	--	--
REGIONAL TOTALS	241	350	398	443	314	406	123	58	--	--	--	292
Southeastern Region												
Carbon	220	--	1,500	--	--	--	--	--	--	--	--	--
Emery	--	67	950	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	400	--	--	--	--	--	--	--
San Juan	0	238	0	127	--	--	--	--	--	--	--	--
REGIONAL TOTALS	110	206	425	127	--	400	--	--	--	--	--	254
STATE TOTALS	571	588	530	1,193	541	720	408	411	297	645	1,519	590

*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, 1986.

Region and County	Sample Size*	Hunter-Days Afield	Birds Bagged	Birds Per Hunter-Day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	4	123	0	0.00	1.94	0.00
Cache	1	20	20	1.00	0.32	0.44
Davis	6	370	164	0.44	5.85	3.59
Morgan**	2	41	41	1.00	0.65	0.90
Rich	0	0	0	0.00	0.00	0.00
Summit**	2	103	41	0.40	1.63	0.90
Weber	13	329	226	0.69	5.20	4.94
REGIONAL TOTALS	28	989	494	0.50	15.63	10.80
<u>Central Region</u>						
Juab	1	20	41	2.00	0.32	0.90
Salt Lake	6	288	123	0.43	4.55	2.69
Sanpete	1	20	20	1.00	0.32	0.44
Tooele	3	123	41	0.33	1.94	0.90
Utah	35	2,163	1,566	0.72	34.19	34.24
Wasatch	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	46	2,617	1,792	0.69	41.37	39.18
<u>Southern Region</u>						
Beaver	2	103	0	0.00	1.63	0.00
Garfield	0	0	0	0.00	0.00	0.00
Iron	2	41	0	0.00	0.65	0.00
Kane	0	0	0	0.00	0.00	0.00
Millard	5	226	350	1.55	3.57	7.65
Piute	1	20	20	1.00	0.32	0.44
Sevier	1	41	0	0.00	0.65	0.00
Washignton	20	1,050	1,339	1.27	16.60	29.27
Wayne	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	31	1,483	1,710	1.15	23.44	37.39
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	5	185	82	0.44	2.92	1.79
Uintah	9	473	329	0.70	7.48	7.19
REGIONAL TOTALS	14	659	412	0.63	10.42	9.00
<u>Southeastern Region</u>						
Carbon	2	432	0	0.00	6.83	0.00
Emery	4	144	164	1.14	2.28	3.59
Grand	0	0	0	0.00	0.00	0.00
San Juan	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	6	576	164	0.29	9.11	3.59
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	125	6,326	4,574	0.72	100	100

*Total hunter-trips from questionnaire returns.

**Closed to quail hunting in 1986.

Table 6. Summary of quail bagged per hunter-day by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	0.07	0.25	0.50	0.21	0.50	0.00
Cache	0.00	1.67	1.40	0.00	0.00	1.00
Davis	0.97	0.53	1.00	0.43	0.45	0.44
Morgan	0.40	0.00	2.50	0.00	1.00	1.00
Rich	0.00	0.67	0.00	0.00	0.00	0.00
Summit	0.00	0.00	0.29	0.00	0.00	0.40
Weber	0.67	1.11	1.08	0.64	0.71	0.69
REGIONAL TOTALS	0.59	0.79	0.94	0.40	0.54	0.50
<u>Central Region</u>						
Juab	0.00	1.60	2.00	0.33	0.00	2.00
Salt Lake	0.88	1.13	1.00	0.32	1.88	0.43
Sanpete	0.00	0.00	0.75	0.00	1.50	1.00
Tooele	0.30	0.00	2.00	0.22	1.50	0.33
Utah	0.84	0.81	0.86	0.82	0.60	0.72
Wasatch	1.67	0.00	2.67	1.25	0.00	0.00
REGIONAL TOTALS	0.79	0.86	0.96	0.65	0.85	0.69
<u>Southern Region</u>						
Beaver	2.00	0.00	0.00	0.00	1.83	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	1.50	0.00	0.00
Kane	1.16	0.00	0.00	0.00	0.00	0.00
Millard	1.16	1.97	1.33	1.00	0.63	1.55
Piute	2.00	0.00	0.00	0.50	0.00	1.00
Sevier	2.00	0.14	0.00	0.86	1.80	0.00
Washington	1.99	1.19	1.53	1.98	1.23	1.27
Wayne	1.20	1.00	3.00	0.00	0.00	0.00
REGIONAL TOTALS	1.77	1.27	1.50	1.64	1.21	1.15
<u>Northeastern Region</u>						
Daggett	0.00	0.00	4.50	0.00	0.00	0.00
Duchesne	1.07	1.05	1.46	0.08	0.70	0.44
Uintah	0.74	0.64	0.70	0.72	1.00	0.70
REGIONAL TOTALS	0.84	0.83	1.11	0.54	0.86	0.63
<u>Southeastern Region</u>						
Carbon	0.69	0.89	0.40	0.00	1.00	0.00
Emery	0.75	0.67	0.76	0.00	0.31	1.14
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	3.00	1.33	0.00	0.00	0.00	0.00
REGIONAL TOTALS	0.76	0.85	0.67	0.00	0.62	0.29
Unknown counties	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	1.06	0.93	1.10	0.85	0.88	0.72

Table 7. Percentage distribution of quail harvest by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	0.31	0.62	1.54	0.98	0.30	0.00
Cache	0.00	1.55	0.83	0.00	0.00	0.44
Davis	5.47	2.95	9.03	6.11	5.16	3.59
Morgan	0.31	0.00	0.59	0.00	0.60	0.90
Rich	0.00	0.31	0.00	0.00	0.00	0.00
Summit	0.00	0.00	0.23	0.00	0.00	0.90
Weber	2.50	9.47	4.87	2.19	6.07	4.94
<u>REGIONAL TOTALS</u>	<u>8.59</u>	<u>14.91</u>	<u>17.09</u>	<u>9.29</u>	<u>12.15</u>	<u>10.80</u>
<u>Central Region</u>						
Juab	0.00	1.24	0.23	0.48	0.00	0.90
Salt Lake	3.59	5.59	4.16	1.46	9.11	2.69
Sanpete	0.00	0.00	0.71	0.00	0.91	0.44
Tooele	0.47	0.00	1.42	0.98	0.91	0.90
Utah	20.16	22.98	13.66	18.33	12.45	34.24
Wasatch	0.78	0.00	0.94	1.22	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>25.00</u>	<u>29.81</u>	<u>21.12</u>	<u>22.49</u>	<u>23.40</u>	<u>39.18</u>
<u>Southern Region</u>						
Beaver	0.31	0.00	0.00	0.00	3.33	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.72	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	7.81	9.16	1.89	7.82	1.52	7.65
Piute	0.31	0.00	0.00	0.48	0.00	0.44
Sevier	0.16	0.16	0.00	1.46	2.72	0.00
Washington	40.78	20.81	24.37	46.45	35.56	29.27
Wayne	0.94	0.47	0.71	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>50.31</u>	<u>30.59</u>	<u>26.97</u>	<u>56.97</u>	<u>43.16</u>	<u>37.39</u>
<u>Northeastern Region</u>						
Daggett	0.00	0.00	4.28	0.00	0.00	0.00
Duchesne	4.53	10.09	16.16	0.48	5.77	1.79
Uintah	7.03	7.30	12.24	10.76	9.11	7.19
<u>REGIONAL TOTALS</u>	<u>11.56</u>	<u>17.39</u>	<u>32.68</u>	<u>11.24</u>	<u>14.89</u>	<u>9.00</u>
<u>Southeastern Region</u>						
Carbon	3.13	3.88	0.23	0.00	4.85	0.00
Emery	0.94	2.17	1.89	0.00	1.52	3.59
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.47	1.24	1.08	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>4.53</u>	<u>7.30</u>	<u>2.10</u>	<u>0.00</u>	<u>6.38</u>	<u>3.59</u>
Unknown counties	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>

Table 8. Percentage distribution of quail hunting pressure by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	4.46	2.32	3.39	3.93	0.53	1.94
Cache	0.17	0.87	0.64	0.61	1.06	0.32
Davis	5.95	5.22	9.93	12.00	10.18	5.85
Morgan	0.83	0.29	0.25	0.41	0.53	0.65
Rich	0.00	0.43	0.00	0.00	0.00	0.00
Summit	0.00	0.43	0.91	0.00	0.00	1.63
Weber	3.97	7.97	4.96	2.90	7.51	5.20
REGIONAL TOTALS	15.37	17.54	20.08	19.87	19.83	15.63
<u>Central Region</u>						
Juab	1.65	0.72	0.13	1.23	0.26	0.32
Salt Lake	4.30	4.64	4.57	3.93	4.28	4.55
Sanpete	0.00	0.00	1.04	0.61	0.53	0.32
Tooele	1.65	0.58	0.78	3.72	0.53	1.94
Utah	25.45	26.52	13.37	19.04	18.23	34.19
Wasatch	0.50	0.00	0.39	0.83	0.53	0.00
REGIONAL TOTALS	33.55	32.46	24.28	29.39	24.39	41.37
<u>Southern Region</u>						
Beaver	0.17	0.14	0.00	0.00	1.60	1.63
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.14	0.00	0.41	0.80	0.65
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	7.11	4.35	1.56	6.62	2.14	3.57
Piute	0.17	0.00	0.00	0.83	0.00	0.32
Sevier	0.17	1.01	0.39	1.45	1.34	0.65
Washington	21.65	16.38	17.51	19.87	25.47	16.60
Wayne	0.83	0.43	0.25	0.20	0.00	0.00
REGIONAL TOTALS	30.08	22.46	19.72	29.39	31.36	23.44
<u>Northeastern Region</u>						
Daggett	0.00	0.00	1.56	0.00	0.00	0.00
Duchesne	4.46	8.99	12.14	4.97	7.23	2.92
Uintah	10.08	10.58	19.20	12.63	8.03	7.48
REGIONAL TOTALS	14.55	19.57	32.90	17.59	15.27	10.42
<u>Southeastern Region</u>						
Carbon	4.79	4.06	0.64	2.90	4.28	6.83
Emery	1.32	3.04	2.74	0.61	4.28	2.28
Grand	0.00	0.00	0.13	0.20	0.26	0.00
San Juan	0.17	0.87	0.00	0.00	0.26	0.00
REGIONAL TOTALS	6.28	7.97	3.51	3.72	9.11	9.11
Unknown counties	0.00	0.17	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 9. Statewide summary of quail harvest statistics, 1951-1986.

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
1985	3,065	7,051	7,994	0.88	2.30
1986	2,432	4,574	6,326	0.72	1.88
<hr/>					
TOTALS (1959-86)	176,226	491,835	439,550	(30.81)	(75.73)
<hr/>					
AVERAGES (1959-85)	6,437	18,047	16,045	1.11	2.74

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, 1975-86. These counts have been conducted since 1962.

Index	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total young	145	61	—	67	253	72	37	85	114	166	47	163
Total adults	20	53	—	29	77	52	25	33	14	86	11	48
Total quail	165	114	17	86	330	124	62	118	128	252	58	211
Young per 100 adults	725	115	—	353	329	138	148	258	814	193	427	340

HUNGARIAN PARTRIDGE

SUMMARY

Harvest data for 1985 indicated that 1986 breeding population densities were well below the long term average. Limited brood data was collected in Box Elder and Wasatch counties only and indicated an increasing Hun population.

The 1986 hunt indicated increased hunting pressure on Huns when compared to 1985. The number of Huns harvested increased significantly in 1986. The hunter-days afield increased 23 percent from 1985. Total hunters, days afield and harvest remained significantly below the long-term average. Hunter success was 30 percent below the long-term average.



Brood Counts

Results of the annual random brood counts for 1986 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 1986 compared to 1985 and the previous 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total Huns observed	27	--	--
Young per 100 adults	440	--	--
Mean brood size	11.00	--	--
Huns observed per 100 hours	60	--	--
Total hours effort	45	-46	-43

Harvest data for 1985 still indicate a significantly below average breeding population for 1986 but populations are higher than in 1985.

The hours of effort decreased 46 percent from 1985, and 43 percent below average. Hungarian partridge were observed during the summer inventory counts in Box Elder and Wasatch counties only.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1986 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 1986 season compared to 1985 and the previous 27-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Hungarian partridge hunters	1,257	+1	-67
Hungarian partridge harvest	1,627	+130	-80
Hunter-days afield	2,834	+23	-70
Huns per hunter-day	0.57	+84	-30
Huns per hunter	1.30	+113	-36

Hungarian partridge hunting pressure increased 23 percent, while success increased 84 percent during 1986 as compared to 1985. Nevertheless, harvest was 80 percent below the 27-year average and the third lowest on record since 1959.

Field Bag Checks

Results of the survey for 1986 are shown in Table 10. Hunter success trends determined via this method are shown in Table 11. Indices obtained for 1986 compared to 1985 and the previous 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	405	-20	+388
Total hours hunted	2,609	-15	+477
Huns per hunter (complete hunts)	0.16	0	-73
Huns bagged per 100 hours	2	-33	-88
Average hours per hunter-day (complete hunts)	6.4	+5	+64
Hours hunted per Hun bagged (complete hunts)	41.4	+8	+841

Field bag check data submitted in 1986 was for Box Elder County only, and was collected at the game checking station at Snowville, Utah. Many of these hunters are hunting sagegrouse, but Huns are often found in the same areas.

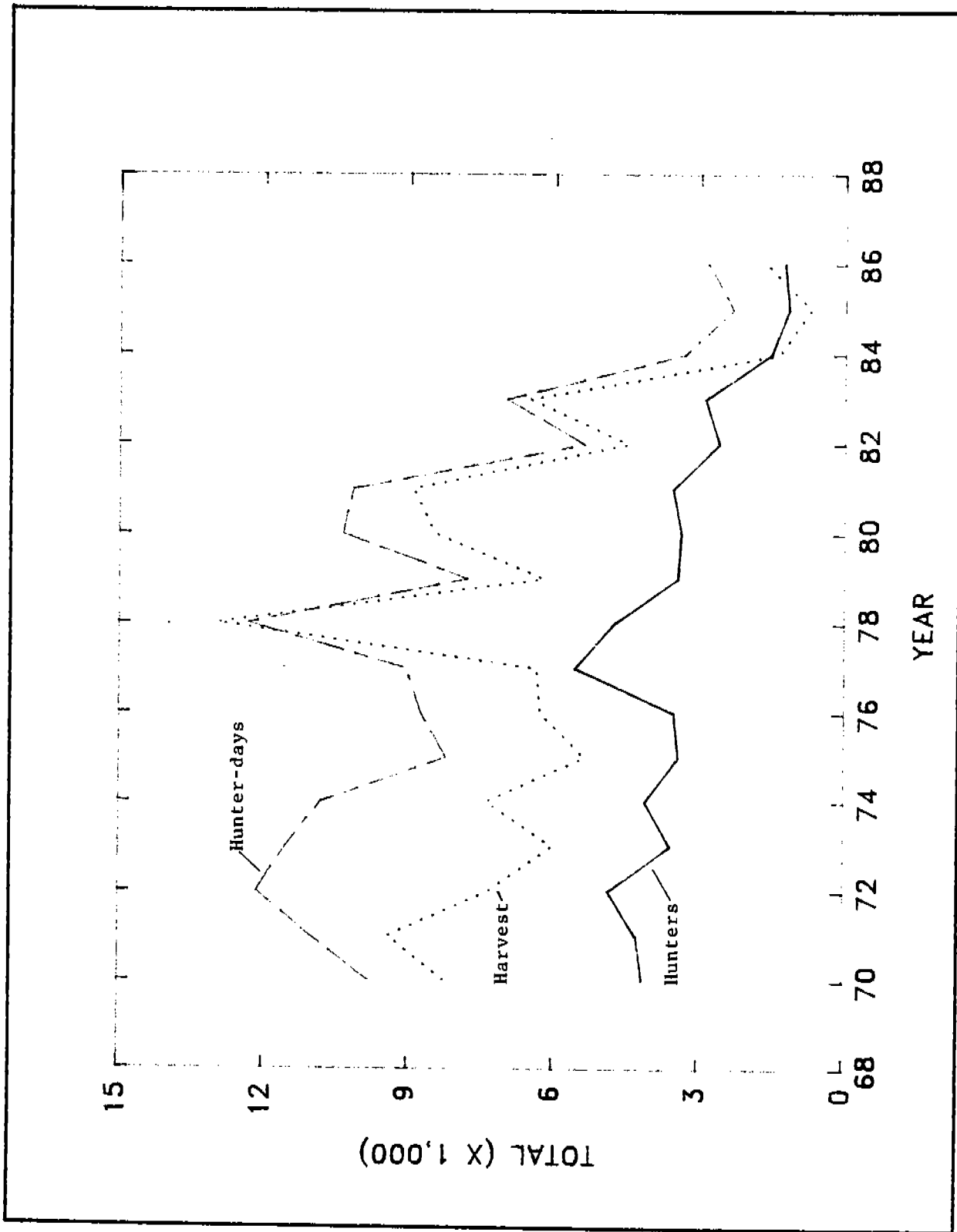


Figure 1. Statewide trend of Hungarian partridge harvest statistics.

