

UTAH UPLAND GAME ANNUAL REPORT 1992



UTAH DIVISION OF WILDLIFE RESOURCES

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U T A H
U P L A N D G A M E
Annual Report
1992

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Annual Performance Report for Federal Aid Project W-65-R-40 Job A-4

Utah Department of Natural Resources

DIVISION OF WILDLIFE RESOURCES

An Equal Opportunity Employer

Timothy H. Provan
Director

"FINDING OUT HOW MANY THERE ARE LEFT IS
THE LEAST OF THE PURPOSES OF GAME CENSUS.
MEASURING THE RESPONSE OF GAME POPULATIONS
TO CHANGES - DELIBERATE OR ACCIDENTAL -
IN THEIR ENVIRONMENT IS THE BIG PURPOSE.
CONTINUOUS CENSUS IS THE YARDSTICK OF
SUCCESS OR FAILURE IN CONSERVATION."

ALDO LEOPOLD 1932

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JOB PERFORMANCE REPORT
RESEARCH PROJECT SEGMENT
(Inventory)

State: U T A H Project Title: Statewide Wildlife
Management Inventory
Project No.: W-65-R-40
Job Title: Statewide Upland Game
Job No.: A-4

Period Covered: October 1, 1991 to September 30, 1992

Abstract: This report includes upland game inventory and harvest data collected during 1991-92. Results of annual inventory and harvest surveys and long-term trends of indices derived by each method are included in the final report. Data obtained in 1992 are compared to 1991 and long-term averages.

Objectives: 1. Conduct efficient breeding and production surveys.
 2. Determine annual harvest, hunters, hunter-days and success rates.
 3. Inventory critical seasonal habitat.

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, 1991 through February 10, 1992, 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 22-August 22 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 gray partridge, forest grouse (ruffed and blue), sage grouse, sharp-tailed grouse, wild turkey and quail from June 15-August 22. 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 1991 for comparable grounds were determined on a county basis.

The Gambel's quail long period waterhole counts were completed in July and August. Limited valley quail random brood counts were made in several counties.

Cottontail rabbit roadside counts were conducted over pre-established routes between July 15 and August 22. Indices derived include rabbits per mile and young per 100 adults.

Harvest questionnaires were mailed to determine the harvest of upland game birds, cottontail rabbit, and snowshoe hare. A sample of eligible licensees from the current year's (1992) resident small game license file and 1992 combination license file was used. The modified computerized pull-apart mailer was again used to obtain harvest data. Separate questionnaires were mailed to all band-tailed pigeon, white-tailed 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 processed by the Division of Wildlife Resources Information Systems Services Subsection. General upland game questionnaires as well as band-tailed pigeon, wild turkey and white-tailed ptarmigan questionnaires were analyzed by Game Management Section personnel.

Upland game hunters were checked at checking stations, and random field bag checks were 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.

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 twenty-second 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 Utah 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 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 1992, a total of 58,423 Utah sportsmen spent 431,497 days afield in pursuit of various upland game species (Table 1). The harvest of upland game totaled 472,018 animals. The proportion of the total upland game hunters which pursued each species is shown in Table 2 and the percentage failing to bag at least one bird (from general mail questionnaire) of each species in Table 3.

In 1992, Utah upland game hunters were required to purchase an Upland Game Habitat Stamp in order to pursue pheasants, mourning doves, chukar partridge, sage grouse, forest grouse, quail, Hungarian partridge, cottontail rabbit and snowshoe hare. Funds derived from the Upland Game Habitat Stamp will be used to purchase, develop and protect critical upland game habitat throughout Utah.

The regulations for 1992 upland game hunting seasons are shown in Appendix D.



GENERAL 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 16,472 upland game questionnaires, a 15.50 percent sample, were mailed. Of the total, 827 (5.02%) questionnaires were undeliverable. Of the 15,645 questionnaires delivered, 5,977 (38.20%) useable upland game questionnaires were returned. Of those, 2,693 purchased a license but did not hunt upland game. By dividing the total of 106,223 eligible licensees by the usable returns (5,977), a projection factor of 17.771959 is derived.

The 1992 hunter questionnaire sample size increased from 1991, so a follow-up questionnaire was not sent to those who failed to return the first one. 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.

Table 1. Summary of harvest statistics from the general mail questionnaire for 1992.

Species	Hunters		Total Harvest	Hunter-Days	Bag Per Hunter-Day	Bag Per Hunter For Season
	Afield					
Pheasant	41,640		85,803	150,244	0.57	2.06
Mourning Dove	18,021		161,902	68,937	2.35	8.98
Band-Tailed Pigeon	18	73		70	1.05	4.29
Chukar Partridge	11,125		28,559	37,463	0.76	2.57
Sage Grouse	7,393		12,156	15,781	0.77	1.64
Forest Grouse	15,000		44,518	46,136	0.96	2.97
Quail	2,861		6,788	8,068	0.84	2.37
Hungarian Partridge	3,198		7,553	8,192	0.92	2.36
Wild Turkey						
Merriam's	484		53	1,599	0.03	0.11
Rio Grande	20		15	--	4.69	0.75
Sharp-Tailed Grouse	--		--	--	--	--
White-Tailed Ptarmigan	11		0	17	0.00	0.00
Cottontail Rabbit	20,509		117,454	83,154	1.41	5.73
Snowshoe Hare	3,732		7,144	11,836	0.60	1.91
Total	--		472,018	431,497	--	--
Total hunters afield for all species of upland game =						58,423

Table 2. Number and percent of total upland game hunters afield who reported hunting each species during 1985-92.

Species	Number of Hunters												Percent of Total											
	1985	1986	1987	1988	1989	1990	1991	1992	1985	1986	1987	1988	1989	1990	1991	1992								
Pheasant	69,889	59,987	57,118	54,514	50,382	47,025	42,813	41,640	86,20	84,20	83,80	77,70	75,20	72,50	69,14	71,27								
Mourning Dove	28,183	26,583	22,553	22,457	21,696	22,700	22,632	18,021	9,80	13,20	16,50	16,00	16,30	17,30	36,55	30,85								
Band-Tailed Pigeon*	--	--	--	11	23	9	15	18	0,10	--	--	0,01	0,03	0,01	0,02	0,03								
Chukar	7,930	9,397	11,276	11,237	10,910	11,195	10,577	11,125	34,70	37,30	33,00	32,00	32,40	35,00	17,08	19,04								
Sage Grouse	7,586	7,233	7,060	8,499	9,002	9,014	8,018	7,393	9,40	10,20	10,40	12,10	13,40	13,90	12,95	12,65								
Forest Grouse	12,645	12,117	14,831	16,947	16,988	14,591	14,421	15,000	15,60	17,00	21,80	24,20	25,40	22,50	23,29	25,67								
Quail	3,065	2,432	2,549	2,671	3,111	2,614	2,644	2,861	3,80	3,40	3,70	3,80	4,60	4,00	4,27	4,90								
Hungarian Partridge	1,157	1,257	2,010	2,471	2,136	2,305	2,662	3,198	1,40	1,80	2,90	3,50	3,20	3,60	4,30	5,47								
Wild Turkey*																								
Merriam's	270	335	347	421	477	531	532	484	0,30	0,50	0,50	0,60	0,70	0,80	0,86	0,83								
Rio Grande	--	--	--	--	--	--	18	20	--	--	--	--	--	--	0,03	0,03								
Sharp-Tailed Grouse*	14	14	9	15	3	11	13	11	0,02	0,02	0,01	0,02	0,01	0,02	0,02	0,02								
White-Tailed Ptarmigan*	14,059	13,992	20,322	24,076	22,878	23,079	21,137	20,509	17,30	19,60	29,80	34,30	34,20	35,60	34,13	35,10								
Cottontail Rabbit	3,365	3,277	3,702	4,725	4,895	4,095	3,427	3,732	4,10	4,60	5,40	6,70	7,30	6,30	5,53	6,39								
Snowshoe Hare	81,119	71,259	68,174	70,142	67,017	64,868	61,922	58,423																
Total Hunters**																								

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

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

Table 3. Percent of hunter trips resulting in failure to bag at least one bird, 1961-92.

Year	Pheasant			Mourning Dove			Chukar			Sage Grouse			Forest Grouse			Quail			Hungarian Partridge					
	No	Hunting	%	No	Hunting	%	No	Hunting	%	No	Hunting	%	No	Hunting	%	No	Hunting	%	No	Hunting	%	No	Hunting	%
	Bag	Trips		Bag	Trips		Bag	Trips		Bag	Trips		Bag	Trips		Bag	Trips		Bag	Trips		Bag	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	62	201	31			
1963	795	3,317	24	53	691	8	248	550	45	220	468	47	188	281	67	71	305	23	59	177	33			
1964	911	3,115	29	60	681	9	266	568	47	45	154	29	144	229	63	94	316	30	62	150	41			
1965	1,165	4,009	29	--	--	--	486	851	57	82	168	49	225	311	72	128	371	34	93	233	40			
1966	1,242	4,297	29	136	1,067	13	523	881	48	54	131	41	133	331	40	106	315	34	63	219	29			
1967	1,353	4,833	28	153	1,319	12	477	915	52	138	266	52	194	475	41	161	424	38	116	315	37			
1968	1,422	5,223	27	236	1,312	18	495	1,095	45	185	449	41	177	665	27	171	457	39	132	347	28			
1969	1,897	5,335	36	214	1,568	14	647	1,250	62	241	648	37	273	656	42	182	465	39	148	292	51			
1970	1,546	4,686	33	193	1,274	15	466	962	48	257	603	43	209	666	31	126	314	40	101	210	48			
1971	1,783	5,049	35	210	1,333	16	464	934	50	234	625	37	223	673	33	162	385	42	87	210	41			
1972	1,743	4,617	38	270	1,421	19	457	827	55	259	593	44	271	794	34	154	339	45	120	224	54			
1973	1,659	4,699	35	209	1,596	13	414	824	50	226	553	41	329	1,019	32	128	311	41	97	196	49			
1974	2,347	5,323	44	323	1,951	17	511	955	54	292	668	44	388	1,259	31	157	333	47	108	227	48			
1975	2,472	5,604	44	329	2,554	13	607	1,105	55	374	901	42	535	1,354	40	177	406	44	121	220	55			
1976	1,739	4,294	40	273	1,709	16	408	781	52	259	783	33	371	1,131	33	105	266	39	87	184	47			
1977	1,874	5,175	36	295	1,967	15	511	943	54	394	972	41	528	1,398	38	125	299	42	106	247	43			
1978	1,507	4,858	31	279	1,986	14	343	882	39	301	853	35	419	1,419	30	103	306	34	85	246	35			
1979	2,222	7,024	32	343	2,671	13	528	1,150	46	400	1,215	33	585	1,691	35	130	403	32	119	243	49			
1980	1,684	5,867	29	258	2,145	12	458	1,008	45	392	944	42	501	1,283	39	87	254	34	75	206	36			
1981	1,305	4,637	28	239	1,558	15	302	669	45	184	493	37	297	741	40	97	241	40	57	172	33			
1982	1,768	6,725	26	363	2,338	16	406	824	49	269	620	43	325	919	35	128	292	44	89	176	51			
1983	1,645	7,153	23	348	2,381	15	362	880	41	294	729	40	300	1,118	27	105	310	34	82	225	36			
1984	1,245	4,643	27	274	1,711	16	287	548	52	202	435	46	270	640	42	84	189	44	51	76	67			
1985	1,207	4,017	30	221	1,500	15	208	426	49	161	376	43	228	656	35	61	148	41	35	54	65			
1986	1,211	3,615	33	224	1,476	15	237	537	44	139	368	38	221	667	33	58	125	46	36	61	59			
1987	863	2,837	30	140	1,047	13	194	537	36	90	307	29	143	671	21	46	111	41	34	94	35			
1988	1,372	3,953	35	244	1,525	16	308	77	40	187	557	34	224	1,184	19	63	171	37	73	154	47			
1989	1,126	2,985	38	184	1,184	16	263	614	43	183	468	39	257	961	27	68	160	43	53	108	49			
1990	988	2,745	36	161	1,234	13	282	632	45	162	483	34	233	810	39	54	132	41	46	117	39			
1991	1,062	2,461	43	205	1,301	16	309	608	51	198	461	43	262	829	32	69	152	45	67	153	44			
1992	905	2,760	33	156	1,150	14	298	701	43	169	432	39	208	969	21	68	168	40	67	186	36			
AVERAGES																								
(1961-91)			32			14			48			40			37			38			38			45

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 a completely random sample, (2) respondents recorded data correctly, i.e., they clearly understood the questionnaire, (3) respondents recorded data accurately, did not guess or lie, 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 judgments 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.