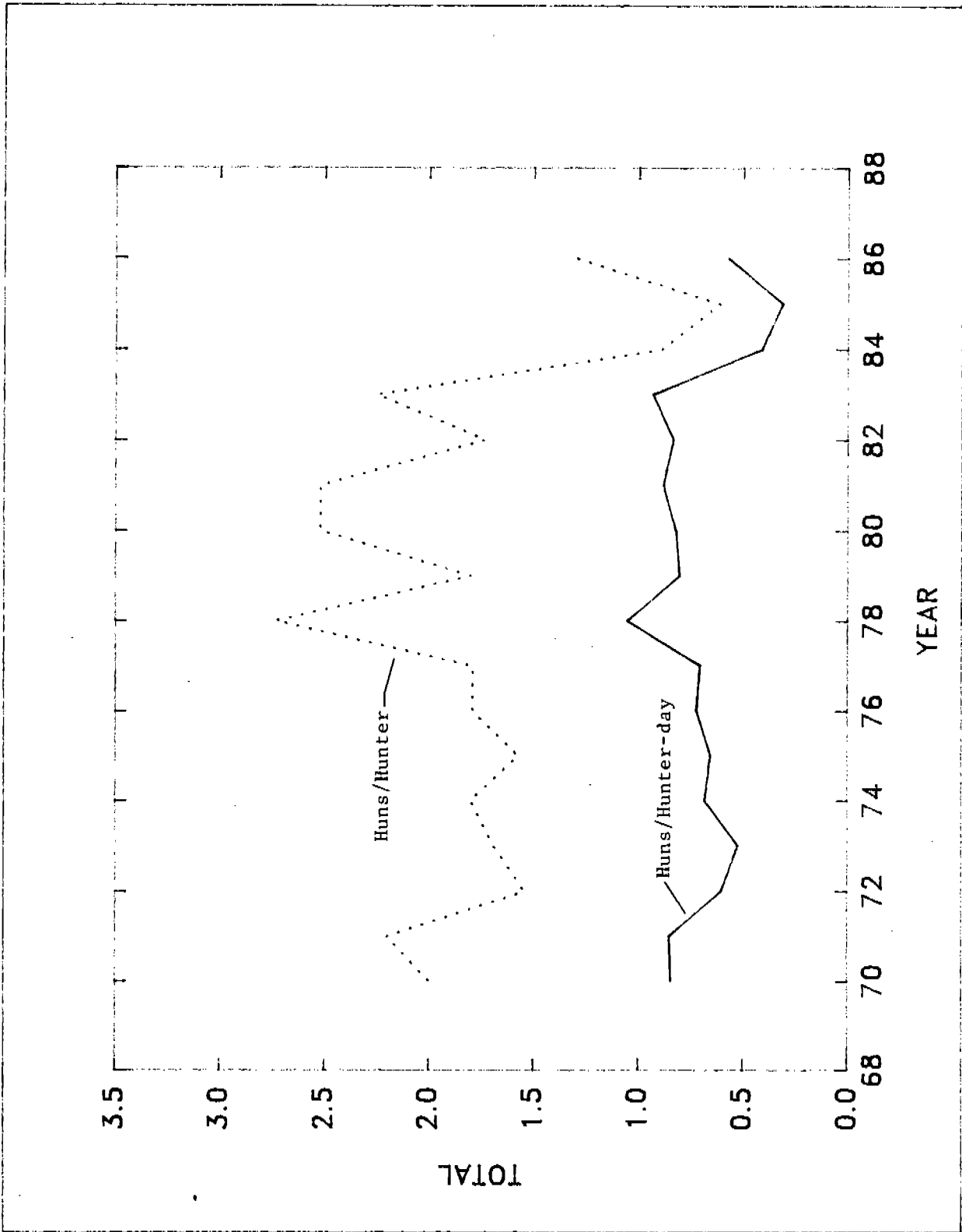


Figure 2. Statewide trend of Hungarian partridge statistics.

Table 1. Hungarian partridge summer inventory summary, 1986.

Region and County	Distinct Broods		Mean Brood	Mixed Yng & Adults			Total Yng	Total Adults	Young/100 Ad	Veh. Miles	Hours of Effort			Birds/100 Hr		
	#	Ad		Yng	Ad	Yng					w/o Yng	Veh. Horse	Walk		Total	
Northern Region																
Box Elder	1	2	18	18.00	0	0	2	4	18	450	80	6	12	5	23	96
Cache	0	0	0	--	0	0	0	--	--	--	33	9	0	0	9	--
Davis	0	0	0	--	0	0	0	--	--	--	--	--	--	--	--	--
Morgan	0	0	0	--	0	0	0	--	--	--	--	--	--	--	--	--
Rich	0	0	0	--	0	0	0	--	--	--	100	12	0	0	12	--
Summit	0	0	0	--	0	0	0	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1	2	18	18.00	0	0	2	4	18	450	213	27	12	5	44	50
Central Region																
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	1	1	4	4.00	0	0	0	1	4	400	10	0	1	0	1	500
REGIONAL TOTALS	1	1	4	4.00	0	0	0	1	4	400	10	0	1	0	1	500
Southern Region																
Beaver																
Garfield																
Iron																
Kane																
Millard																
Piute																
Sevier																
Washington																
Wayne																
NOT APPLICABLE																
REGIONAL TOTALS																
Northeastern Region																
Daggett																
Duchesne																
Uintah																
NOT APPLICABLE																
REGIONAL TOTALS																
Southeastern Region																
Carbon																
Emery																
Grand																
San Juan																
NOT APPLICABLE																
REGIONAL TOTALS																
STATE TOTALS	2	3	22	11.00	0	0	0	5	22	440	223	27	13	5	45	60

Table 2. Trend of Hungarian partridge young per 100 adults, 1976-86.

Region and County	Year										Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	
<u>Northern Region</u>											
Box Elder	421	467	580	840	688	671	409	400	--	--	450
Cache	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	533	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	700	300	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	431	467	580	840	691	600	409	400	--	--	450
<u>Central Region</u>											
Juab	--	--	--	500	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	233	173	--	--	--	--	--	--	--	--	--
Tooele	550	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	0	--	--	--	--	--	--
Wasatch	20	--	--	--	--	--	--	--	--	--	400
REGIONAL TOTALS	200	173	--	500	--	--	--	--	--	--	400
<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	328	369	580	780	663	600	409	400	--	--	440
											516

Table 3. Trend of Hungarian partridge mean brood size from 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	10.22	10.77	11.60	8.40	11.00	12.00	11.25	10.67	--	--	18.00	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	7.00	6.00	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	10.22	10.77	11.60	8.40	9.50	10.80	11.25	10.67	--	--	18.00	10.40
<u>Central Region</u>												
Juab	--	--	--	5.00	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	2.00	--	--	--	--	--	--	--	--	--	4.00	
REGIONAL TOTALS	2.00	--	--	5.00	--	--	--	--	--	--	4.00	3.50
<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	9.40	10.77	11.60	7.83	9.50	10.80	11.25	10.67	--	--	11.00	10.23

Table 4. Trend of Hungarian partridge observed per 100 hours, 1976-86.

Region and County	Year										Average 1976-85	
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985		1986
<u>Northern Region</u>												
Box Elder	184	109	203	235	154	570	144	67	--	0	96	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	1,900	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	205	109	151	174	158	639	144	67	--	0	50	183
<u>Central Region</u>												
Juab	--	--	--	600	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	400	820	--	--	--	--	--	--	--	--	--	
Tooele	2,600	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	120	--	--	0	33	--	--	--	--	--	500	
REGIONAL TOTALS	371	820	--	200	17	--	--	--	--	--	500	352
<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	238	131	151	177	144	565	144	67	--	0	60	179

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1986.

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	2,493	1,483	0.60	87.68	91.14
Cache	1	20	0	0.00	0.72	0.00
Davis	0	0	0	0.00	0.00	0.00
Morgan	0	0	0	0.00	0.00	0.00
Rich	1	20	0	0.00	0.72	0.00
Summit	0	0	0	0.00	0.00	0.00
Weber	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	52	2,534	1,483	0.59	89.13	91.14
<u>Central Region</u>						
Juab	1	20	0	0.00	0.72	0.00
Salt Lake	0	0	0	0.00	0.00	0.00
Sanpete	1	20	0	0.00	0.72	0.00
Tooele	1	20	0	0.00	0.72	0.00
Utah	2	41	0	0.00	1.44	0.00
Wasatch	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	5	103	0	0.00	3.62	0.00
<u>Southern Region</u>						
Beaver	1	20	0	0.00	0.72	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	1	61	123	2.00	2.17	7.59
Piute	0	0	0	0.00	0.00	0.00
Sevier	3	103	20	0.20	3.62	1.27
Washington	0	0	0	0.00	0.00	0.00
Wayne	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	5	185	144	0.78	6.52	8.86
<u>Northeastern Region</u>						
Daggett	0	0	0	0.00	0.00	0.00
Duchesne	0	0	0	0.00	0.00	0.00
Uintah	1	20	0	0.00	0.72	0.00
REGIONAL TOTALS	1	20	0	0.00	0.72	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	63	2,843	1,627	0.57	100	100

*Total hunter-trips from questionnaire returns.

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	1.31	0.83	0.99	0.44	0.25	0.60
Cache	0.60	1.03	0.80	0.15	2.00	0.00
Davis	0.00	5.00	0.29	0.00	--	--
Morgan	0.50	1.40	0.75	0.00	0.00	--
Rich	0.50	2.00	0.94	0.00	--	0.00
Summit	1.50	0.00	0.00	--	--	--
Weber	0.00	1.00	1.36	1.00	--	--
REGIONAL TOTALS	1.10	0.89	0.93	0.41	0.26	0.59
<u>Central Region</u>						
Juab	1.20	0.00	0.00	--	--	--
Salt Lake	0.06	0.00	0.00	0.50	0.50	--
Sanpete	0.00	0.00	0.00	--	0.00	--
Tooele	0.09	0.00	1.91	0.00	0.46	--
Utah	0.25	0.00	0.13	2.00	0.00	--
Wasatch	0.40	0.00	1.77	1.00	1.50	--
REGIONAL TOTALS	0.18	0.00	0.96	0.55	0.48	--
<u>Southern Region</u>						
Beaver	0.00	0.00	0.00	0.00	--	0.00
Garfield	0.00	0.00	0.00	--	--	--
Iron	0.00	1.00	0.00	--	--	--
Kane	0.00	0.00	0.00	--	--	--
Millard	0.00	0.00	1.00	--	--	2.00
Piute	0.00	0.00	0.00	--	--	--
Sevier	0.00	0.00	0.50	--	--	0.20
Washington	0.00	0.13	2.00	0.00	--	--
Wasatch	0.40	0.00	1.77	1.00	--	--
REGIONAL TOTALS	0.18	0.00	0.96	0.55	0.00	0.78
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	--	1.00	--
Duchesne	1.00	0.00	0.00	0.00	--	--
Uintah	1.00	2.00	0.00	0.00	0.00	0.00
REGIONAL TOTALS	1.00	1.33	0.00	0.00	0.50	0.00
<u>Southeastern Region</u>						
Carbon	0.00	0.00	0.00	--	--	--
Emery	1.00	0.00	0.00	--	--	--
Grand	0.00	0.00	0.00	--	0.00	--
San Jaun	0.00	0.00	0.00	--	--	--
REGIONAL TOTALS	1.00	0.00	0.00	--	0.00	--
Unknown Counties	0.00	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	0.88	0.83	0.93	0.41	0.31	0.57

Table 7. Percentage distribution of Hungarian partridge harvest by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	78.81	74.66	67.61	79.04	60.34	91.14
Cache	13.81	11.64	14.39	2.94	5.94	0.00
Davis	0.00	1.71	0.40	0.00	0.00	0.00
Morgan	0.71	7.19	1.23	0.00	0.00	0.00
Rich	0.48	1.37	3.27	0.00	0.00	0.00
Summit	0.71	0.00	0.00	0.00	0.00	0.00
Weber	0.00	1.71	3.07	8.90	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>94.52</u>	<u>98.29</u>	<u>89.97</u>	<u>91.03</u>	<u>66.62</u>	<u>91.14</u>
<u>Central Region</u>						
Juab	1.43	0.00	0.00	0.00	0.00	0.00
Salt Lake	0.24	0.00	0.00	1.47	2.97	0.00
Sanpete	0.00	0.00	0.00	0.00	0.00	0.00
Tooele	1.43	0.00	4.30	0.00	18.10	0.00
Utah	1.19	0.00	0.40	5.96	0.00	0.00
Wasatch	0.48	0.00	4.72	1.47	9.05	0.00
<u>REGIONAL TOTALS</u>	<u>4.76</u>	<u>0.00</u>	<u>9.42</u>	<u>8.90</u>	<u>30.27</u>	<u>0.00</u>
<u>Southern Region</u>						
Beaver	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.34	0.00	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.00	0.40	0.00	0.00	7.59
Piute	0.00	0.00	0.00	0.00	0.00	0.00
Sevier	0.00	0.00	0.20	0.00	0.00	1.27
Washington	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.00</u>	<u>0.34</u>	<u>0.60</u>	<u>0.00</u>	<u>0.00</u>	<u>8.86</u>
<u>Northeastern Region</u>						
Daggett	0.00	0.00	0.00	0.00	2.97	0.00
Duchesne	0.24	0.00	0.00	0.00	0.00	0.00
Uintah	0.24	1.37	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.48</u>	<u>1.37</u>	<u>0.00</u>	<u>0.00</u>	<u>2.97</u>	<u>0.00</u>
<u>Southeastern Region</u>						
Carbon	0.00	0.00	0.00	0.00	0.00	0.00
Emery	0.24	0.00	0.00	0.00	0.00	0.00
Grand	0.00	0.00	0.00	0.00	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.24</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Unknown counties	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>

Table 8. Percentage distribution of Hungarian partridge hunting pressure by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	52.72	74.65	63.43	73.62	74.98	87.68
Cache	20.08	9.40	16.80	7.95	0.91	0.72
Davis	0.21	0.28	1.33	1.81	0.00	0.00
Morgan	1.26	4.27	1.51	3.66	1.82	0.00
Rich	0.84	0.57	3.24	0.60	0.00	0.72
Summit	0.42	1.14	1.14	0.00	0.00	0.00
Weber	0.21	1.42	2.10	3.66	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>75.73</u>	<u>91.75</u>	<u>89.56</u>	<u>91.39</u>	<u>77.79</u>	<u>89.13</u>
<u>Central Region</u>						
Juab	1.05	0.00	1.14	0.00	0.00	0.72
Salt Lake	3.35	0.28	0.00	1.21	1.82	0.00
Sanpete	0.00	0.00	0.37	0.00	0.91	0.72
Tooele	13.60	3.99	2.10	3.66	12.01	0.72
Utah	4.18	1.99	3.04	1.21	2.77	1.44
Wasatch	1.05	0.85	2.47	0.60	1.82	0.00
<u>REGIONAL TOTALS</u>	<u>23.22</u>	<u>7.12</u>	<u>9.13</u>	<u>6.74</u>	<u>19.45</u>	<u>3.62</u>
<u>Southern Region</u>						
Beaver	0.00	0.00	0.19	1.21	0.00	0.72
Garfield	0.00	0.00	0.00	0.00	0.00	0.00
Iron	0.00	0.28	0.00	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.00	0.00	0.37	0.00	0.00	2.17
Piute	0.00	0.00	0.00	0.16	0.00	0.00
Sevier	0.00	0.00	0.37	0.00	0.00	3.62
Washington	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	0.00	0.00	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.00</u>	<u>0.28</u>	<u>0.93</u>	<u>1.21</u>	<u>0.00</u>	<u>6.52</u>
<u>Northeastern Region</u>						
Daggett	0.00	0.28	0.00	0.00	0.91	0.00
Duchesne	0.21	0.00	0.00	0.00	0.00	0.00
Uintah	0.21	0.57	0.00	0.60	0.91	0.72
<u>REGIONAL TOTALS</u>	<u>0.42</u>	<u>0.85</u>	<u>0.00</u>	<u>0.60</u>	<u>1.82</u>	<u>0.72</u>
<u>Southeastern Region</u>						
Carbon	0.00	0.00	0.19	0.00	0.00	0.00
Emery	0.21	0.00	0.00	0.00	0.00	0.00
Grand	0.00	0.00	0.00	0.00	0.91	0.00
San Juan	0.00	0.00	0.00	0.00	0.00	0.00
<u>REGIONAL TOTALS</u>	<u>0.21</u>	<u>0.00</u>	<u>0.19</u>	<u>0.00</u>	<u>0.91</u>	<u>0.00</u>
Unknown counties	0.42	0.00	0.19	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 9. Statewide summary of Hungarian partridge harvest statistics, 1955-86.

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
1985	1,157	707	2,314	0.31	0.61
1986	1,257	1,627	2,843	0.57	1.30
<hr/>					
TOTAL (1959-86)	103,965	224,717	260,392	(22.65)	(56.02)
<hr/>					
AVERAGES (1959-85)	3,804	8,263	9,539	0.82	2.03

Table 10. Hungarian partridge field bag check summary, 1986.

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	149	405	2,609	63 2	149	405	2,609	63 2	0.16
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
<u>REGIONAL TOTALS</u>	149	405	2,609	63 2	149	405	2,609	63 2	0.16
<u>Central Region</u>									
Juab									
Salt Lake									
Sanpete									
Tooele									
Utah									
Wasatch									
<u>REGIONAL TOTALS</u>									
<u>Southern Region</u>									
Beaver									
Garfield									
Iron									
Kane									
Millard									
Piute									
Sevier									
Washington									
Wayne									
<u>REGIONAL TOTALS</u>									
<u>Northeastern Region</u>									
Daggett									
Duchesne									
Uintah									
<u>REGIONAL TOTALS</u>									
<u>Southeastern Region</u>									
Carbon									
Emery									
Grand									
San Juan									
<u>REGIONAL TOTALS</u>									
<u>STATE TOTALS</u>	149	405	2,609	63 2	149	405	2,609	63 2	0.16

NO DATA

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 11. Hungarian partridge hunter success trend determined by field bag checks, 1981-86.

Region and County	1981		1982		1983		1984		1985		1986	
	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	30	1.11	32	1.33	17	0.62	--	--	3	0.16	2	0.16
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	30	1.11	32	1.33	17	0.62	--	--	3	0.16	2	0.16
<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	30	1.11	32	1.33	17	0.62	--	--	3	0.16	2	0.16

WILD TURKEY

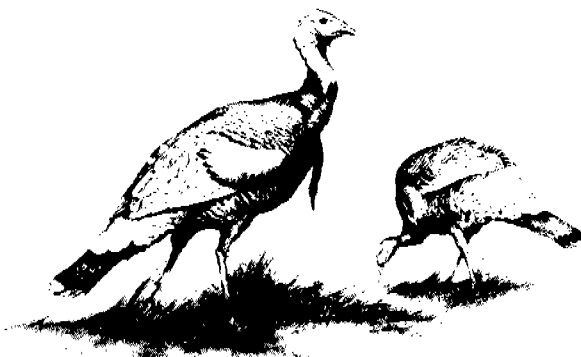
SUMMARY

Turkey populations have continued to improve on all units during the past several years, and the increasing numbers are reflected in the reported observations and the annual harvest.

Hunter success and turkey observation data for the 1986 spring season indicated that the East Zion area had another year of increasing turkey population. The Boulder Mountains and LaSal Mountains also indicated growing populations. However, the remaining units of the state were closed to hunting. Rio Grande turkeys were released on Pine Valley mountain in 1984, but the population was not considered to be huntable in 1985 or 1986.

Spring hunting pressure was up from 1985 but hunter success was down 13 percent. A fall turkey hunting season was not held in 1986. A total of 43 Tom turkeys were harvested in the spring hunt of 1986 compared to 41 taken in 1985. Observations of turkey increased in 1986, with most observations again made on the East Zion area.

Temperatures in southcentral and southeastern Utah were above normal January through June, but precipitation was above normal, especially in April. May and June precipitation in turkey range was below average and temperatures were above average which should have improved hatching success and brood survival.



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 1986 indicated good breeding populations on all units, but harvest increased 5 percent from 1985.

During 1986, no turkeys were observed during the inventory period on the LaSal Mountains. No additional observation data was submitted from the Southern Region.

Harvest

Spring Gobbler Season

Results of the 1986 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 1986 spring season compared to 1985 and the previous 19-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Permits sold	362	+15	+123
Hunters afield	335	+24	+158
Turkeys harvested	43	+5	+169
Hunter-days afield	1,054	+41	+183
Percent hunter success	13	-13	+8
Turkeys bagged per hunter-day	0.04	-33	0
Percent of hunters who observed turkeys	57	+10	+50

Permit sales and hunters afield increased from 1985 and were well above average. Total harvest increased from 41 in 1985 to 43 in 1986, which is 169 percent above the 19-year average. The proportion of hunters who reported having observed turkeys increased 10 percent above the 1985 level and 50 percent above average. The East Zion unit again accounted for 48 percent of the hunting pressure based on hunter-days afield.

Approximately 3 percent of the turkey hunters used rifles (presumably muzzleloaders as other rifles were illegal) during the spring turkey season. No turkeys were harvested, shot at or crippled with a rifle. Nevertheless, a total of 7 turkeys were reported crippled and not recovered. Five percent of the hunters used archery tackle but were unsuccessful in taking a turkey.

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

Fall Season

Fall turkey hunts were not authorized in Utah during 1986. However, data of fall seasons through 1984 are shown in Tables 4-9. The statewide summary of fall harvest statistics is presented in Table 10.

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Permits sold	0	--	--
Hunters afield	0	--	--
Turkeys harvested	0	--	--
Hunter-days afield	0	--	--
Percent hunter success	0	--	--
Turkeys bagged per hunter-day	0	--	--
Percent of hunters who observed turkeys	0	--	--

The trend of fall harvest statistics through 1984 is shown in Figure 2.

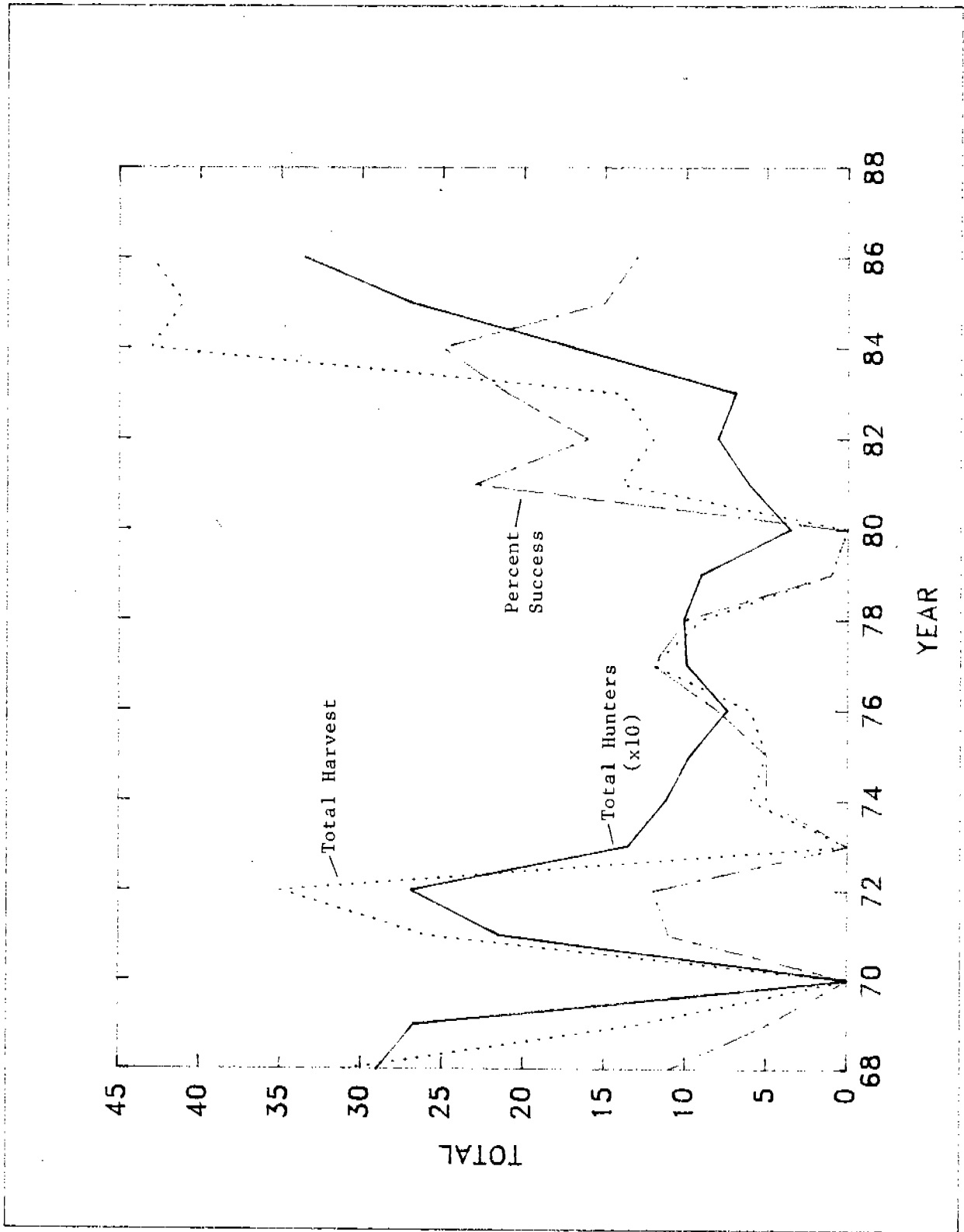


Figure 1. Wild turkey gobbler harvest trends for spring seasons.

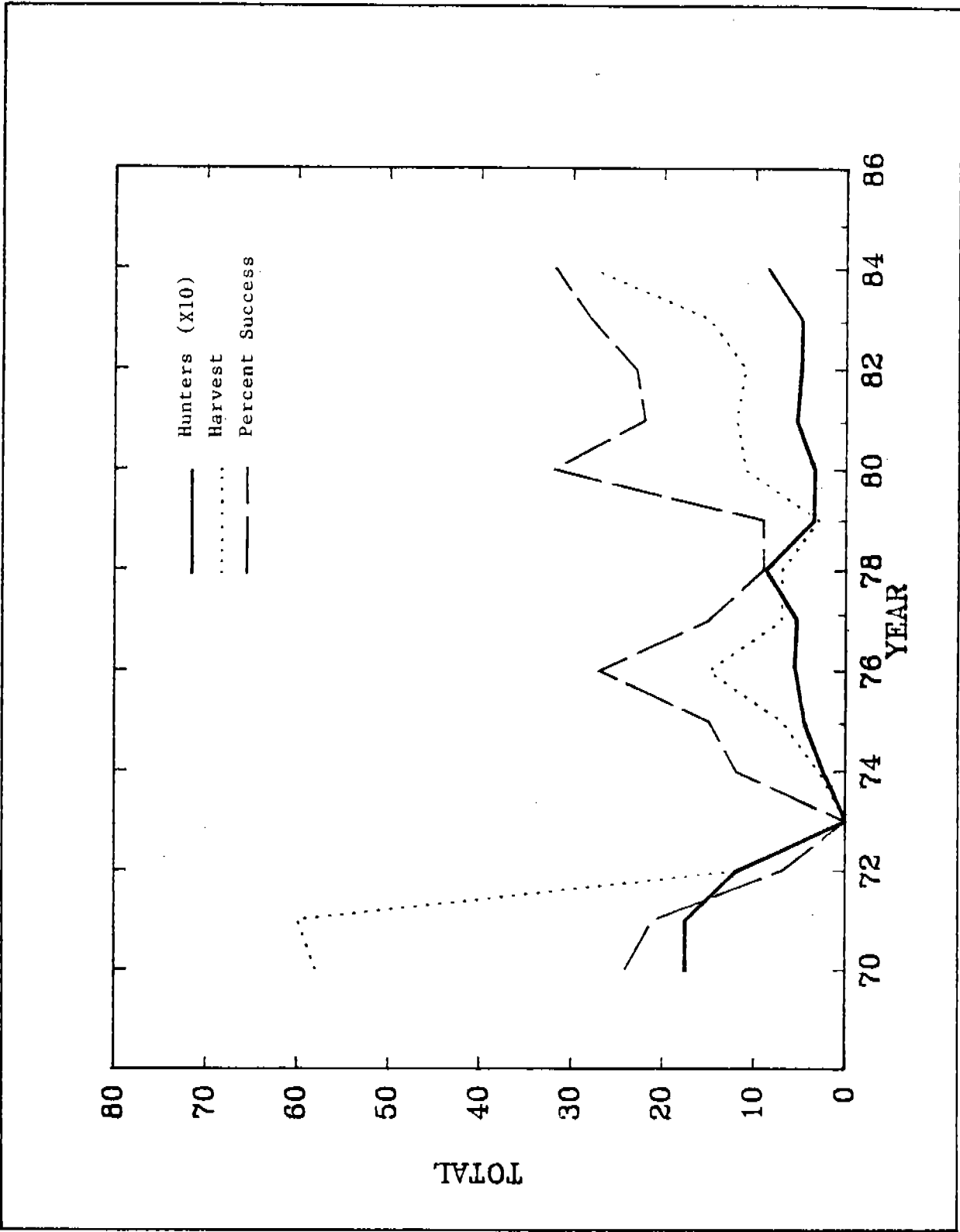


Figure 2. Wild turkey harvest trends for fall seasons.

Table 1. Summary of the 1986 spring turkey season.

Data	Elk Ridge		East Zion		Boulder		LaSalle		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															362	--
No hunts															23	27
Hunters afield	C	145	173	103	123	43			C				(10)	(12)	281	335
Hunter-days	L	427	508	297	354	161	192		L				(30)	(36)	885	1,054
Turkeys bagged	O	26	31	7	8	3	4		O				0	0	36	43
Percent success	S	18	--	7	--	7	--		S				--	--	13	--
Turkeys bagged per hunter-day	E								E							
Reported crippling loss (loss/100 bagged)	D	0.06	--	0.02	--	0.02	--		D				--	--	0.04	--
Turkeys observed	S	15	--	43	--	0	--		S				0	--	19	--
Gobblers	E	740	--	161	--	112	--		E				(16)	--	1,013	--
Hens	A	209	--	47	--	43	--		A				(8)	--	299	--
Unidentified	S	485	--	67	--	48	--		S				(5)	--	600	--
Number of hunters who saw turkeys	O	42	--	50	--	21	--		O				(3)	--	113	--
Percent of hunters who saw turkeys	N								N							
		99	--	41	--	19	--						(6)	--	159	--
		68	--	44	--	45	--						(60)	--	57	--

Projection factor = 1.1908

() Hunters hunted more than one area; data included in specific area hunted.

Table 2. Summary of turkey harvest statistics for spring gobbler seasons, 1967-86.

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per		Percent of Hunters Observing	Total Permits**
		Afield	Afield		Afield	Hunter-day		Hunter-day	Turkeys		
EAST ZION	1967	24	59	9	38	0.15	58				
	1968	130	364	16	11	0.04	48				
	1969	77	210	4	6	0.02	35				
	1970				NO SEASON						
	1971	106	272	14	12	0.05	38				
	1972	113	321	20	14	0.06	47				
	1973	43	96	0	0	0.00	14				
	1974	34	73	2	7	0.03	23				
	1975	29	42	3	8	0.06	33				
	1976	31	74	5	16	0.05	38				
	1977	47	117	6	13	0.05	48				
	1978	36	80	4	13	0.06	56				
	1979	35	95	1	4	0.01	11				
	1980	35	84	0	0	0.00	17				
	1981	39	94	13	32	0.14	68				
	1982	62	134	11	18	0.08	70				
	1983	48	122	12	25	0.10	68				
	1984	108	313	30	27	0.09	70				
1985	129	368	24	19	0.07	60					
1986	173	508	31	18	0.06	68					

Table 2. (continued)

Hunting Unit	Year	Hunters Afield	Total Harvest	Hunter-days Afield	Percent Success*	Turkeys per Hunter-day	Percent of Hunters Observing Turkeys	Total Permits**
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				N O S E A S O N			
	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				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	6	1	7	20	0.17	40		
1984	33	9	85	27	0.11	73		
1985	73	7	187	10	0.04	46		
1986	112	8	354	7	0.02	44		

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			Hunter-day			
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		
1985	72		10	194	14		0.05		42		
1986	51		4	192	7		0.02		45		

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						
BEAVER MOUNTAINS	1971	27		2	54		8	0.04		39	
	1972	17		2	53		13	0.04		20	
	1973	17		0	34		0	0.00		7	
	1974	1		0	1		0	0.00		0	
	1975	5		0	7		0	0.00		0	
	1976	2		0	8		0	0.00		0	
	1977	4		0	14		0	0.00		0	
	1978	2		0	7		0	0.00		50	
	1979					NO		SEASON			
	1980					NO		SEASON			
	1981					NO		SEASON			
	1982					NO		SEASON			
	1983					NO		SEASON			
	1984					NO		SEASON			
1985					SEASON CLOSED						
1986					SEASON CLOSED						

Table 2 (continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day		Percent of Hunters Observing	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				
	1985***			NO SEASON							
	1986			NO SEASON							

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					
BLUE MOUNTAIN-	1974	17		2	34	13	0.07		27	
ELK RIDGE	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 0	S E A S O N				
	1981				N 0	S E A S O N				
	1982				N 0	S E A S O N				
	1983				N 0	S E A S O N				
	1984				N 0	S E A S O N				
	1985				N 0	S E A S O N				
	1986				N 0	S E A S O N				

1986 SEASON CLOSED 1980-1986

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			Hunter-day			
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	
	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	
	1985	4		0	6		0	0.00		67	
	1986	12		0	36		0	0.00		60	

Table 2 (continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-days		Percent Success*	Turkeys per Hunter-day	Percent of Hunters		Total Permits**
		Afield			Afield	Observing			Turkeys	Permits**	
STATE TOTALS	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	
	1985	270		41	747		15	0.06	52	314	
	1986	335		43	1,054		13	0.04	57	362	
STATE TOTALS (1967-86)		2,546		322	7,371		13	0.04	(697)	3,110	
STATE AVERAGES (1967-85)		130		16	372		12	0.04	38	162	

*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 in 1984 and by amendment to the proclamation in 1985 to protect Rio Grande turkeys released on the area in February 1984.

Table 3. Summary of the 1986 fall turkey season.