RING-NECKED PHEASANT

SUMMARY

The 1991-92 winter was relatively mild and survival of brood stock should have been good. Vegetation continues to return to inundated mud flats around the Great Salt Lake after the flooding of 1984. Aquatic vegetation such as cattails and bulrushes conducive to winter survival of pheasants is re-establishing noticeably.

Weather conditions during the nesting season were favorable in 1992. Statewide monthly average temperatures were at or above normal; average precipitation was above normal across several climatic subdivisions in May. Temperatures were at or above normal through the rest of the year and precipitation was scattered and sparse. Pheasants observed on roadside routes was above 1991 and more hens appeared to have young. Overall, production was up.

Harvest statistics compiled from the questionnaire indicated an increase in success compared to 1991. Harvest increased 18 percent from 1991, but remained 59 percent below the long-term average. Opening weekend success was up compared to the previous year based upon field bag check data and despite sporadic cold and rainy hunting conditions.



Winter Sex Ratio Counts

Results of the survey for the winter of 1991-92 and long-term trends are shown in Tables 1, 2 and Figure 1 of this section. Statewide comparisons to the winter of 1990-91 and the 10-year (1982-91) average are as follows:

	<u>Winter of</u> <u>1991-92</u>	<u>Percent change from</u>	
		<u>1990-91</u>	<u>Average</u>
Total pheasants counted (roadside)	892	+6	-60
Hens per cock	2.15	-19	-38
Pheasants observed per 100 hours	1,293	-12	+2
Total hours effort. (roadside)	75	+27	-55

Winter sex ratio counts indicated a 12 percent decrease in pheasants observed per unit of effort. However, density estimates can be biased due to the non-random nature of the survey technique if effort is minimal. The hen-cock ratio decreased 19 percent from 1991 and was 38 percent below the long-term average. Slightly increased effort increased pheasant observations. However, no effort was expended in the Southern and Southeastern Regions.

Roadside Counts

A summary of summer roadside pheasant counts for 1992 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 and Figure 2. Summer 1992 survey results compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total pheasants observed	1,212	+53	-32
Total miles driven	1,615	+3	-18
Pheasants per mile	0.75	+47	-14
Average brood size	3.93	-15	-23
Young per hen	3.40	-11	-13
Percent of hens with young	85	+8	+14

Temperatures throughout the state were above normal during February through June and precipitation was above normal during March and May. It appears that favorable weather conditions contributed to a 47 percent increase in pheasants observed per mile and an 8 percent increase in percent of hens with young.

Vegetation continues to re-establish on alkaline soils around the Great Salt Lake. This should increase both the quantity and quality of wintering, nesting and brood-rearing habitat in Box Elder, Salt Lake, Davis and Weber counties.

Harvest

Hunter Questionnaire

Results of the hunter questionnaire for 1992 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 1992 harvest statistics to 1991 and the previous 44-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Pheasant hunters	41,640	-3	-47
Pheasants harvested	85,803	+18	-59
Hunter-days afield	150,244	0	-31
Pheasants per hunter-day	0.57	+18	-39
Pheasants per hunter	2.06	+21	-22

Total hunters again decreased (3 percent) from 1991 and remained below the long-term (1948-91) average. Total harvest increased 18 percent from 1991. Hunter success (pheasants per hunter-day) increased 18 percent from 1991. Pheasants per hunter increased (21 percent), but remains 22 percent below the long-term average.

Long-term trends (1948-92) of total hunters, hunter-days, harvest and hunter success are shown in Figures 3 and 4. Generally, the recent trend is toward less hunter-days with declines in total pheasants harvested and hunter success. We believe this is the result of the accumulated effects of loss of quantity and quality of habitat due to urbanization, flooding, modern agricultural practices, and habitat fragmentation resulting in increased predation.

FIGURE 1. PHEASANT WINTER SEX RATIO INDICES, 1965-92.