Data	Blue Mtn.-												STATE TOTALS	
	Pine Valley		Elk Ridge		Boulder Mtns.		East Zion		LaSal		Unknown		STATE	TOTALS
	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc
Permits sold	C		C		C		C		C		C		C	
No hunts	L		L		L		L		L		L		L	
Hunters afield	O		O		O		O		O		O		O	
Hunter-days	S		S		S		S		S		S		S	
Turkeys bagged	E		E		E		E		E		E		E	
Percent success	D		D		D		D		D		D		D	
Turkeys bagged per hunter-day	S		S		S		S		S		S		S	
Reported crippling loss (loss/100 bagged)	E		E		E		E		E		E		E	
Turkeys observed	A		A		A		A		A		A		A	
Number of hunters who saw turkeys	S		S		S		S		S		S		S	
Percent of hunters who saw turkeys	O		O		O		O		O		O		O	
	N		N		N		N		N		N		N	

Projection factor = 0.00

Table 4. Summary of Boulder Mountain wild turkey harvest data for fall hunts from 1969-86.

Year	Hunters		Hunter-days		Turkeys		Percent		Turkeys/		Cripples/		% Hunters	
	Afield		Afield		Bagged	Success*	2 Turkeys	Bagging	Hunter-Day	Hunter-Day	100 Bagged	Observed	Observing	Turkeys
1969	45		103		0	0	0	0	0.00	0	0	0	0	0
1970	24		77		2	8	0	0	0.03	0	0	16	10	10
1971	20		46		0	0	0	0	0.00	0	0	0	0	0
1972	7		17		0	0	0	0	0.00	0	0	0	0	0
1973**	--		--		--	--	--	--	--	--	--	--	--	--
1974**	--		--		--	--	--	--	--	--	--	--	--	--
1975	13		36		0	0	0	0	0.00	0	0	0	0	0
1976	4		10		0	0	0	0	0.00	0	0	0	0	0
1977	2		5		0	0	0	0	0.00	0	0	0	0	0
1978	0		0		0	0	0	0	0.00	0	0	0	0	0
1979	--		--		--	--	--	--	--	--	--	--	--	--
1980	3		6		0	0	0	0	0.00	0	0	0	0	0
1981	0		0		0	0	0	0	0.00	0	0	0	0	0
1982**	--		--		--	--	--	--	--	--	--	--	--	--
1983**	--		--		--	--	--	--	--	--	--	--	--	--
1984	--		--		--	--	--	--	--	--	--	--	--	--
1985**	--		--		--	--	--	--	--	--	--	--	--	--
1986**	--		--		--	--	--	--	--	--	--	--	--	--

*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 1969-86.

Year	Hunters		Hunter-days		Turkeys		Percent Success*	Percent Bagging		Turkeys/Hunter-Day	Cripples/100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield		Bagged			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
1985**	---		---		---		---	---	---	---		---	---
1986**	---		---		---		---	---	---	---		---	---

*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 LaSals Mountain wild turkey harvest data for fall hunts from 1969-86.

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 Observed				
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**	--		--		--	--	--		--	--	--	--
1985**	--		--		--	--	--		--	--	--	--
1986**	--		--		--	--	--		--	--	--	--

*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 1970-86.

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					
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**	--		--		--	--	--		--	--	--	--
1985**	--		--		--	--	--		--	--	--	--
1986**	--		--		--	--	--		--	--	--	--

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 1970-86.

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				Observed	
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	
1985**	--		--		--	--	--		--	--	--	--	
1986**	--		--		--	--	--		--	--	--	--	

*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, 1974-86.

Year	Hunters		Hunter-days		Turkeys Bagged	Percent Success	Turkeys/ Hunter Day		Cripples/ 100 Bagged	Turkeys Observed	% Hunters Observing Turkeys
	Afield		Afield				Hunter Day				
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**	--		--		--	--	--	--	--	--	
1985**	--		--		--	--	--	--	--	--	
1986**	--		--		--	--	--	--	--	--	

*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, 1963-86.

Year	Permits Sold		Hunters		Hunter-days		Turkeys Bagged		Percent Success**		Turkeys/Hunter-Day		Crippling Loss/100 Bagged		Turkeys Observed		% Hunters Observing Turkeys	
	Afield		Afield		Afield		Bagged		Success**		Hunter-Day		100 Bagged	Observed		Observed		
1963	297	248	--	--	75	30	75	30	--	--	0.22	15	--	--	48	--	48	
1964	229	211	362	81	81	38	81	38	0.22	0.22	15	15	1,158	60	60	1,158	60	
1965	214	207	406	50	50	24	50	24	0.12	0.12	8	8	730	29	29	730	29	
1966*	192	187	471	43	43	23	43	23	0.09	0.09	7	7	756	36	36	756	36	
1967	146	135	405	40	40	30	40	30	0.10	0.10	16	16	748	48	48	748	48	
1968*	368	344	883	183	183	38	183	38	0.21	0.21	15	15	2,321	54	54	2,321	54	
1969	223	210	549	36	36	11	36	11	0.06	0.06	19	19	466	17	17	466	17	
1970	197	174	418	58	58	24	58	24	0.14	0.14	6	6	564	31	31	564	31	
1971	184	174	444	60	60	21	60	21	0.14	0.14	8	8	451	28	28	451	28	
1972	124	118	303	12	12	7	12	7	0.04	0.04	10	10	173	21	21	173	21	
1973***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1974	29	26	79	3	3	12	3	12	0.04	0.04	33	33	83	38	38	83	38	
1975	58	46	115	7	7	15	7	15	0.06	0.06	0	0	57	26	26	57	26	
1976	68	56	136	15	15	27	15	27	0.11	0.11	7	7	182	32	32	182	32	
1977	60	53	133	7	7	15	7	15	0.06	0.06	0	0	48	18	18	48	18	
1978*	102	88	223	7	7	9	7	9	0.03	0.03	33	33	335	38	38	335	38	
1979	46	36	71	3	3	9	3	9	0.05	0.05	0	0	61	19	19	61	19	
1980	43	35	69	11	11	32	11	32	0.16	0.16	38	38	127	44	44	127	44	
1981	63	55	114	12	12	22	12	22	0.11	0.11	56	56	141	32	32	141	32	
1982	56	50	136	11	11	23	11	23	0.08	0.08	10	10	185	47	47	185	47	
1983	61	49	112	15	15	28	15	28	0.13	0.13	0	0	303	49	49	303	49	
1984	97	86	193	28	28	32	28	32	0.14	0.14	14	14	380	49	49	380	49	
1985***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1986***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOTALS (1963-86)	2,801	2,538	5,486	746	746	(470)	746	(470)	0.14	0.14	(310)	(310)	9,084	(764)	(764)	9,084	(764)	
AVERAGES (1963-84)	133	121	261	36	36	22	36	22	0.14	0.14	15	15	433	36	36	433	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 LaSal 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 1986.

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 1986. Populations have remained down since 1978. Severe winters and loss of habitat have severely reduced sharp-tailed grouse numbers in northern Utah.

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 1986 spring survey was cancelled because above average snow pack made the upper Henry's Fork and Smith Fork drainages inaccessible. Snowpack was above average and snow melt was slower than normal for June.

Brood surveys were made in August 1986, on Flat Top Mountain in Henry's Fork. Four brood were observed and fourteen young were banded. Average brood size was 3.75 young.

Above average precipitation and abundant green forage again seemed to affect distribution patterns of ptarmigan broods in 1986.

Hunter Success

Forty-nine hunters obtained permits to hunt ptarmigan in Utah for the fifth season. An estimated 14 hunters actually pursued ptarmigan and 5 birds were reported killed. This was the fourth year ptarmigan were taken by Utah sportsmen. Two hunters killed all five of the harvested ptarmigan. Hunter success was 0.36 birds bagged per hunter-day.

Two of the 14 hunters afield hunted in areas where it was unlikely they would see ptarmigan. Many permits are obtained by sportsmen who think they might hunt during a fishing or elk hunting trip, but don't seriously plan on the ptarmigan hunt.

Table 1. Summary of white-tailed ptarmigan breeding territories (pairs), 1978-86.

County	Location	(6/12-19)	(6/18-24)	(6/12-17)	(6/12-14)	(6/16-17)	(6/18-19)	1985	1986
		1978	1979	1980	1981	1982	1983		
Summit	Lake Blanchard				2				
Duchesne	Painter Basin	10 ²							
Duchesne	Gilbert Basin	2						C ⁴	C ⁴
Duchesne	Atwood Basin							A	A
Duchesne	Yellowstone River			2				N	N
Summit	Henry's Fork	4						C	C
Summit	Flat Top Mtn.							E	E
Summit	Beaver Creek	3	0	0				L	L
Summit	Smith's Fork		1					L	L
Uintah	Leidy Peak		0 ³					E	E
							1	D	D

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, 1978-86.

Area:	DATE								
	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	8/14-22/85	8/86
<u>Painter Basin</u>									
n	7	7	7	12	0 ³	2 ⁴	3		
mean brood	4.71	3.29	4.71	3.67		4.50			
young/100 adult hens	413	329	471	314		450			
hens w/o broods	1	0	0	2		0			
adult males	5	5	0	14		0			
<u>Henry's Fork</u>									
n	0	1	0	4	0	0	0		4
mean brood		4.00		4.50					3.75
young/100 adult hens		400		450					3.75
hens w/o broods		0		0					0
adult males		1		0					0
<u>Yellowstone</u>									
n0	0	0	4	4					
mean brood				4.50	4.25				
young/100 adult hens				450					
hens w/o broods				0					
adult males				0					
<u>Smith's Fork</u>									
n0	0	0	0	0	25	15			
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	1						
mean brood		4.00	5.00						
young/100 adult hens		400	500						
hens w/o broods		0	0						
adult males		3	0						

Table 2. (continued)

Area:	DATE								
Statistics	8/13-19/78	8/14-24/79	8/17-29/80	8/18-31/81	8/23-30/82	8/23-30/83	8/26-28/84	8/14-22/85	8/86
<u>Flat Top Mountain</u>									
n									
mean brood							1		
young/100 adult hens							6.00		
hens w/o broods									1
adult males									
<u>Little E. Fork - Black's Fork</u>									
n		0							
Mean brood									
young/100 adult hens									
hens w/o broods									
adult males									
<u>Rainbow Basin</u>									
n			1						
mean brood			4.0						
young/100 adult hens			400						
hens w/o brood			0						
adult males			0						
<u>Gilbert Basin</u>									
n		3	2						
mean brood		5.00	5.00						
young/100 adult hens		500	500						
hens w/o broods		0	0						
adult males		3	0						
<u>Samuel's Draw</u>									
n				1					
mean brood				4.00					
young/100 adult hens				400					
hens w/o broods				0					
adult males				0					

Table 2. (continued)

Area:	D A T E								
	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	8/14-22/85	8/86
<u>East F. Black's Fork</u>									
n			0						
mean brood									
young/100 adult hens									
hens w/o broods									
adult males									
<u>Lake Fork River</u>									
n			0						
TOTAL									
n	7	12 ¹	112	20	5	4	4	4	4
mean brood	4.71	4.50	4.73	4.00	4.20	4.00	6.00	3.50	3.75
young/100 adult hens	413	450	473	364	400	350	300	375	375
hens w/o brood	1	0	0	2	0	0	2	0	0
adult males	5	18	0	14	0	0	0	0	0
Total birds observed	46	84	63	116	20	18	—	18	19

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, 1978-86.

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	--	--
1985	--	--
1986	--	--

Table 4. Summary of the 1986 ptarmigan season.

Data	Henry's Fork		Black's Fork		Smith's Fork		Uinta River		Painter Basin		Atwood Basin		Gunsight Pass		Weber River		W. Beaver Creek		Gilbert Basin		STATE TOTALS			
																				Other	Rep't	Calc		
Permits issued																						49	--	
No hunts																							23	35
Hunters afield																							9	14
Hunter-days										4													14	21
Ptarmigan bagged										5													5	8
Percent success																							22	--
Ptarmigan bagged per hunter-day																								0.36
Reported crippling loss (loss/100 bagged)																								0
Ptarmigan observed																								8
Number of hunters who saw ptarmigan																								2
Percent of hunters who saw ptarmigan																								22

Projection factor = 1.53125

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

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

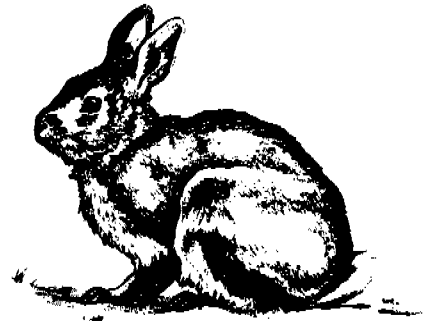
RABBITS AND HARES

SUMMARY

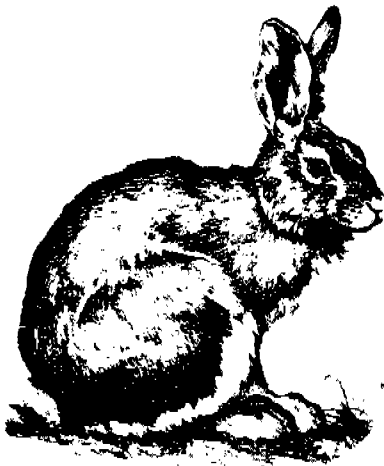
Cottontail Rabbits

An extremely depressed breeding population for 1986 was indicated by the 1985 harvest statistics.

Summer roadside counts indicated an increased population density statewide. Harvest statistics indicated 49 percent of the harvest was from the Southern and Southeastern regions, with a total harvest of 40,636 cottontails by 13,992 hunters afield. Populations are slowly recovering from the recent low record numbers since 1967 when harvest data was first recorded.



Snowshoe Hares



The 1986 snowshoe hare hunting season was the twelfth held since the Legislature provided protected status to this species in 1975.

Harvest statistics for 1986 indicated decreased hunter participation and slightly increased hunter success. This decrease reflects statewide rabbit populations. Although efforts have been made to educate hunters in the identification of the snowshoe hare and the white-tailed jackrabbit, it is still a potential problem which could bias the snowshoe data.

COTTONTAIL RABBIT

Roadside Counts

Results of the annual roadside counts for 1986 are shown in Table 1 of this section. The trend of cottontails observed per mile and young per 100 adults since 1976 is shown in Tables 2 and 3, respectively. Indices for 1986 compared to 1985 and the 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total miles driven	1,610	-3	-28
Total cottontails counted	284	+35	-67
Cottontails observed per mile	0.18	+38	-51
Young observed per 100 adults	75	+3	-25

An increased, but yet, below average breeding population for 1986 was indicated by 1985 harvest statistics. Production, however, was 3 percent above 1985 but 25 percent below the average.

The cottontail per mile index increased statewide but was still 51 percent below the average.

Harvest

Hunter Questionnaire

Results of the 1986 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 1980 are found in Tables 5-7. Trends of statewide harvest statistics are found in Table 8 and Figure 2. Results of the 1986 season compared to 1985 and the 19-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Cottontail hunters	13,992	0	-46
Cottontail harvest	40,636	+29	-76
Hunter-days afield	48,694	+1	-53
Cottontails per hunter-day	0.83	+28	-44
Cottontails per hunter	2.90	+30	-53

Total hunters and effort remained the same as 1985. Total harvest increased significantly from 1985. However, total harvest was 76 percent below average and success was 44 percent below average, indicating another year of below average populations 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 has been confirmed by the 1984, 1985 and 1986 harvest data. Populations are recovering rapidly.

Field Bag Checks

Results of the survey for 1986 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 1986 field bag check data to 1985 and the average.