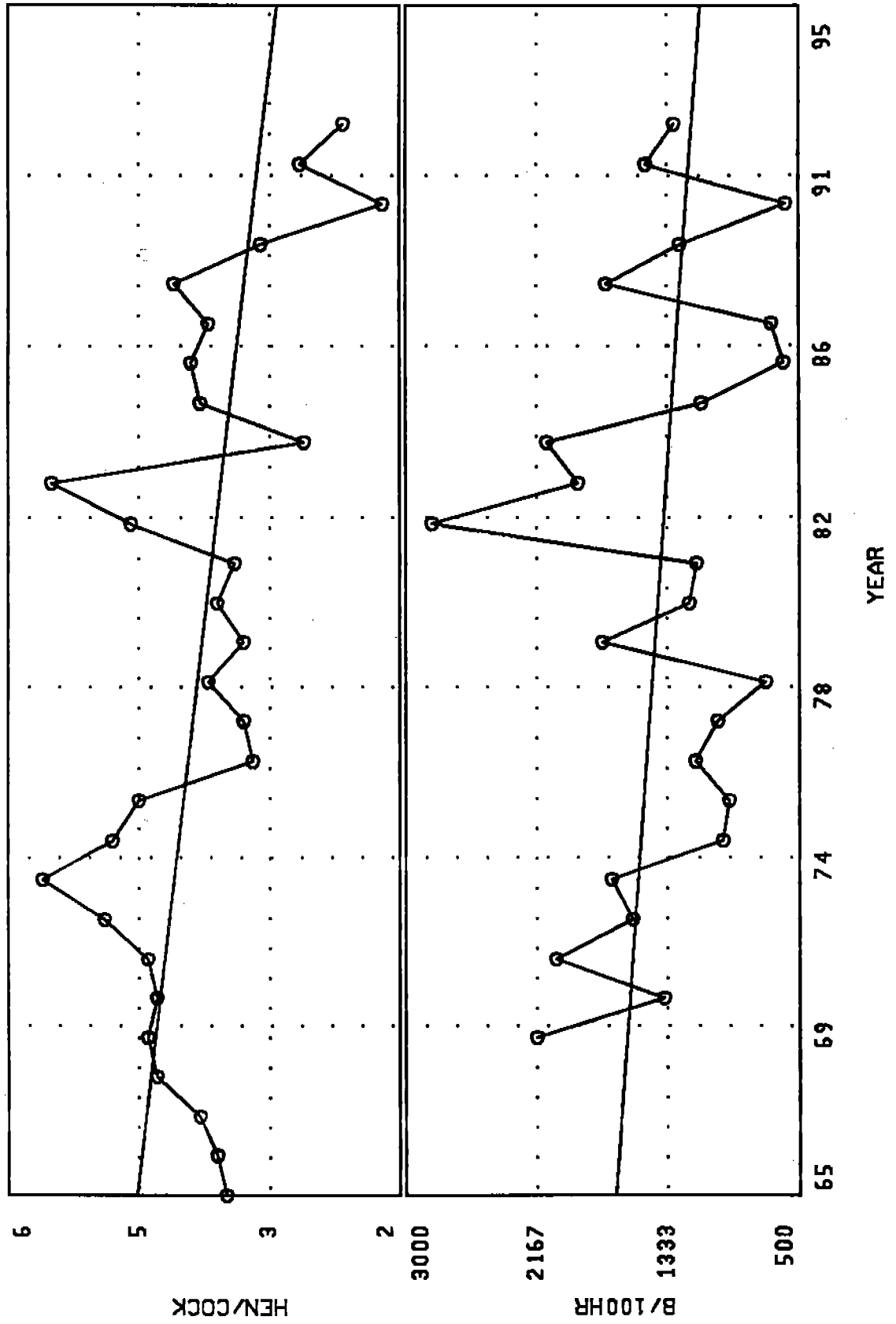
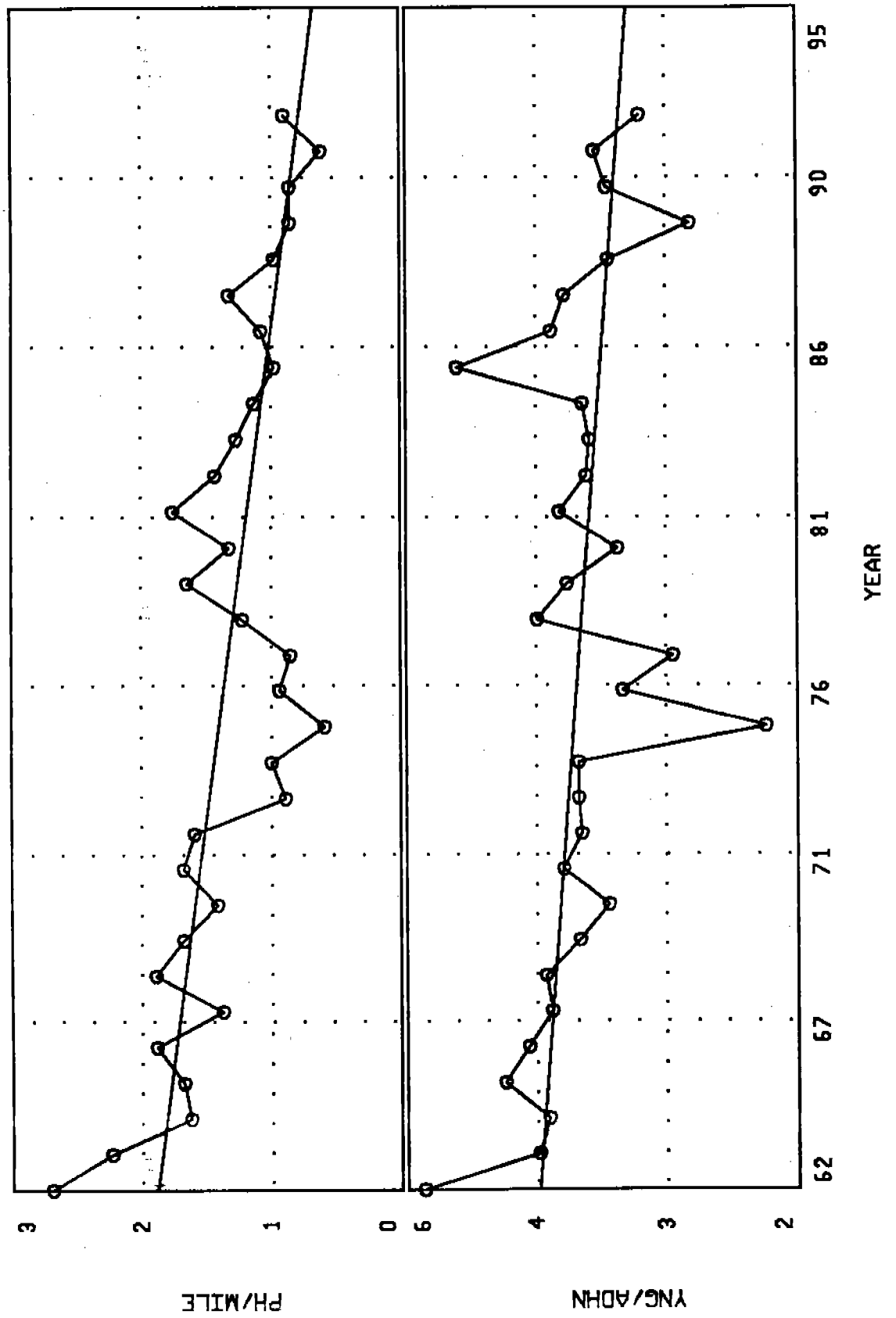


FIGURE 2. PHEASANT PRODUCTION INDICES, 1962-92.