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Total hunters checked	29	+107	-91
Total hours hunted	94	+203	-90
Cottontails per hunter (complete hunts)	1.21	+51	-37
Cottontails bagged per 100 hours	37	+185	-36
Hours per hunter-day (complete hunts)	3.4	-11	+6
Hours per cottontail bagged (complete hunts)	2.8	-42	+33

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

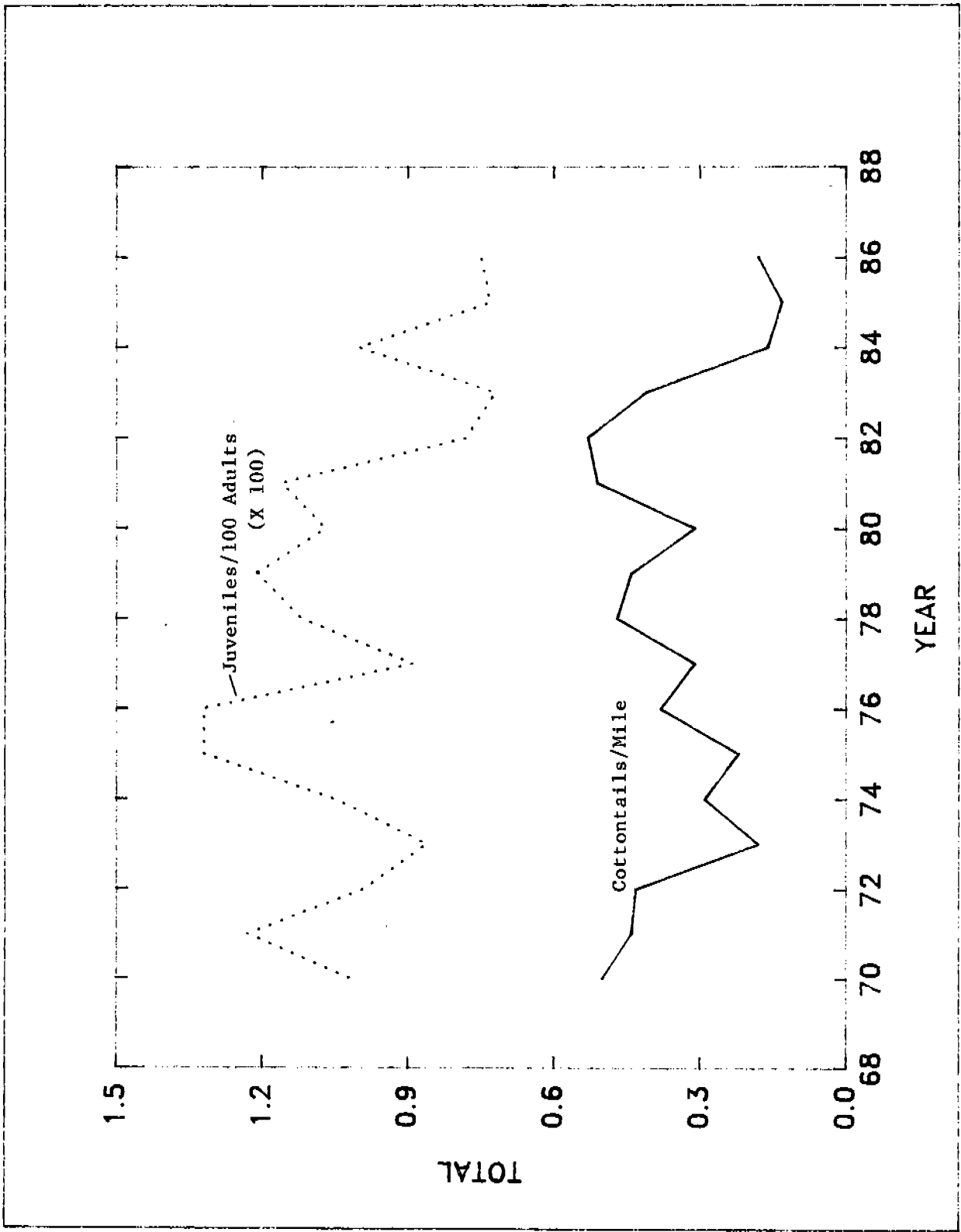


Figure 1. Cottontail rabbit population indexes trend.

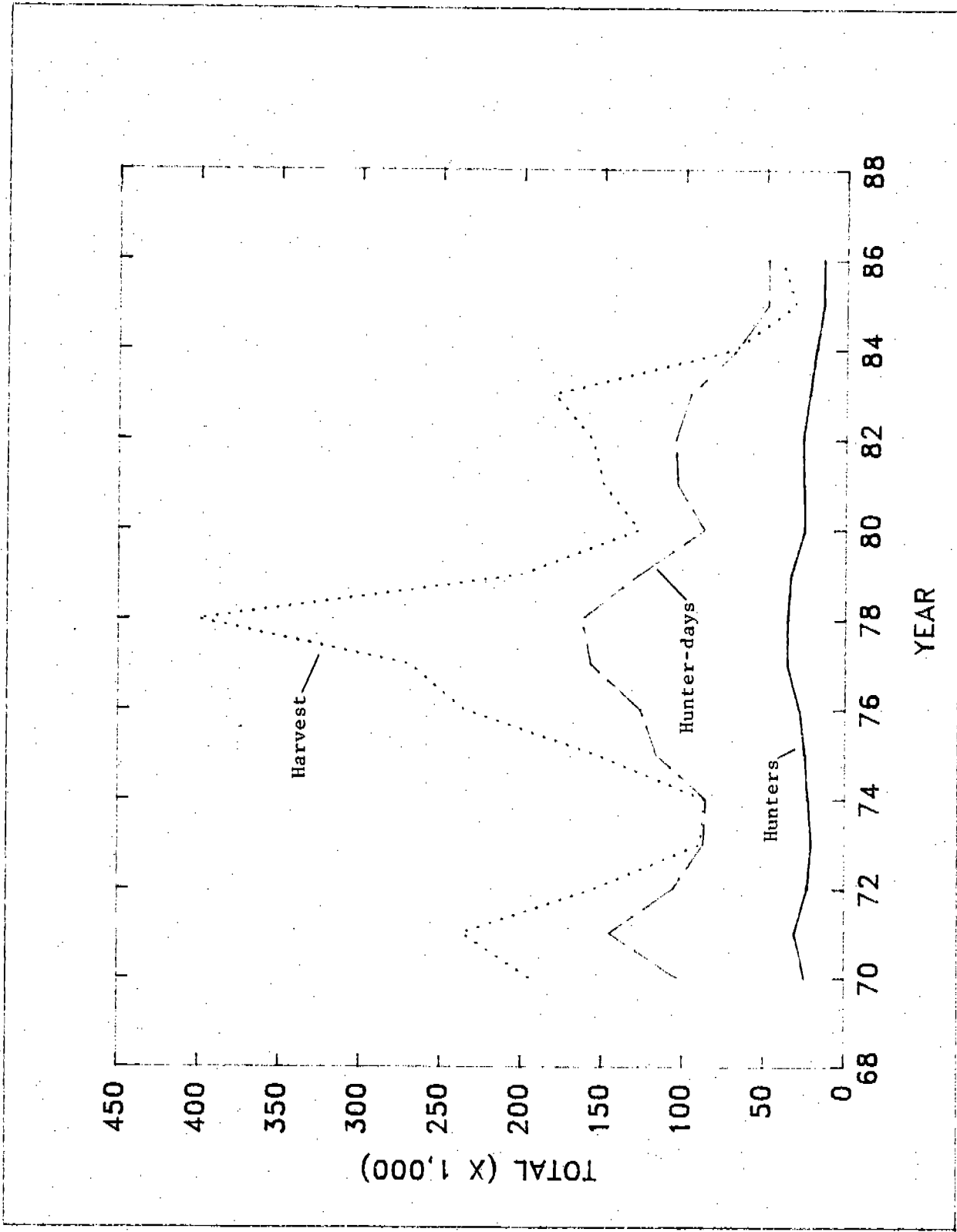


Figure 2. Cottontail rabbit harvest trend.

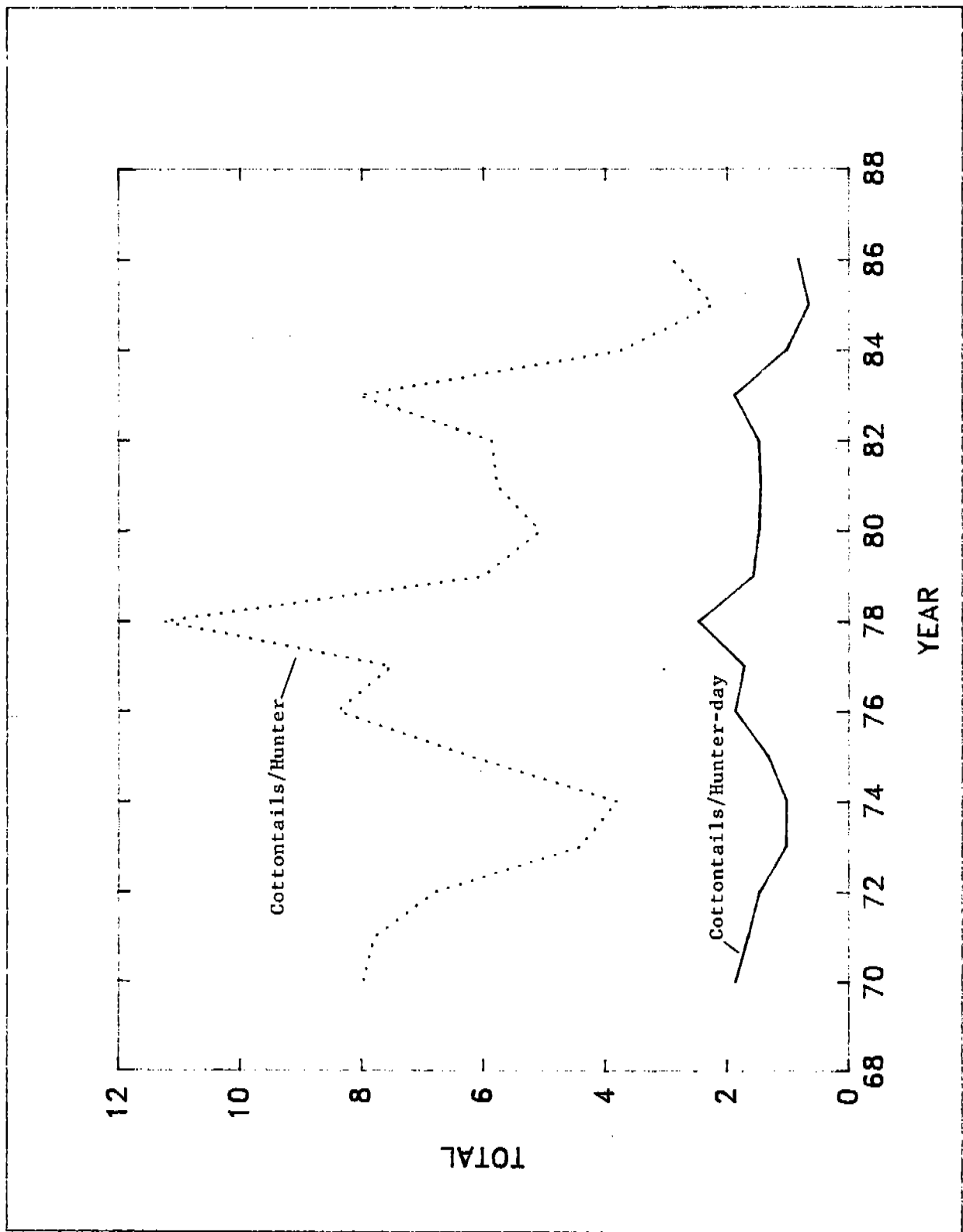


Figure 3. Cottontail rabbit harvest trend.

Table 1. Cottontail rabbit summer inventory summary, 1986.

Region and County	Miles Driven	Rabbits Observed				Young Per 100 Adults	Rabbits Per Mile
		Adults	Young	Unclass.	Total		
Northern Region							
Box Elder	120	3	0	0	3	--	0.02
Cache	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--
Rich	120	2	1	0	3	50	0.02
Summit	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--
REGIONAL TOTALS	240	5	1	0	6	20	0.02
Central Region							
Juab	58	1	0	0	1	0	0.02
Salt Lake	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--
Tooele	90	1	0	0	1	0	0.01
Utah	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--
REGIONAL TOTALS	148	2	0	0	2	0	0.01
Southern Region							
Beaver	90	7	2	0	9	22	0.10
Garfield*	(90)	(8)	(3)	(1)	(12)	(38)	(0.13)
Iron	78	16	12	8	41	75	0.53
Kane	90	24	17	3	42	71	0.47
Millard	90	3	5	0	8	170	0.08
Piute	36	0	0	2	2	--	0.06
Sevier	--	--	--	--	--	--	--
Washington	60	3	4	0	7	133	0.12
Wayne	90	5	18	0	23	360	0.20
REGIONAL TOTALS	534	58	58	13	129	100	0.24
Northeastern Region							
Daggett	160	14	19	2	35	136	0.22
Duchesne	120	35	9	9	53	26	0.44
Uintah	78	1	1	0	2	100	0.02
REGIONAL TOTALS	358	50	29	11	90	58	0.25
Southeastern Region							
Carbon	60	2	3	0	5	150	0.08
Emery	--	--	--	--	--	--	--
Grand	90	1	3	3	7	300	0.08
San Juan	90	18	11	4	33	61	0.37
REGIONAL TOTALS*	330	29	20	8	57	69	0.17
STATE TOTALS	1,610	144	108	32	284	75	0.18

*Data from Southeastern Region; () added to Southeastern Regional totals.

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Northern Region												
Box Elder	0.72	0.97	0.29	0.33	--	0.37	0.01	--	--	--	0.02	--
Cache	0.00	--	0.05	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	0.17	0.16	0.10	--	--	--	--	--	--	--	--	--
Rich	0.46	0.26	0.47	0.30	0.11	0.13	0.16	--	--	--	0.02	--
Summit	--	--	--	--	--	--	--	0.18	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.45	0.59	0.30	0.32	0.11	0.26	0.06	0.18	--	--	0.02	0.28
Central Region												
Juab	0.08	0.18	0.19	0.23	0.29	1.12	0.38	--	0.00	0.00	0.02	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	0.36	0.37	0.86	1.15	1.06	1.29	0.78	0.57	--	--	--	--
Tooele	0.16	0.19	0.21	0.51	0.26	0.13	0.10	--	0.02	0.00	0.01	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.20	0.25	0.43	0.64	0.54	0.85	0.43	0.57	0.01	0.00	0.01	0.39
Southern Region												
Beaver	0.20	0.11	0.22	0.22	0.06	0.19	0.12	0.04	0.01	0.03	0.10	--
Garfield	0.39	0.15	0.13	0.15	--	--	0.27	0.25	--	0.06	0.13	--
Iron	0.21	0.36	0.66	0.45	0.45	--	0.18	0.38	0.27	0.33	0.53	--
Kane	0.49	0.32	0.23	0.34	--	0.69	--	--	--	0.52	0.47	--
Millard	0.17	0.14	0.42	0.52	0.18	0.56	0.28	0.16	0.04	0.02	0.08	--
Piute	0.08	0.00	0.01	0.02	--	0.10	0.13	0.03	--	--	0.06	--
Sevier	0.26	0.38	0.90	0.55	0.27	0.83	0.27	0.23	--	--	--	--
Washington	0.32	0.21	0.16	0.35	0.10	0.24	0.32	0.38	--	0.23	0.12	--
Wayne	0.17	0.09	0.48	0.56	0.54	0.49	0.69	--	0.80	--	0.20	--
REGIONAL TOTALS	0.27	0.19	0.35	0.37	0.22	0.45	0.29	0.19	0.18	0.19	0.24	0.27
Northwestern Region												
Daogett	0.68	0.25	2.77	1.58	0.40	0.32	0.45	0.58	0.22	0.12	0.22	--
Bucshne	1.00	1.21	1.42	0.24	0.42	1.78	2.28	0.58	0.28	0.13	0.44	--
Uintah	1.36	0.68	1.22	0.53	0.27	0.48	1.97	2.97	0.11	0.00	0.02	--
REGIONAL TOTALS	0.98	0.67	1.75	0.84	0.36	0.81	1.46	1.21	0.21	0.09	0.25	0.84
Southeastern Region												
Carbon	0.18	0.10	0.12	0.12	0.15	0.12	0.10	0.11	--	0.05	0.08	--
Emery	0.27	0.26	0.21	0.28	0.16	0.41	0.18	0.23	0.18	0.20	--	--
Grand	0.22	0.19	0.33	0.21	0.11	0.32	0.67	0.15	0.13	0.67	0.08	--
San Juan	0.67	0.31	0.31	0.20	0.60	0.42	1.26	0.40	--	0.14	0.37	--
REGIONAL TOTALS	0.35	0.21	0.23	0.21	0.30	0.36	0.58	0.25	0.17	0.13	0.17	0.28
STATE TOTALS	0.38	0.31	0.47	0.44	0.31	0.51	0.53	0.41	0.16	0.13	0.18	0.37

Table 3. Summary of cottontail rabbits young per 100 adults, 1976-86.