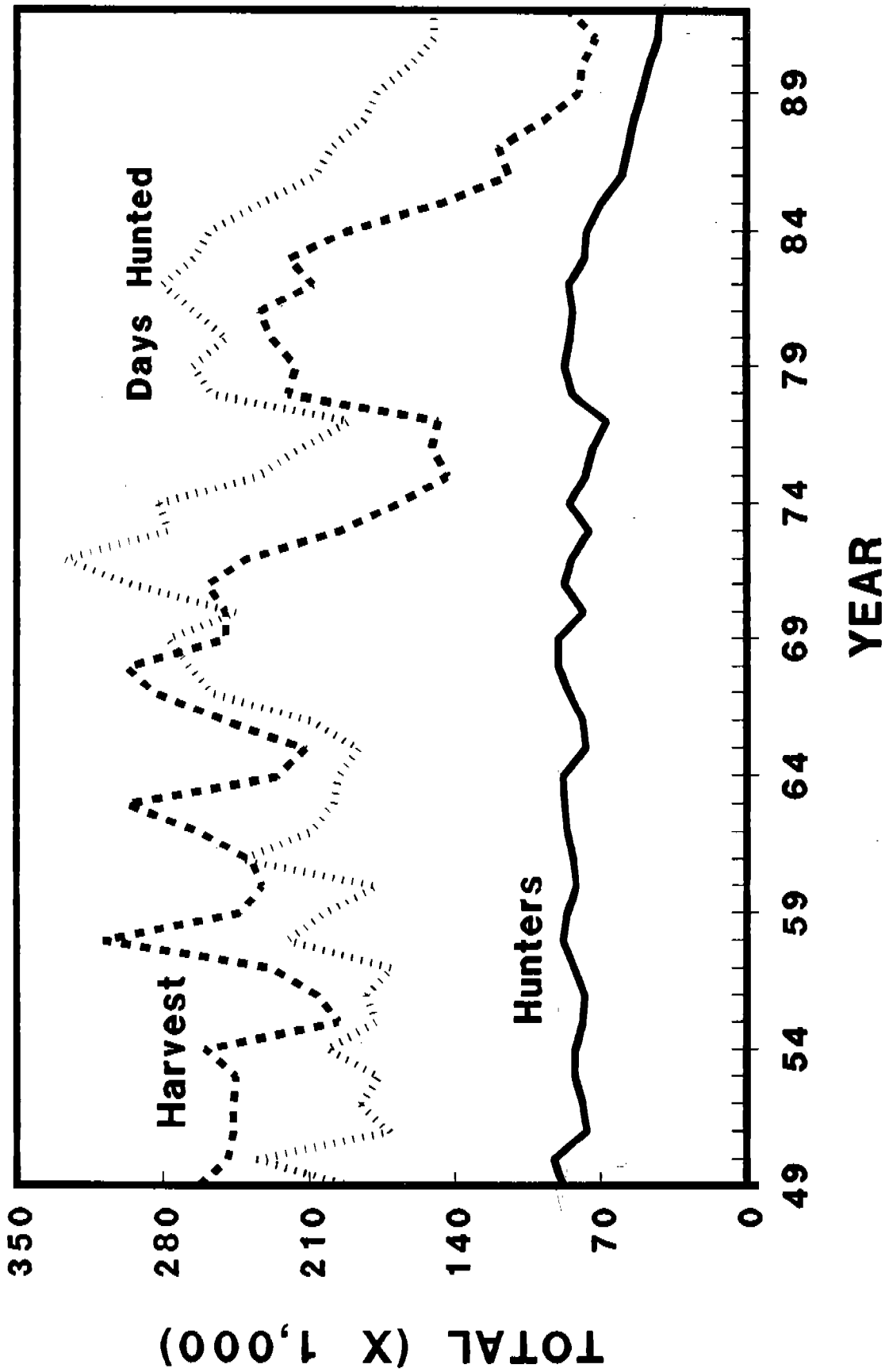


Figure 3. Statewide trends of pheasant harvest statistics, 1949-92.