Region and County	Year											Average 1976-85
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
<u>Northern Region</u>												
Box Elder	281	103	126	100	--	77	--	--	--	--	--	0
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	200	100	--	--	--	--	--	--	--	--	--	--
Rich	100	54	130	60	67	43	63	67	--	--	--	50
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	222	96	137	85	67	71	63	67	--	--	20	101
<u>Central Region</u>												
Juab	20	100	44	13	78	102	53	--	0	0	0	0
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	256	200	217	312	352	197	209	225	--	--	--	--
Tooele	133	129	125	100	71	200	80	--	--	0	0	0
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	160	154	161	167	194	147	140	225	0	0	0	135
<u>Southern Region</u>												
Beaver	--	33	70	63	40	55	83	33	0	0	0	22
Garfield	103	71	64	250	--	--	38	120	--	33	38	38
Iron	70	93	33	44	23	--	57	35	40	82	75	75
Kane	87	65	56	82	--	106	--	--	--	100	71	71
Millard	63	67	88	190	96	170	94	125	75	200	170	170
Piute	75	--	--	--	--	--	--	200	--	--	--	--
Sevier	67	126	147	171	350	--	33	61	--	--	--	--
Washington	118	57	400	94	--	123	150	81	--	73	133	133
Wayne	250	225	282	214	308	287	343	--	380	--	360	360
REGIONAL TOTALS	89	86	96	139	114	184	145	82	215	85	100	124
<u>Northeastern Region</u>												
Daggett	152	48	98	123	58	104	140	66	33	46	136	136
Duchesne	177	66	167	200	61	42	37	16	22	15	26	26
Uintah	151	134	153	82	160	176	44	76	233	0	100	100
REGIONAL TOTALS	159	78	125	118	73	67	48	63	42	31	58	80
<u>Southeastern Region</u>												
Carbon	85	112	118	230	133	83	66	40	--	--	150	150
Emery	58	30	111	25	70	97	43	75	217	216	--	--
Grand	54	100	77	50	250	137	148	150	33	300	300	300
San Juan	179	120	35	30	68	105	72	43	--	43	61	61
REGIONAL TOTALS	112	84	71	46	79	103	82	54	156	88	69	88
STATE TOTALS	132	89	112	121	107	116	78	72	100	73	75	100

Table 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Cottontails Bagged	Cottontails/Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	67	3,173	2,307	0.73	6.52	5.68
Cache	10	576	103	0.18	1.18	0.25
Davis	1	41	164	4.00	0.08	0.41
Morgan	5	803	41	0.05	1.65	0.10
Rich	19	1,092	803	0.74	2.24	1.98
Summit	16	783	226	0.29	1.61	0.56
Weber	7	329	226	0.69	0.68	0.56
REGIONAL TOTALS	125	6,800	3,874	0.57	13.97	9.53
<u>Central Region</u>						
Juab	32	1,483	1,153	0.78	3.05	2.84
Salt Lake	10	350	370	1.06	0.72	0.91
Sanpete	25	1,607	968	0.60	3.30	2.38
Tooele	108	5,687	4,059	0.71	11.68	9.99
Utah	77	3,317	3,111	0.94	6.81	7.66
Wasatch	17	886	741	0.84	1.82	1.83
REGIONAL TOTALS	269	13,332	10,406	0.78	27.38	25.61
<u>Southern Region</u>						
Beaver	7	741	453	0.61	1.52	1.12
Garfield	10	989	1,236	1.25	2.03	3.04
Iron	16	1,380	1,195	0.87	2.84	2.94
Kane	7	886	989	1.12	1.82	2.43
Millard	44	2,472	1,730	0.70	5.08	4.26
Piute	3	123	123	1.00	0.25	0.30
Sevier	16	659	370	0.56	1.35	0.91
Washington	28	2,637	2,472	0.94	5.42	6.09
Wayne	6	309	473	1.53	0.63	1.17
REGIONAL TOTALS	137	10,200	9,046	0.89	20.95	22.26
<u>Northeastern Region</u>						
Daggett	20	1,153	2,266	1.96	2.37	5.58
Duchesne	50	2,823	2,864	1.01	5.80	7.05
Uintah	39	2,781	1,360	0.49	5.71	3.35
REGIONAL TOTALS	109	6,759	6,491	0.96	13.88	15.97
<u>Southeastern Region</u>						
Carbon	52	4,059	1,978	0.49	8.34	4.87
Emery	50	3,688	3,874	1.05	7.58	9.53
Grand	19	1,607	2,060	1.28	3.30	5.07
San Juan	17	2,204	2,802	1.27	4.53	6.90
REGIONAL TOTALS	138	11,560	10,715	0.93	23.74	26.37
Unknown Counties	2	41	103	2.50	0.08	0.25
STATE TOTALS	780	48,694	40,636	0.83	100	100

*Total hunter trips from questionnaire returns.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>							
Box Elder	1.92	1.99	1.12	1.44	0.72	0.46	0.73
Cache	1.35	0.68	0.61	0.77	0.71	0.93	0.18
Davis	0.90	0.07	0.00	1.05	0.57	0.00	4.00
Morgan	1.09	1.46	0.95	1.65	1.19	0.55	0.05
Rich	1.79	1.87	1.03	2.28	1.61	0.52	0.74
Summit	0.56	1.21	0.87	1.44	0.17	0.35	0.29
Weber	0.58	1.10	0.70	0.56	0.68	0.13	0.69
REGIONAL TOTALS	1.61	1.65	1.00	1.43	1.76	0.40	0.57
<u>Central Region</u>							
Juab	2.15	1.73	1.43	1.21	1.41	0.56	0.78
Salt Lake	0.56	0.71	1.07	1.74	0.88	0.21	1.06
Sanpete	0.99	1.44	0.86	1.12	0.48	0.35	0.60
Tooele	1.69	1.29	1.12	1.21	0.82	0.53	0.71
Utah	1.12	0.99	0.74	1.02	0.82	0.65	0.94
Wasatch	0.80	0.82	0.80	0.49	0.69	0.48	0.84
REGIONAL TOTALS	1.51	1.26	1.06	1.16	0.88	0.53	0.78
<u>Southern Region</u>							
Beaver	0.93	1.79	2.00	1.25	0.28	0.50	0.61
Garfield	1.86	1.05	1.86	0.98	0.84	1.00	1.25
Iron	1.27	1.03	0.77	0.80	1.48	0.60	0.87
Kane	1.39	0.81	1.84	0.58	2.19	2.07	1.12
Millard	1.70	1.57	1.58	1.04	0.89	0.86	0.70
Piute	1.53	1.52	0.38	0.80	0.67	1.00	1.00
Sevier	1.22	0.97	0.87	0.66	0.79	0.56	0.56
Washington	0.95	1.03	1.53	0.92	0.93	1.08	0.94
Wayne	1.48	2.69	1.41	1.52	1.93	1.45	1.53
REGIONAL TOTALS	1.35	1.32	1.39	0.93	1.06	0.94	0.89
<u>Northeastern Region</u>							
Daggett	1.50	1.12	1.38	1.77	1.19	1.00	1.96
Duchesne	1.39	1.80	2.17	3.41	1.62	0.63	1.01
Uintah	1.16	1.41	2.18	3.09	1.47	0.49	0.49
REGIONAL TOTALS	1.30	1.53	2.13	3.12	1.51	0.59	0.96
<u>Southeastern Region</u>							
Carbon	1.05	1.42	1.61	1.73	0.52	0.69	0.49
Emery	1.36	1.30	1.38	1.61	0.78	0.64	1.05
Grand	1.62	1.56	2.44	2.27	1.53	1.74	1.28
San Juan	1.90	1.87	2.93	2.09	1.51	0.89	1.27
REGIONAL TOTALS	1.30	1.53	1.81	1.79	0.90	0.77	0.93
Unknown counties	1.00	2.60	1.35	1.78	0.00	1.11	2.50
Mixed counties	5.00	1.11	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	1.47	1.44	1.48	1.88	1.02	0.65	0.83

Table 6. Percentage distribution of cottontail rabbit harvest by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>							
Box Elder	20.87	14.87	6.05	5.93	5.49	3.82	5.68
Cache	0.83	0.72	0.36	0.33	0.50	0.96	0.25
Davis	0.12	0.03	0.00	0.16	0.12	0.00	0.41
Morgan	0.84	0.82	0.38	0.64	0.73	1.16	0.10
Rich	1.75	0.80	0.36	0.96	2.08	0.89	1.98
Summit	1.16	1.66	0.65	0.83	0.29	1.16	0.56
Weber	0.40	0.62	0.38	0.11	0.56	0.27	0.56
<u>REGIONAL TOTALS</u>	<u>25.96</u>	<u>19.50</u>	<u>8.19</u>	<u>8.95</u>	<u>9.77</u>	<u>8.26</u>	<u>9.53</u>
<u>Central Region</u>							
Juab	9.35	6.79	5.76	1.95	5.28	2.04	2.84
Salt Lake	0.37	0.41	1.09	1.16	2.29	0.48	0.91
Sanpete	2.76	1.31	0.94	1.21	0.82	1.23	2.38
Tooele	21.32	10.58	10.04	6.53	9.18	10.51	9.99
Utah	6.01	5.63	3.55	3.44	5.43	8.26	7.66
Wasatch	0.88	0.59	0.73	0.17	0.91	1.57	1.83
<u>REGIONAL TOTALS</u>	<u>40.69</u>	<u>25.32</u>	<u>22.10</u>	<u>14.44</u>	<u>23.91</u>	<u>24.09</u>	<u>25.61</u>
<u>Southern Region</u>							
Beaver	1.43	0.72	0.76	0.30	0.32	1.30	1.12
Garfield	0.35	1.14	0.64	0.32	0.47	0.61	3.04
Iron	1.01	1.79	0.81	0.52	1.82	1.23	2.94
Kane	0.85	0.66	0.34	0.29	2.05	1.98	2.43
Millard	5.00	5.50	4.94	1.50	3.64	5.66	4.26
Piute	0.61	0.46	0.08	0.06	0.12	0.20	0.30
Sevier	1.84	1.94	0.79	0.48	0.56	1.23	0.91
Washington	1.12	2.06	2.99	1.49	5.05	10.99	6.09
Wayne	1.19	2.77	0.98	0.61	2.43	2.18	1.17
<u>REGIONAL TOTALS</u>	<u>13.39</u>	<u>17.04</u>	<u>12.33</u>	<u>5.56</u>	<u>16.46</u>	<u>25.35</u>	<u>22.26</u>
<u>Northeastern Region</u>							
Daggett	0.84	0.53	1.28	1.36	2.20	1.84	5.58
Duchesne	3.86	7.92	15.10	16.19	13.17	9.21	7.05
Uintah	3.40	7.13	14.70	29.37	14.23	5.87	3.35
<u>REGIONAL TOTALS</u>	<u>8.10</u>	<u>15.58</u>	<u>31.08</u>	<u>46.93</u>	<u>29.61</u>	<u>16.93</u>	<u>15.97</u>
<u>Southeastern Region</u>							
Carbon	4.22	6.96	9.98	9.60	4.90	7.30	4.87
Emery	4.05	4.68	5.47	6.98	4.69	9.76	9.53
Grand	1.68	2.96	2.79	2.15	5.99	4.16	5.07
San Juan	1.75	6.93	5.78	4.55	4.66	3.41	6.90
<u>REGIONAL TOTALS</u>	<u>11.70</u>	<u>21.53</u>	<u>24.01</u>	<u>23.28</u>	<u>20.25</u>	<u>24.64</u>	<u>26.37</u>
Unknown counties	0.03	0.19	2.28	0.84	0.00	0.68	0.25
Mixed counties	0.13	0.84	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>

Table 7. Percentage distribution of cottontail rabbit hunting pressure by region and county, 1980-86.

Region and County	Year						
	1980	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>							
Box Elder	15.90	10.75	8.04	7.73	7.77	5.40	6.52
Cache	0.90	1.50	0.88	0.79	0.72	0.66	1.18
Davis	0.20	0.55	0.15	0.29	0.21	1.42	0.08
Morgan	1.13	0.80	0.59	0.72	0.63	1.37	1.65
Rich	1.43	0.62	0.52	0.79	1.32	1.11	2.24
Summit	3.01	1.97	1.10	1.08	1.74	2.13	1.61
Weber	1.02	0.80	0.81	0.38	0.84	1.33	0.68
REGIONAL TOTALS	23.58	17.00	12.10	11.79	13.23	13.42	13.97
<u>Central Region</u>							
Juab	6.39	5.65	5.98	3.05	3.84	2.39	3.05
Salt Lake	0.98	0.84	1.51	1.25	2.67	1.46	0.72
Sanpete	4.10	1.32	1.61	2.03	1.74	2.26	3.30
Tooele	18.48	11.80	13.25	10.12	11.43	12.98	11.68
Utah	7.87	8.14	7.15	6.26	6.78	8.24	6.81
Wasatch	1.60	1.03	1.36	0.65	1.35	2.13	1.82
REGIONAL TOTALS	39.43	28.77	30.86	23.36	27.82	29.46	27.38
<u>Southern Region</u>							
Beaver	2.25	0.58	0.57	0.44	1.20	1.68	1.52
Garfield	0.27	1.56	0.51	0.61	0.57	0.40	2.03
Iron	1.17	2.49	1.57	1.22	1.26	1.33	2.84
Kane	0.90	1.17	0.28	0.93	0.96	0.62	1.82
Millard	4.30	5.06	4.64	2.73	4.20	4.30	5.08
Piute	0.59	0.43	0.30	0.14	0.18	0.13	0.25
Sevier	2.21	2.88	1.35	1.38	0.72	1.42	1.35
Washington	1.72	2.88	2.90	3.05	5.52	6.60	5.42
Wayne	1.17	1.48	1.03	0.75	1.29	0.97	0.63
REGIONAL TOTALS	14.58	18.52	13.14	11.25	15.91	17.46	20.95
<u>Northeastern Region</u>							
Daggett	0.82	0.68	1.38	1.45	1.89	1.19	2.37
Duchesne	4.08	6.31	10.33	8.93	8.34	9.44	5.80
Uintah	4.28	7.25	9.98	17.87	9.87	7.84	5.71
REGIONAL TOTALS	9.18	14.24	21.69	28.25	20.11	18.48	13.88
<u>Southeastern Region</u>							
Carbon	5.90	7.03	9.20	10.42	9.66	6.82	8.34
Emery	4.38	5.18	5.88	8.18	6.12	9.92	7.58
Grand	1.52	2.73	1.70	1.78	3.99	1.55	3.30
San Juan	1.35	5.34	2.93	4.09	3.15	2.48	4.53
REGIONAL TOTALS	13.16	20.28	19.70	24.46	22.93	20.78	23.74
Unknown counties	0.04	0.10	2.51	0.89	0.00	0.40	0.08
Mixed counties	0.04	1.09	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100	100

Table 8. Statewide summary of cottontail rabbit harvest statistics, 1967-86.

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	69,186	67,643	1.02	3.72
1985	14,059	31,397	48,371	0.65	2.23
1986	13,992	40,636	48,694	0.83	2.90
TOTALS (1967-86)	505,647	3,317,877	2,029,712	(29.00)	(120.24)
AVERAGES (1967-85)	25,877	172,486	104,264	1.48	6.18

Table 9. Cottontail rabbit field bag check summary, 1986.

Region and County	ALL HUNTS						COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Rabbits	Total Rabbits/100 Hr		Total Complete Hunters	Total Complete Hours	Total Complete Rabbits	Total Complete Rabbits/100 Hr		
Northern Region												
Box Elder	2	6	33	0	--		2	6	33	0	0	0.00
Cache	--	--	--	--	--		--	--	--	--	--	--
Davis	--	--	--	--	--		--	--	--	--	--	--
Morgan	--	--	--	--	--		--	--	--	--	--	--
Rich	2	5	14	0	--		1	3	10	0	--	--
Summit	--	--	--	--	--		--	--	--	--	--	--
Weber	--	--	--	--	--		--	--	--	--	--	--
REGIONAL TOTALS	4	11	47	0	--		3	9	43	0	0	0.00
Central Region												
Juab	--	--	--	--	--		--	--	--	--	--	--
Salt Lake	--	--	--	--	--		--	--	--	--	--	--
Sanpete	--	--	--	--	--		--	--	--	--	--	--
Tooele	--	--	--	--	--		--	--	--	--	--	--
Utah	--	--	--	--	--		--	--	--	--	--	--
Wasatch	--	--	--	--	--		--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--		--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--		--	--	--	--	--	--
Garfield	--	--	--	--	--		--	--	--	--	--	--
Iron	--	--	--	--	--		--	--	--	--	--	--
Kane	--	--	--	--	--		--	--	--	--	--	--
Millard	--	--	--	--	--		--	--	--	--	--	--
Piute	--	--	--	--	--		--	--	--	--	--	--
Sevier	--	--	--	--	--		--	--	--	--	--	--
Washington	--	--	--	--	--		--	--	--	--	--	--
Wayne	--	--	--	--	--		--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--		--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--		--	--	--	--	--	--
Duchesne	1	2	3	0	--		1	2	3	0	0	0.00
Uintah	1	2	3	3	100		1	2	3	3	100	1.50
REGIONAL TOTALS	2	4	6	3	50		2	4	6	3	50	0.75
Southeastern Region												
Carbon	6	7	14	20	143		5	5	12	19	158	3.80
Emery	2	3	7	2	29		1	1	3	1	33	1.00
Grand	2	4	20	10	50		--	--	--	--	--	--
San Juan	--	--	--	--	--		--	--	--	--	--	--
REGIONAL TOTALS	10	14	41	32	78		6	6	15	20	133	3.33
STATE TOTALS	16	29	94	35	37		11	19	64	23	36	1.21

Table 10. Cottontail hunter success trend determined by field bag checks, 1980-86.

Region and County	1981		1982		1983		1984		1985		1986	
	Bag/ 100 Hr Hunter	Bag/ Hunter	Bag/ 100 Hr Hunter	Bag/ Hunter	Bag/ 100 Hr Hunter	Bag/ Hunter	Bag/ 100 Hr Hunter	Bag/ Hunter	Bag/ 100 Hr Hunter	Bag/ Hunter	Bag/ 100 Hr Hunter	Bag/ Hunter
<u>Northern Region</u>												
Box Elder	26	1.00	--	--	17	0.60	--	--	--	--	0	0
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	29	1.33	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	26	1.00	--	--	24	1.00	--	--	--	--	0	0
<u>Central Region</u>												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
<u>Southern Region</u>												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	21	0.80	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	21	0.80	--	--
<u>Northeastern Region</u>												
Daggett	26	0.50	104	2.88	172	4.43	107	3.20	--	--	--	--
Duchesne	59	2.14	75	2.00	148	3.70	100	0.75	--	--	0	0.00
Uintah	53	1.00	101	2.22	225	6.75	111	1.91	--	--	100	1.50
REGIONAL TOTALS	49	1.58	98	2.30	173	4.50	108	2.00	--	--	50	0.75
<u>Southeastern Region</u>												
Carbon	--	--	94	1.78	--	--	67	2.87	--	--	158	3.80
Emery	114	3.60	33	0.88	--	--	--	--	--	--	33	1.00
Grand	44	--	--	--	--	--	0	0.00	--	--	--	--
San Juan	114	3.00	225	4.50	57	3.43	50	1.33	--	--	--	--
REGIONAL TOTALS	106	3.50	62	1.44	57	3.43	61	2.13	--	--	133	3.33
STATE TOTALS	49	1.52	85	1.99	106	3.07	76	2.06	21	0.80	36	1.21

*Cottontails per hunter based on all hunts.