PHEASANTS PER HUNTER AND PER DAY

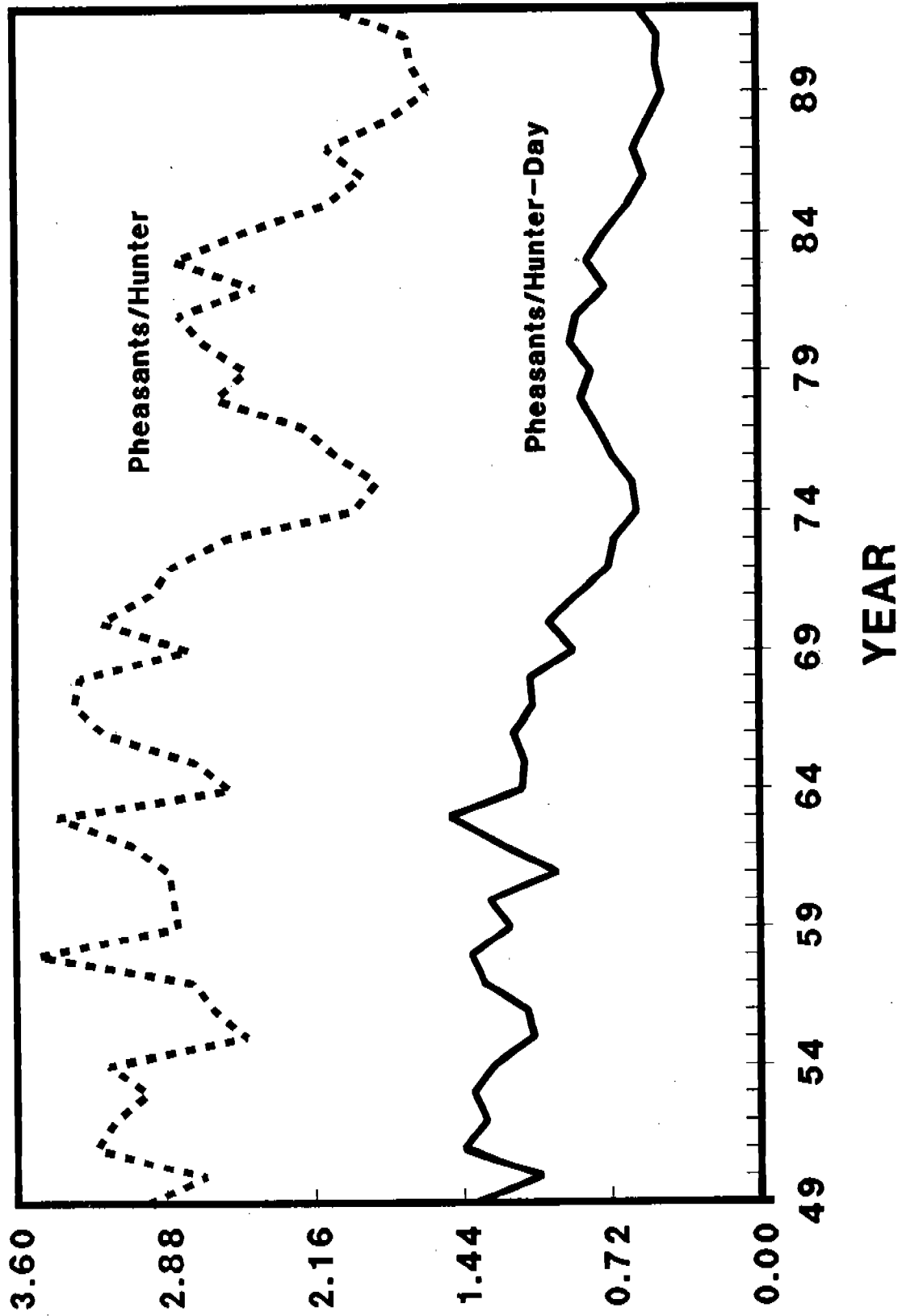
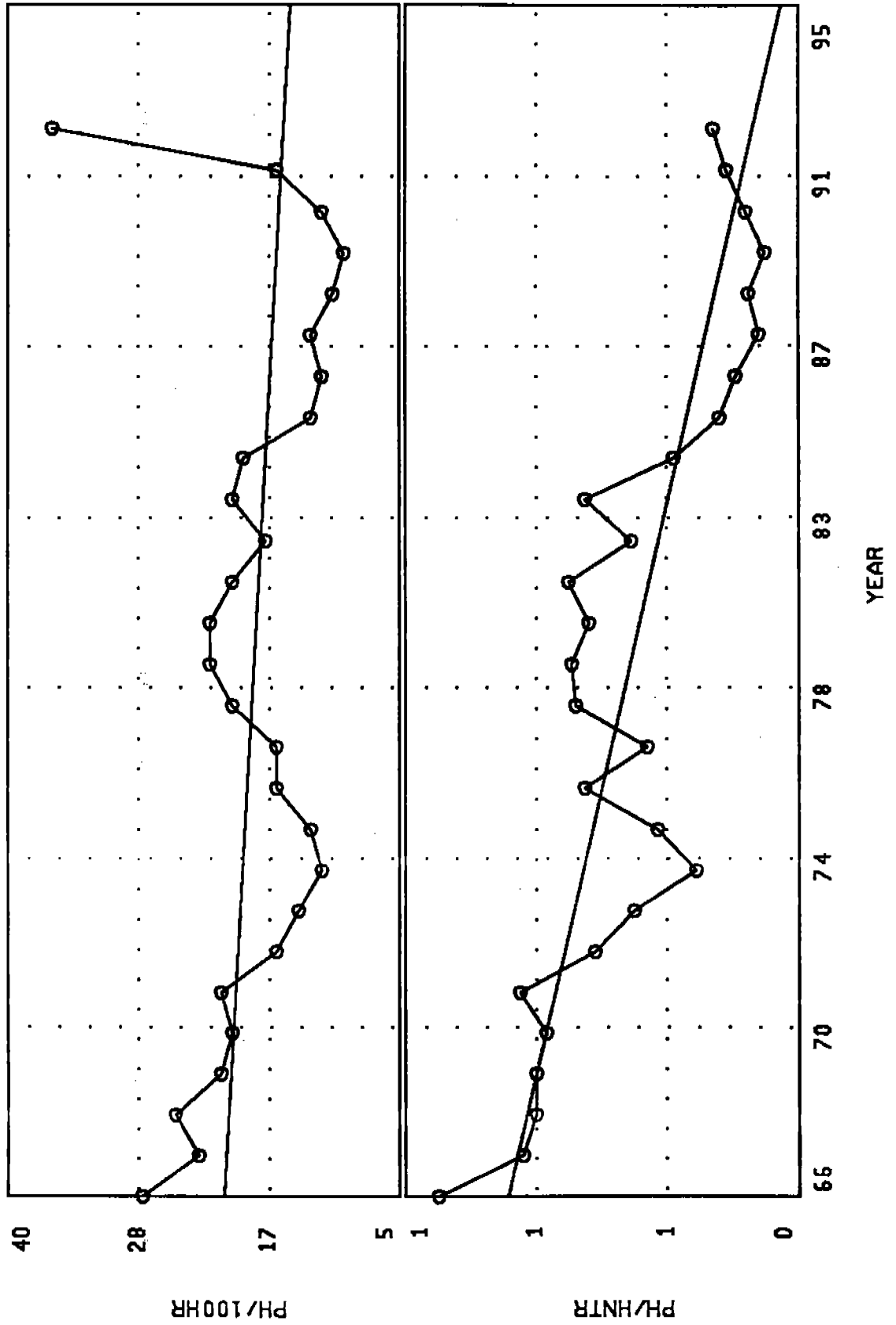


Figure 4. Statewide trends of pheasant hunter success rates, 1949-92.

FIGURES. PHEASANT FIELD BAG CHECK INDICES, 1966-92.



Field Bag Checks

A summary of pheasant field bag check data for 1992 is shown in Table 14. The hunter success trend determined via bag checks since 1987 is found in Table 15 and Figure 5. A comparison of 1992 data, on a statewide basis, to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	437	+101	-84
Total hours hunted	558	-2	-93
Pheasants per hunter (complete hunts)	0.46	+10	-3
Pheasants bagged per 100 hours	36	+125	+154
Average hours per hunter-day (complete hunts)	1.28	-51	-61
Hours hunted per pheasant bagged (complete hunts)	2.76	-56	-63

Hunting pressure was down in most of Utah. This is attributed to decreasing pheasant populations and to less land being accessible to hunters.

Although hunter pressure and numbers decreased from 1991 persistent hunters were successful in taking birds and spent less time doing so.

Statewide hunter success was up compared with 1991 through the entire season.

Table 1. Summary of pheasant winter sex ratio counts, 1991-92.

Region and County	Roadside Observations			Pushing Observations			Effort Expended			Pheas. Obs./ 100 Hours of Road. Obs.				
	Cocks	Hens	Total	Hens/ Cocks/ 100 Hens	Cocks	Hens	Total	Hens/ Cocks/ 100 Hens	Vehicle Miles		Hours of Effort	Vehicle Walk Total		
Northern Region														
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--		
Cache	--	--	--	8	27	35	3.38	30	--	--	--	--		
Davis	8	11	19	1.38	73	2	--	--	114	6	3	9		
Morgan	--	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--	--		
Weber	21	95	116	4.52	22	2	2	--	135	11	--	11		
REGIONAL TOTALS	29	106	135	3.66	27	10	29	2.90	34	249	17	3	20	794
Central Region														
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	4	1	5	0.25	400	--	--	--	19	1	--	1	500	
Sanpete	11	53	64	4.82	21	21	108	129	5.14	19	10	3	13	640
Tonele	48	120	168	2.50	40	--	--	--	--	--	8	--	8	2,100
Utah	109	217	326	1.99	50	--	33	33	--	--	14	--	14	2,329
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	172	391	563	2.27	44	21	141	162	6.71	15	33	3	36	1,706
Southern Region														
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	1	--	--	--	--	--	--	--	1	--
REGIONAL TOTALS	--	--	--	--	--	1	--	--	--	--	--	--	--	--
Northeastern Region														
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	19	23	42	1.21	83	1	5	6	5.00	20	100	8	8	525
Uintah	63	89	152	1.41	71	--	--	--	--	--	137	11	11	1,382
REGIONAL TOTALS	82	112	194	1.37	73	1	5	6	5.00	20	237	19	19	1,021
Southeastern Region														
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	283	609	892	2.15	46	32	175	207	5.47	18	630	69	6	75
STATE TOTALS	283	609	892	2.15	46	32	175	207	5.47	18	630	69	6	75

Table 2. Trend of pheasant winter sex ratio counts, 1986-92.