SNOWSHOE HARE

Harvest

The twelfth annual snowshoe hare hunting season was held statewide in 1986. Results of the 1986 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 1986 season compared to 1985 and the 10-year average follow:

	<u>1986</u>	<u>Percent change from</u>	
		<u>1985</u>	<u>Average</u>
Snowshoe hare hunters	3,277	-3	-42
Snowshoe hares harvested	3,544	+3	-72
Hunter-days afield	9,541	0	-43
Snowshoes per hunter-day	0.37	+3	-47
Snowshoes per hunter	1.08	+6	-49

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 1986 questionnaire indicate a 3 percent decrease in snowshoe hare hunters and a 3 percent increase in harvest compared to 1985. This corresponds to the depressed but increasing rabbit populations statewide.

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.

Table 11. Summary of snowshoe hare hunter success and distribution of harvest and hunting pressure by region and county, 1986.

Region and County	Sample Size*	Hunter-days Afield	Snowshoes Bagged	Snowshoe/Hunter-day	% of Pressure	% of Harvest
<u>Northern Region</u>						
Box Elder	13	329	123	0.38	3.46	3.49
Cache	6	267	0	0.00	2.81	0.00
Davis	2	41	20	0.50	0.43	0.58
Morgan	3	741	20	0.03	7.78	0.58
Rich	13	370	206	0.56	3.89	5.80
Summit	15	844	247	0.29	8.86	6.98
Weber	5	185	185	1.00	1.94	5.23
REGIONAL TOTALS	57	2,781	803	0.29	29.16	22.67
<u>Central Region</u>						
Juab	5	329	473	1.44	3.46	13.37
Salt Lake	3	206	61	0.30	2.16	1.74
Sanpete	13	680	206	0.30	7.13	5.80
Tooele	10	576	123**	0.21	6.05	3.49
Utah	24	968	515	0.53	10.15	14.53
Wasatch	17	762	515	0.68	7.99	14.53
REGIONAL TOTALS	72	3,523	1,895	0.54	36.93	53.49
<u>Southern Region</u>						
Beaver	0	0	0	0.00	0.00	0.00
Garfield	2	185	20	0.11	1.94	0.58
Iron	0	0	0	0.00	0.00	0.00
Kane	0	0	0	0.00	0.00	0.00
Millard	1	82	82	1.00	0.86	2.33
Piute	0	0	0	0.00	0.00	0.00
Sevier	5	164	103	0.63	1.73	2.91
Washington	0	0	0	0.00	0.00	0.00
Wayne	4	164	61	0.38	1.73	1.74
REGIONAL TOTALS	12	597	267	0.45	6.26	7.56
<u>Northeastern Region</u>						
Daggett	2	41	20	0.50	0.43	0.58
Duchesne	11	597	247	0.41	6.26	6.98
Uintah	6	618	82	0.13	6.48	2.33
REGIONAL TOTALS	19	1,257	350	0.28	13.17	9.88
<u>Southeastern Region</u>						
Carbon	8	947	82	0.09	9.94	2.33
Emery	8	309	41	0.13	3.24	1.16
Grand	2	82	61	0.75	0.86	1.74
San Juan	1	41	41	1.00	0.43	1.16
REGIONAL TOTALS	19	1,380	226	0.16	14.47	6.40
Unknown Counties	0	0	0	0.00	0.00	0.00
STATE TOTALS	179	9,541	3,544	0.37	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, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	0.43	0.31	0.27	2.93	0.14	0.38
Cache	0.46	0.62	0.53	1.27	0.75	0.00
Davis	0.25	0.00	0.00	0.29	0.11	0.50
Morgan	0.25	0.50	0.45	0.14	0.00	0.03
Rich	2.17	0.53	0.67	0.58	0.06	0.56
Summit	0.91	0.77	0.94	0.61	0.63	0.29
Weber	1.00	0.32	0.39	0.31	0.17	1.00
<u>REGIONAL TOTALS</u>	<u>0.72</u>	<u>0.46</u>	<u>0.47</u>	<u>1.30</u>	<u>0.33</u>	<u>0.29</u>
<u>Central Region</u>						
Juab	0.83	1.83	1.20	0.33	0.00	1.44
Salt Lake	1.00	0.20	0.00	0.23	0.17	0.30
Sanpete	0.84	0.97	0.48	0.80	0.23	0.30
Tooele	0.08	1.01	0.94	0.68	0.24	0.21
Utah	0.26	0.39	0.38	0.71	0.64	0.53
Wasatch	0.97	0.84	0.65	0.44	0.32	0.68
<u>REGIONAL TOTALS</u>	<u>0.53</u>	<u>0.88</u>	<u>0.60</u>	<u>0.55</u>	<u>0.33</u>	<u>0.54</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	0.40	0.11
Iron	0.75	0.00	0.17	3.00	0.50	0.00
Kane	0.00	0.00	0.00	0.00	0.75	0.00
Millard	0.00	1.00	0.00	0.00	0.00	1.00
Piute	0.00	0.50	1.45	0.20	0.00	0.00
Sevier	0.29	0.75	0.36	0.00	0.25	0.63
Washington	0.00	0.00	1.00	0.00	0.50	0.00
Wayne	2.00	0.58	0.81	1.22	1.00	0.38
<u>REGIONAL TOTALS</u>	<u>0.62</u>	<u>0.65</u>	<u>0.67</u>	<u>0.65</u>	<u>0.46</u>	<u>0.45</u>
<u>Northeastern Region</u>						
Daggett	0.00	0.47	0.60	0.33	1.00	0.50
Duchesne	0.67	0.79	0.89	0.43	0.30	0.41
Uintah	0.34	0.58	0.61	0.20	0.49	0.13
<u>REGIONAL TOTALS</u>	<u>0.51</u>	<u>0.67</u>	<u>0.69</u>	<u>0.30</u>	<u>0.41</u>	<u>0.28</u>
<u>Southeastern Region</u>						
Carbon	0.34	1.32	0.10	0.13	0.29	0.09
Emery	0.71	1.28	0.59	0.19	0.67	0.13
Grand	1.00	3.00	0.00	0.00	0.00	0.75
San Juan	0.00	0.00	0.00	2.00	0.00	1.00
<u>REGIONAL TOTALS</u>	<u>0.43</u>	<u>1.30</u>	<u>0.36</u>	<u>0.17</u>	<u>0.37</u>	<u>0.16</u>
Unknown counties	2.33	0.81	0.65	0.00	0.00	0.00
Mixed counties	0.78	0.00	0.00	0.00	0.00	0.00
<u>STATE TOTALS</u>	<u>0.61</u>	<u>0.71</u>	<u>0.57</u>	<u>0.60</u>	<u>0.36</u>	<u>0.37</u>

Table 13. Percentage distribution of snowshoe hare harvested by region and county, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	5.80	5.63	5.30	36.79	3.12	3.49
Cache	6.63	2.15	4.87	4.40	3.73	0.00
Davis	0.55	0.00	0.00	0.62	1.87	0.58
Morgan	0.55	2.32	2.75	0.31	0.00	0.58
Rich	7.18	2.98	2.11	2.20	0.61	5.80
Summit	17.40	5.96	7.00	7.85	24.99	6.98
Weber	3.59	1.49	1.90	1.25	1.22	5.23
REGIONAL TOTALS	41.70	20.53	23.93	53.46	35.61	22.67
<u>Central Region</u>						
Juab	1.38	7.28	1.27	0.62	0.00	13.37
Salt Lake	1.93	0.33	0.00	0.93	0.61	1.74
Sanpete	4.42	4.64	2.54	1.25	1.87	5.80
Tooele	0.28	13.74	10.17	4.07	5.60	3.49
Utah	4.97	3.48	6.36	6.91	9.97	14.53
Wasatch	7.74	7.62	4.67	5.02	3.73	14.53
REGIONAL TOTALS	20.72	37.09	25.01	18.87	21.87	53.49
<u>Southern Region</u>						
Beaver	0.00	0.33	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.00	1.22	0.58
Iron	0.83	0.00	0.21	0.93	1.22	0.00
Kane	0.00	0.00	0.00	0.00	1.87	0.00
Millard	0.00	0.17	0.00	0.00	0.00	2.33
Piute	0.00	0.33	3.38	0.31	0.00	0.00
Sevier	1.38	0.50	1.68	0.00	1.22	2.91
Washington	0.00	0.00	0.84	0.00	2.48	0.00
Wayne	2.21	1.16	4.67	6.91	2.48	1.74
REGIONAL TOTALS	4.42	2.48	10.78	8.16	10.62	7.56
<u>Northeastern Region</u>						
Daggett	0.00	1.32	0.63	0.31	3.12	0.58
Duchesne	14.09	13.91	11.66	8.16	9.97	6.98
Uintah	5.80	10.43	19.09	5.34	11.87	2.33
REGIONAL TOTALS	19.89	25.66	31.39	13.83	24.99	9.88
<u>Southeastern Region</u>						
Carbon	3.59	5.46	0.84	3.45	4.37	2.33
Emery	1.38	6.13	5.73	0.93	2.48	1.16
Grand	0.55	0.50	0.00	0.00	0.00	1.74
San Juan	0.00	0.00	0.00	1.25	0.00	1.16
REGIONAL TOTALS	5.52	12.09	6.57	5.65	6.85	6.40
Unknown counties	1.93	2.15	2.33	0.00	0.00	0.00
Mixed counties	5.80	0.00	0.00	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, 1981-86.

Region and County	Year					
	1981	1982	1983	1984	1985	1986
<u>Northern Region</u>						
Box Elder	8.21	12.66	11.21	7.49	8.34	3.46
Cache	8.71	2.46	5.19	2.06	1.80	2.81
Davis	1.34	0.59	0.00	1.31	6.09	0.43
Morgan	1.34	3.28	3.49	1.31	2.25	7.78
Rich	2.01	3.99	1.80	2.24	3.60	3.89
Summit	11.56	5.51	4.22	7.68	14.22	8.86
Weber	2.18	3.28	2.77	2.43	2.71	1.94
REGIONAL TOTALS	35.34	31.77	28.68	24.53	39.05	29.16
<u>Central Region</u>						
Juab	1.01	2.81	0.60	1.12	1.13	3.46
Salt Lake	1.17	1.17	0.36	2.43	1.35	2.16
Sanpete	3.18	3.40	3.01	0.93	2.93	7.13
Tooele	2.01	9.61	6.15	3.55	8.34	6.05
Utah	11.56	6.33	9.64	5.80	5.64	10.15
Wasatch	4.86	6.45	4.10	6.73	4.29	7.99
REGIONAL TOTALS	23.79	29.78	23.86	20.60	23.70	36.93
<u>Southern Region</u>						
Beaver	0.00	0.23	0.12	1.31	0.00	0.00
Garfield	0.00	0.00	0.12	0.18	1.13	1.94
Iron	0.67	0.00	0.72	0.18	0.90	0.00
Kane	0.00	0.00	0.00	0.00	0.90	0.00
Millard	0.17	0.12	0.48	0.18	0.90	0.86
Piute	0.00	0.47	1.33	0.93	0.00	0.00
Sevier	2.85	0.47	2.65	1.31	1.80	1.73
Washington	0.00	0.00	0.48	0.00	1.80	0.00
Wayne	0.67	1.41	3.26	3.37	0.90	1.73
REGIONAL TOTALS	4.36	2.70	9.15	7.49	8.34	6.26
<u>Northeastern Region</u>						
Daggett	0.50	1.99	0.60	0.55	1.13	0.43
Duchesne	12.73	12.54	7.48	11.42	12.19	6.26
Uintah	10.39	12.78	17.72	15.73	8.80	6.48
REGIONAL TOTALS	23.62	27.32	25.80	27.71	22.12	13.17
<u>Southeastern Region</u>						
Carbon	6.37	2.93	4.82	16.10	5.41	9.94
Emery	1.17	3.40	5.55	2.99	1.35	3.24
Grand	0.34	0.12	0.00	0.18	0.00	0.86
San Juan	0.00	0.12	0.12	0.37	0.00	0.43
REGIONAL TOTALS	7.87	6.57	10.48	19.66	6.76	14.47
Unknown counties	0.50	1.88	2.05	0.00	0.00	0.00
Mixed counties	4.52	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100	100	100	100	100	100

Table 15. Statewide summary of snowshoe hare harvest statistics, 1975-86.

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
1985	3,365	3,429	9,494	0.36	1.02
1986	3,277	3,544	9,541	0.37	1.08
TOTALS (1975-86)	65,036	142,320	192,900	8.03	24.22
AVERAGES (1975-85)	5,614	12,616	16,669	0.70	2.10

A P P E N D I X

Table 1. Comparison of 1986 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
1986	30.1	38.8	46.7	48.3	56.5	70.8	71.7	74.9	57.8	48.6	38.9	27.5
Departure (degrees)	+3.2	+6.1	+8.0	+1.3	0.0	+5.1	-2.7	+2.9	-4.6	-1.9	+1.7	-0.9
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
1986	46.7	47.2	55.5	58.5	68.2	79.6	80.1	82.1	67.6	58.8	48.7	41.2
Departure (degrees)	+8.0	+3.3	+6.7	+2.1	+2.8	+4.4	-1.9	+2.4	-5.0	-2.7	+0.9	+1.4
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
1986	27.5	38.4	46.8	47.8	56.4	71.1	71.9	74.6	58.1	50.0	39.5	29.2
Departure (degrees)	+0.5	+6.5	+8.2	+0.4	-0.7	+5.2	-2.7	+2.4	-5.0	-1.3	+1.5	+0.3
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
1986	33.9	36.1	43.9	46.0	54.8	66.8	68.9	70.8	55.7	47.1	38.4	30.1
Departure (degrees)	+6.8	+4.5	+6.9	+1.1	+0.8	+3.7	-1.5	+2.8	-4.5	-2.7	+1.3	+1.3
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
1986	24.7	30.6	40.2	41.7	49.5	62.7	64.2	66.0	51.3	44.0	33.9	25.7
Departure (degrees)	+3.5	+5.9	+9.6	+1.7	-0.1	+5.1	-1.1	+2.9	-3.7	-0.9	+1.9	+2.1
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
1986	18.6	33.5	44.8	47.3	55.5	69.0	70.6	71.2	57.4	47.2	35.7	25.9
Departure (degrees)	+1.4	+9.4	+9.3	+1.1	-0.7	+4.1	-1.5	+1.9	-2.9	-1.3	+2.2	+4.7
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
1986	34.8	39.8	48.0	51.3	59.9	72.9	74.7	75.8	61.4	50.3	40.5	32.3
Departure (degrees)	+7.8	+6.0	+7.0	+1.1	+0.1	+3.2	-1.9	+2.0	-4.0	-3.4	+1.0	+3.0
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
1986	30.9	37.8	46.6	48.7	57.3	70.4	71.7	73.6	58.5	49.4	39.4	30.3
Departure (degrees)	+4.5	+6.0	+8.0	+1.3	+0.4	+4.4	-1.9	+2.4	-4.2	-2.1	+1.5	+1.7

Table 2. Comparison of 1986 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
1986	0.30	0.90	0.98	1.84	0.86	0.15	0.55	1.13	1.08	1.01	0.24	0.08
Departure (inches)	-0.29	+0.33	+0.24	+1.03	-0.05	-0.52	-0.08	+0.41	+0.53	+0.36	-0.38	-0.46
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
1986	0.41	1.44	2.25	0.92	0.12	0.09	0.85	1.41	1.67	0.65	0.66	0.47
Departure (inches)	-0.94	+0.08	+0.83	+0.10	-0.54	-0.27	+0.07	+0.40	+0.91	-0.13	-0.33	-0.49
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
1986	1.13	3.06	2.66	4.40	2.05	0.38	1.30	1.41	3.34	0.88	1.01	0.14
Departure (inches)	-0.43	+1.67	+1.06	+2.44	+0.45	-0.81	+1.65	+0.46	+2.35	-0.43	-0.33	-1.27
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
1986	0.35	1.15	1.41	1.56	0.79	0.43	1.04	1.67	1.87	1.17	0.55	0.37
Departure (inches)	-0.74	+0.09	+0.26	+0.52	-0.15	-0.11	+0.08	+0.36	+0.87	0.25	-0.43	-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
1986	1.21	4.65	2.23	3.88	2.07	0.51	1.46	1.77	2.81	1.58	1.16	0.19
Departure (inches)	-0.95	+2.73	+0.34	+2.00	+0.53	-0.66	+0.58	+0.54	+1.66	+0.13	-0.46	-1.79
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
1986	0.15	0.55	0.64	1.88	0.99	0.61	1.42	0.76	1.41	1.54	0.15	0.21
Departure (inches)	-0.36	+0.10	+0.07	+1.20	+0.21	-0.11	+0.84	-0.05	+0.70	+0.67	-0.39	-0.40
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
1986	0.12	0.66	0.65	1.21	0.70	0.37	1.50	1.22	1.60	1.45	1.08	0.54
Departure (inches)	-0.60	+0.05	+0.01	+0.60	+0.03	-0.03	+0.73	+0.17	+0.82	+0.36	+0.35	-0.20
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
1986	0.52	1.77	1.55	2.24	1.08	0.36	1.16	1.34	1.97	1.18	0.69	0.29
Departure (inches)	-0.62	+0.72	+0.41	+1.13	+0.07	-0.36	+0.41	+0.33	+1.12	+0.17	-0.28	-0.74