Region and County	1986-87		1987-88		1988-89		1989-90		1990-91		1991-92		
	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	Average 1986-1991
Northern Region													
Box Elder	5.80	524	4.80	2,409	4.20	3,100	3.60	533	2.47	--	--	--	--
Cache	6.80	168	4.30	390	2.70	386	1.30	253	3.43	--	--	--	--
Davis	7.50	340	11.30	2,667	7.30	2,014	1.50	143	6.90	1,317	1.38	317	3.17
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	6.30	587	--	--	4.20	700	3.30	30	3.11	--	4.52	1,055	1.055
REGIONAL TOTALS	6.30	379	5.50	925	4.10	833	2.10	321	3.48	4,183	3.66	794	4.30
Central Region													
Juab	3.90	1,005	1.80	1,486	2.40	1,100	2.10	1,100	3.56	2,050	--	--	--
Salt Lake	4.50	--	2.50	233	--	--	1.30	533	1.73	600	0.25	500	0.25
Sanpete	6.10	3,900	6.40	1,920	--	--	--	--	--	--	4.82	640	4.82
Tooele	--	--	--	--	--	--	0.80	2,600	--	--	2.50	2,100	2.50
Utah	3.50	857	2.40	2,650	10.00	2,200	2.60	1,016	4.96	1,787	1.99	2,329	1.99
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.80	1,057	3.00	1,893	3.50	1,344	1.70	1,119	4.22	1,541	2.27	1,706	3.24
Southern Region													
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	3.40	4,270	7.00	4,135	1.60	900	--	--	2.21	2,033	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	9.60	209	3.90	2,230	12.60	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.70	2,943	5.40	3,105	3.60	2,778	--	--	2.21	2,033	--	--	4.23
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	2.00	139	1.60	1,400	1.60	1,425	0.80	550	1.75	200	1.21	525	1.21
Uintah	0.60	145	1.80	1,627	2.50	5,600	1.20	773	1.03	1,600	1.41	1,382	1.41
REGIONAL TOTALS	1.20	1,741	1.80	1,556	1.80	1,889	1.10	660	1.12	728	1.37	1,021	1.40
Southeastern Region													
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	3.70	673	4.10	1,724	3.10	1,251	1.70	582	2.65	1,468	2.15	1,293	3.05
													1,140

Table 3. Pheasant summer inventory, 1992.

Region and County	No. Routes	Total Miles	Distinct Broods			Mixed Obscr.			Adults w/o Young			Total Hens	Total Young	Total Cocks	Total Pheas.	Pheas./Mile	Young/Mile	Mean Brood Ad.	Young/Hen	%Hens w/Young
			Hens	Young	Total	Hens	Young	Total	Cocks	Young	Hens									
Northern Region																				
Box Elder	2	170	15	60	2	10	2	2	6	23	70	2	95	0.56	0.41	4.00	3.04	74		
Cache	1	64	3	14	--	13	3	5	8	38	27	3	38	0.59	0.42	4.67	3.38	38		
Davis	1	92	--	--	--	4	6	4	4	14	4	6	14	0.15	0.04	--	1.00	0		
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	1	87	17	67	--	--	4	3	20	67	4	91	1.05	0.77	3.94	3.35	85			
REGIONAL TOTALS	5	413	35	141	2	27	15	18	55	168	15	238	0.58	0.41	4.03	3.05	67			
Central Region																				
Juab	1	26	2	16	--	--	2	--	2	2	16	2	20	0.77	0.62	8.00	8.00	--		
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	2	87	7	36	2	10	2	1	10	46	2	58	0.67	0.53	4.00	4.60	90			
Tooele	1	57	--	--	2	6	6	--	2	6	--	8	0.14	0.11	--	3.00	--			
Utah	3	285	73	397	42	164	35	18	133	561	35	729	2.56	1.97	5.44	4.22	86			
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	7	455	84	449	46	180	39	19	147	629	39	815	1.79	1.38	5.35	4.28	87			
Southern Region																				
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Northeastern Region																				
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	--	495	38	26	12	12	--	--	44	38	--	108	0.22	0.08	0.68	0.86	--			
Uintah	--	162	2	6	8	11	--	--	10	17	--	29	0.18	0.10	3.00	1.70	--			
REGIONAL TOTALS	--	657	40	32	20	23	--	--	54	55	--	109	0.17	0.08	0.80	1.02	--			
Southeastern Region																				
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Emery	1	90	1	7	4	32	5	1	6	39	5	50	0.56	0.43	7.00	6.50	83			
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	1	90	1	7	4	32	5	1	6	39	5	50	0.56	0.43	7.00	6.50	83			
STATE TOTALS	13	1,615	160	152	629	72	262	59	38	262	891	59	1,212	0.75	0.55	3.93	3.40	85		