CLIMATIC REPORTING DIVISIONS AND SELECTED CLIMOGRAPHS

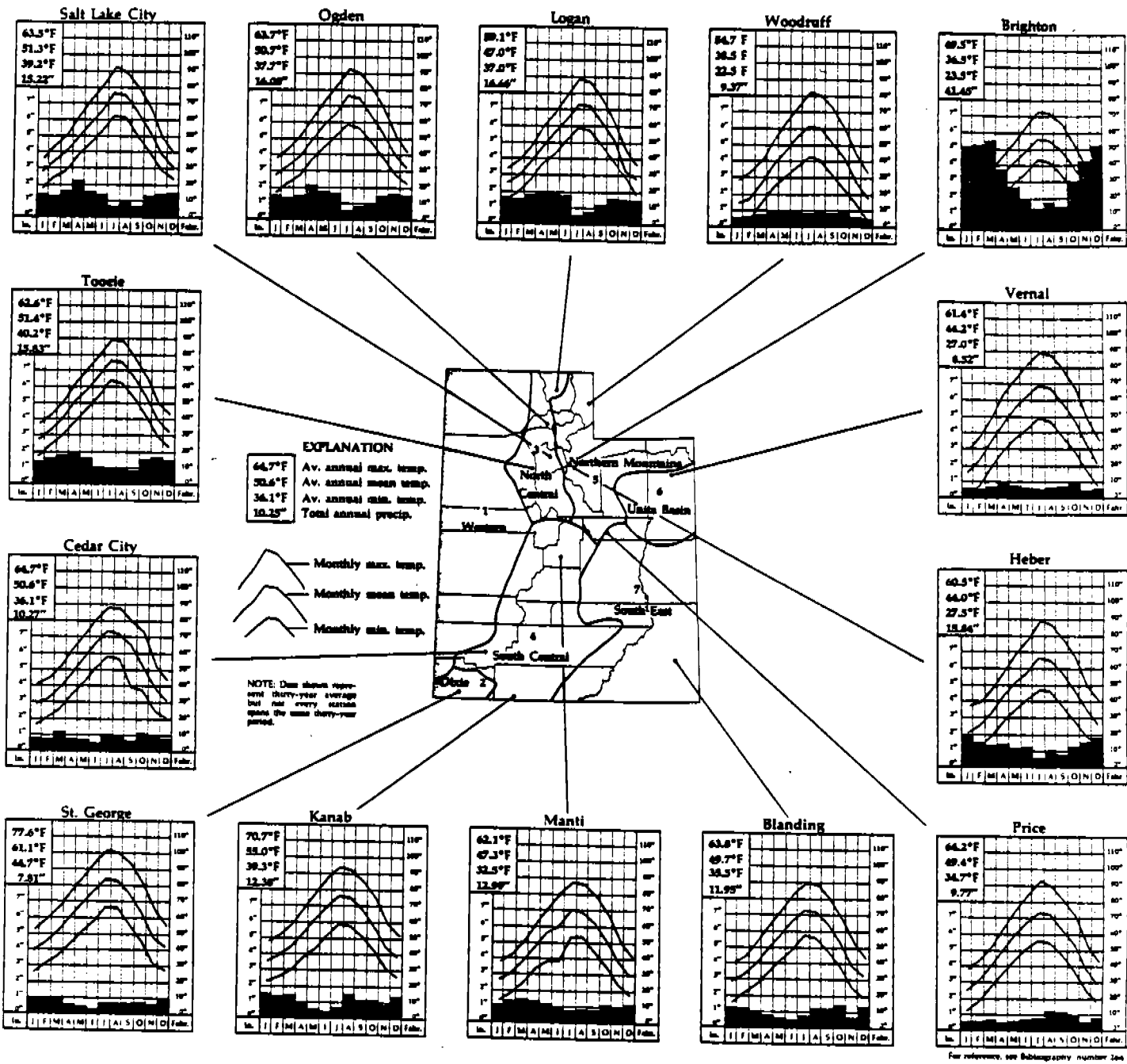


Figure 1. Climographs for selected reporting stations in Utah. Temperatures and precipitation are 30-year averages. Figure is from the Office of Utah State Climatologist. Utah State University, UMC 48, Logan, Utah 84322.

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

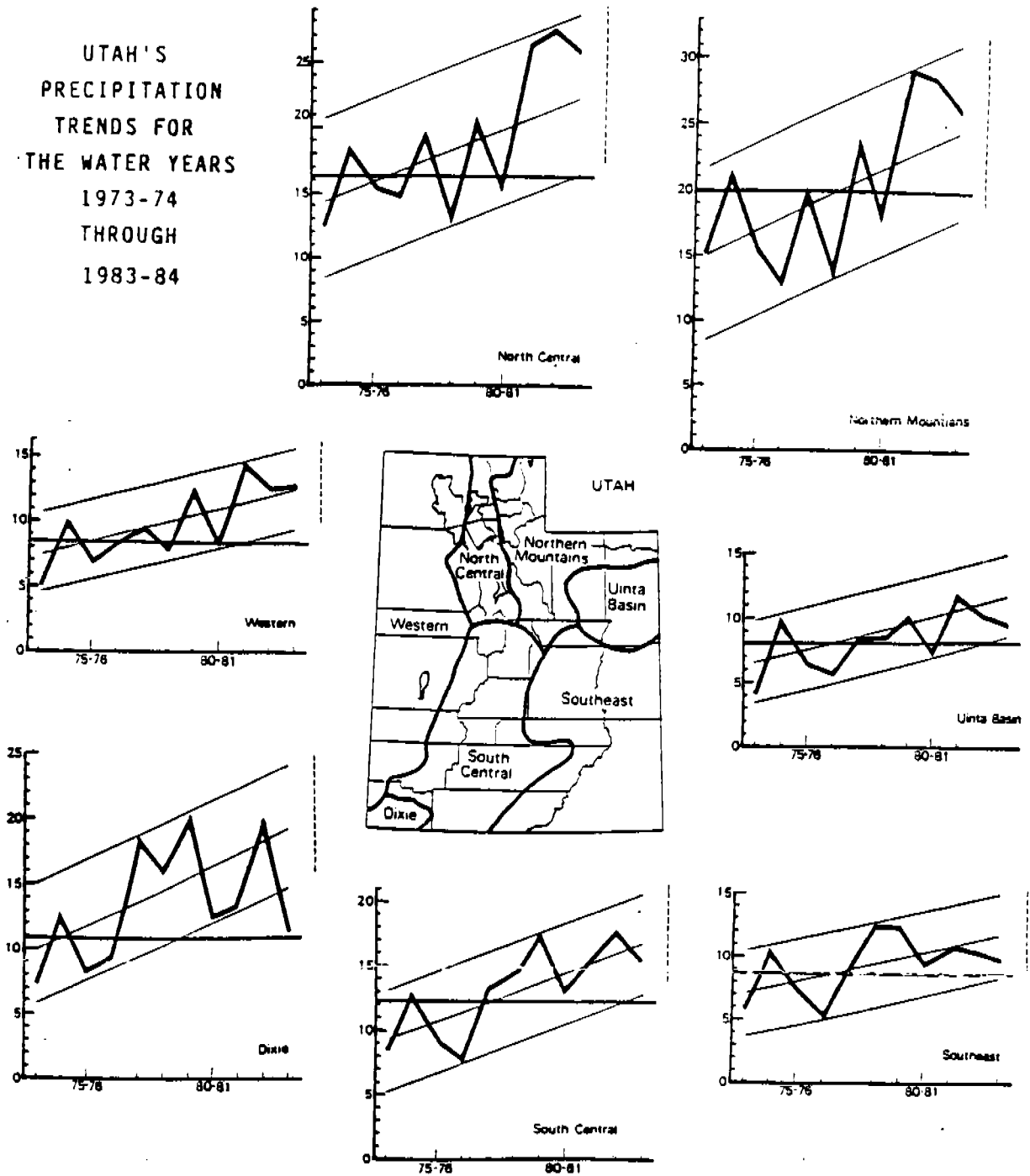


Figure 2. The heavy solid lines connect water-year precipitation accumulations for the period 1973-74 through 1983-84. The heavy horizontal lines indicate the normal precipitation values for the divisions. In addition, there are three fine, solid lines on each graph: the center one is a trend line and 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 1981-86.

Species	Number of Hunters						Percent of Total					
	1981	1982	1983	1984	1985	1986	1981	1982	1983	1984	1985	1986
Pheasant	83,408	85,368	77,847	76,840	69,889	59,987	86.7	87.4	85.9	86.9	86.2	84.2
Chukar	12,907	11,326	10,418	9,846	7,930	9,397	13.4	11.6	11.5	11.1	9.8	13.2
Mourning dove	30,060	31,756	28,258	30,573	28,183	26,583	31.2	32.5	31.2	34.6	34.7	37.3
Sage grouse	10,083	8,997	9,201	8,283	7,586	7,233	10.5	9.2	10.2	9.4	9.4	10.2
Forest grouse	14,329	12,384	13,414	11,511	12,645	12,117	14.9	12.7	14.8	13.0	15.6	17.0
Quail	4,946	4,368	4,012	3,654	3,065	2,432	5.1	4.5	4.4	4.1	3.8	3.4
Hungarian partridge	3,545	2,590	2,889	1,523	1,157	1,257	3.7	2.7	3.2	1.7	1.4	1.8
Wild turkey**	115*	23	118*	255*	270	335	0.1	0.02	0.1	0.3	0.3	0.5
Sharp-tailed grouse**	--	--	--	--	--	--	--	--	--	--	--	--
Band-tailed pigeon**	67	51	--	--	--	--	0.1	0.1	--	--	0.1	--
Ptarmigan**	--	19	13	20	14	14	--	0.02	0.01	0.02	0.02	0.02
Cottontail rabbit	25,906	26,714	22,467	18,616	14,059	13,992	26.9	27.3	24.8	21.1	17.3	19.6
Snowshoe hare	3,554	4,245	3,544	3,796	3,365	3,277	3.7	4.3	3.9	4.3	4.1	4.6
TOTAL HUNTERS***	96,196	97,705	90,592	88,431	81,119	71,259						

*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: This is not the total of the columns because many upland game hunters hunted more than one species.

Table 4. Percent of hunter trips resulting in failure to bag at least one bird, 1961-86.

Year	Pheasant			Dove			Chukar			Sage Grouse			Forest Grouse			Quail			Huns			
	0 Bag	Hunt. Trips %	0 Hunt.	0 Bag	Hunt. Trips %	0 Hunt.	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %	0 Bag	Hunt. Trips %		
1961	714	3,204	22	51	583	9	318	539	59	--	--	--	--	109	383	28	72	123	59	72	123	59
1962	500	2,685	19	39	456	9	147	362	41	--	--	--	--	62	201	31	36	108	33	36	108	33
1963	795	3,317	24	53	691	8	248	550	45	220	468	47	188	71	305	23	59	177	33	59	177	33
1964	911	3,115	29	60	681	9	266	568	47	45	154	29	144	94	316	30	62	150	41	62	150	41
1965	1,165	4,009	29	--	--	--	486	851	57	82	168	49	225	128	371	34	93	233	40	93	233	40
1966	1,242	4,297	29	136	1,067	13	423	881	48	54	131	41	133	106	315	34	63	219	29	63	219	29
1967	1,353	4,833	28	153	1,319	12	477	915	52	138	266	52	194	161	424	38	116	315	37	116	315	37
1968	1,422	5,223	27	236	1,312	18	495	1,095	45	185	449	41	177	171	457	37	132	347	38	132	347	38
1969	1,897	5,335	36	214	1,568	14	647	1,250	52	241	648	37	273	182	465	39	148	292	51	148	292	51
1970	1,546	4,686	33	193	1,274	15	466	962	48	257	603	43	209	126	314	40	101	210	48	101	210	48
1971	1,783	5,049	35	210	1,333	16	464	934	50	234	625	37	223	162	385	42	87	210	41	87	210	41
1972	1,743	4,617	38	270	1,421	19	457	827	55	259	593	44	271	154	339	45	120	224	54	120	224	54
1973	1,659	4,699	35	209	1,596	13	414	824	50	226	553	41	329	128	311	41	97	196	49	97	196	49
1974	2,347	5,323	44	323	1,951	17	511	955	54	292	668	44	388	157	333	47	108	227	48	108	227	48
1975	2,472	5,604	44	329	2,554	13	607	1,105	55	374	901	42	535	177	406	44	121	220	55	121	220	55
1976	1,739	4,294	40	273	1,709	16	408	781	52	259	783	33	371	105	266	39	87	184	47	87	184	47
1977	1,874	5,175	36	295	1,967	15	511	943	54	397	972	41	528	125	299	42	106	247	43	106	247	43
1978	1,507	4,858	31	279	1,986	14	343	882	39	301	853	35	419	103	306	34	85	246	35	85	246	35
1979	2,222	7,024	32	343	2,671	13	528	1,150	46	400	1,215	33	585	130	403	32	119	243	49	119	243	49
1980	1,684	5,867	29	258	2,145	12	458	1,008	45	392	944	42	501	87	254	34	75	206	36	75	206	36
1981	1,305	4,637	28	239	1,558	15	302	669	45	184	493	37	297	97	241	40	57	172	33	57	172	33
1982	1,768	6,725	26	363	2,338	16	406	824	49	269	620	43	325	128	292	44	89	176	51	89	176	51
1983	1,645	7,153	23	348	2,381	15	362	880	41	294	729	40	300	105	310	34	82	225	36	82	225	36
1984	1,245	4,643	27	274	1,711	16	287	548	52	202	435	46	270	84	189	44	51	76	67	51	76	67
1985	1,207	4,017	30	221	1,500	15	208	426	49	161	376	43	228	61	148	41	35	54	65	35	54	65
1986	1,211	3,615	33	224	1,476	15	237	537	44	139	368	38	221	58	125	46	36	61	59	36	61	59

AVERAGES
(1961-85)

31

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44

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	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1985	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1986	--	--	--	--	--	--	--	--	--	41	15	41	15	--
<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	--	--
1985	--	--	175	--	631	--	400	--	450	--	--	1,656	--	--
1986	240	--	148	--	534	--	358	--	330	--	--	1,610	--	--

Table 6. Season framework for upland game during 1986.

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Pheasant	Nov. 1-14	2 cocks	4 cocks	Statewide
	Nov. 1-30	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.
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. 13-Nov. 30	5	10	Wasatch County and portions of the following counties lying east of Interstate 15: Juab, Salt Lake, Sanpete and Utah (south of U-189).
	Sept. 13, 1986-Feb. 1, 1987	5	10	Beaver, Garfield, Iron, Kane, Piute, Sevier, Washington, Wayne and portions of Box Elder, Juab, Salt Lake and Utah counties (west of I-15). Also parts of Millard and Tooele counties.
	Sept. 13, 1986-Feb. 1, 1987	8	16	Carbon, Emery, Grand, and San Juan counties.

Table 6 (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Sage grouse	Sept. 13-21	3	6	Garfield (part), Piute, Sevier, and Wayne counties.
	Sept. 13-21	2	4	Beaver, Box Elder (part), Daggett, Duchesne (part), Grand, Iron, Kane and Uintah counties.
	Sept. 13-21	1	2	Box Elder (part), Cache, Carbon, Emery, Rich, San Juan (part), Utah (part) and Duchesne (part) counties.

The following counties were closed to sage grouse hunting during 1986:

Cache, Davis, Duchesne
(part), Juab, Millard,
Morgan, Salt Lake, San Juan
(part), Sanpete, Summit,
Tooele, Utah (part),
Wasatch (part), Washington
and Weber.

Forest grouse	Sept. 13- Nov. 30	4 (aggregate)	8 (aggregate)	Statewide.
	Nov. 1-14	5	10	Statewide except Morgan, and Summit counties.
Quail	Nov. 1-Dec. 31	5	10	Washington County.

Morgan and Summit counties were closed to quail hunting in 1986.

Hungarian partridge	Sept. 13, 1986- Feb. 1, 1987	2	4	Part of Box Elder County west of I-15.
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Table 6 (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Area Open
Wild turkey				
Spring hunt	May 3-25	Season limit 1 male turkey	1	Garfield, Grand, Iron, Kane, Washington (part), Wayne and San Juan (part) counties.
Fall hunt	SEASON CLOSED			
Washington County, west of I-15 was closed to protect transplanted turkeys on the Pine Valley Mountains.				
Ptarmigan	Sept. 13-Oct. 15	4	4	Summit, Daggett, Duchesne and Uintah counties.
Snowshoe hare	Sept. 13, 1986-Feb. 1, 1987	5	10	Statewide.
Cottontail rabbit	Sept. 13, 1986-Feb. 1, 1987	10	20	Beaver, Box Elder (part), Carbon, Emery, Garfield, Grand, Iron, Kane, Millard, Piute, San Juan, Sevier, Washington and Wayne counties.
	Sept. 13, 1986-Feb. 1, 1987	5	10	Box Elder (part), Cache, Daggett, Davis, Duchesne, Juab, Morgan, Rich, Salt Lake, Sanpete, Summit, Tooele, Uintah, Utah, Wasatch and Weber counties.

Table 7. Summary of upland game harvest questionnaire returns, 1962-1986

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
1985	10,772	5,904	54.8	5,843	54.2	35.2
1986	11,103	5,329	48.0	5,256	47.3	34.2

Appropriation No. 01-59-07