Table 4. Trend of pheasants observed per mile during summer roadside pheasant counts, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	0.74	1.43	0.46	0.91	0.44	0.81	0.63	0.19	0.32	0.21	0.56	
Cache	0.17	0.04	0.19	0.03	0.01	0.29	0.13	0.23	0.09	0.41	0.59	
Davis	0.83	1.07	0.34	0.71	1.04	1.30	0.70	0.41	0.48	0.39	0.15	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	1.79	--	1.56	--	0.86	--	--	0.52	1.26	0.48	1.05	
REGIONAL TOTALS	0.78	0.63	0.48	0.50	0.43	0.71	0.40	0.30	0.42	0.35	0.58	0.50
Central Region												
Juab	0.61	0.44	0.77	0.48	0.71	--	0.38	0.50	0.14	--	0.77	
Salt Lake	1.24	--	1.80	0.46	2.10	1.08	--	--	1.26	1.24	--	
Sanpete	1.78	1.74	0.99	1.87	1.15	1.63	1.18	1.70	1.23	0.85	0.67	
Tooele	0.45	--	--	--	0.20	0.08	0.15	--	0.17	0.55	0.14	
Utah	3.89	1.95	2.21	--	2.13	2.35	2.00	1.00	1.45	0.58	2.56	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	2.15	1.72	1.49	1.35	1.61	1.79	1.42	1.50	1.09	0.73	1.79	1.48
Southern Region												
Beaver	0.66	0.23	0.11	0.63	0.23	0.08	0.17	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	0.07	0.31	--	0.06	0.01	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	1.15	1.28	1.09	2.27	0.98	0.67	0.67	--	0.34	0.38	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	1.37	1.27	1.52	0.62	1.82	1.95	1.30	--	--	--	--	
Washington	0.62	1.09	--	0.13	1.30	0.47	0.22	0.06	--	--	--	
Wayne	0.40	0.26	--	0.39	0.38	--	--	--	--	--	--	
REGIONAL TOTALS	1.05	0.94	1.09	1.25	1.07	1.44	0.78	0.06	0.34	0.38	--	0.84
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	0.73	0.72	0.68	0.16	0.44	0.38	0.58	0.39	0.93	0.59	0.22	
Uintah	1.27	2.97	1.33	0.35	0.46	0.55	0.45	0.24	0.52	0.29	0.18	
REGIONAL TOTALS	0.90	1.39	0.91	0.22	0.45	0.45	0.54	0.32	0.71	0.51	0.17	0.64
Southeastern Region												
Carbon	0.28	0.42	--	0.12	0.26	--	--	--	--	--	--	
Emery	0.74	0.32	0.66	0.83	0.73	0.72	1.06	1.00	0.61	0.28	0.56	
Grand	--	1.70	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.61	0.39	0.66	0.59	0.61	0.72	1.06	1.00	0.61	0.28	0.56	0.65
STATE TOTALS	1.19	1.06	0.94	0.81	0.80	1.10	0.81	0.71	0.71	0.51	0.75	0.86

Table 5. Trend of young observed per mile during summer roadside pheasant counts, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91	
Northern Region													
Box Elder	0.44	0.63	0.26	0.65	0.29	0.62	0.39	0.16	0.27	0.14	0.41		
Cache	0.11	0.00	0.13	0.02	0.00	0.25	0.09	0.14	0.06	0.23	0.42		
Davis	0.43	0.78	0.16	0.35	0.85	0.98	0.52	0.22	0.31	0.26	0.04		
Morgan	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--		
Weber	1.38	--	1.27	--	0.76	--	--	0.39	0.97	0.30	0.77		
REGIONAL TOTALS	0.52	0.35	0.32	0.33	0.32	0.55	0.28	0.20	0.32	0.21	0.41	0.34	
Central Region													
Juab	0.42	0.36	0.58	0.39	0.57	--	0.17	0.08	0.09	--	0.62		
Salt Lake	0.84	--	1.26	0.31	1.62	0.79	--	--	0.97	0.93	--		
Snapete	1.44	1.44	0.76	1.54	0.90	1.23	0.96	1.30	0.91	0.67	0.53		
Tooele	0.22	--	--	--	0.08	0.07	0.07	--	0.10	0.53	0.11		
Utah	2.52	1.34	1.36	--	1.68	1.81	1.57	1.00	1.15	0.49	1.97		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	1.63	1.31	0.99	1.09	1.26	1.37	1.11	1.10	0.87	0.59	1.38	1.13	
Southern Region													
Beaver	0.48	0.17	0.08	0.51	0.14	0.07	0.10	--	--	--	--		
Garfield	--	--	--	--	--	--	--	--	--	--	--		
Iron	0.04	0.23	--	0.05	--	0.00	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--	--		
Millard	0.83	1.00	0.89	0.20	0.76	1.55	0.50	--	0.31	0.28	--		
Piute	--	--	--	--	--	--	--	--	--	--	--		
Sevier	1.07	0.94	1.19	1.25	1.48	1.54	0.95	--	--	--	--		
Washington	0.43	0.68	--	--	0.86	0.22	0.16	--	--	--	--		
Wayne	0.21	0.12	--	0.28	0.19	--	--	--	--	--	--		
REGIONAL TOTALS	0.76	0.68	0.86	1.03	0.84	1.12	0.57	--	0.31	0.28	--	0.65	
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	0.54	0.55	0.46	0.07	0.29	0.25	0.32	0.20	0.58	0.42	0.08		
Uintah	0.95	2.25	1.12	0.29	0.33	0.40	0.30	0.14	0.35	0.21	0.10		
REGIONAL TOTALS	0.66	1.06	0.69	0.14	0.30	0.31	0.32	0.17	0.46	0.37	0.08	0.45	
Southeastern Region													
Carbon	0.18	0.27	--	0.02	0.15	--	--	--	--	--	--		
Emery	0.45	0.18	0.45	0.63	0.56	0.59	0.86	1.00	0.43	0.22	0.43		
Grand	--	1.10	--	--	--	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	0.68	0.23	0.45	0.42	0.34	0.59	0.86	1.00	0.43	0.22	0.43	0.52	
STATE TOTALS	0.85	0.73	0.66	0.60	0.61	0.79	0.63	0.62	0.48	0.38	0.55	0.63	

Table 6. Trend of young per adult hen ratios found during summer roadside pheasant counts, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	3.00	1.41	2.44	3.63	2.38	4.42	2.21	7.00	5.86	1.92	3.04	
Cache	3.43	--	3.40	1.50	--	7.17	2.33	2.60	5.50	1.57	3.38	
Davis	1.25	3.31	1.67	1.26	5.92	3.30	6.86	1.30	2.41	3.00	1.00	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	4.70	--	5.50	--	7.33	--	--	4.80	5.50	2.60	3.35	
REGIONAL TOTALS	3.00	1.98	3.23	2.60	3.92	4.18	3.44	2.90	3.86	2.02	3.05	3.11
Central Region												
Juab	3.75	6.50	4.20	4.33	4.00	--	2.00	0.23	4.00	--	8.00	
Salt Lake	2.73	--	3.58	3.13	5.10	3.88	--	--	3.80	4.22	--	
Sanpete	5.48	5.85	5.38	6.10	3.98	3.25	4.48	3.20	3.34	4.17	4.60	
Tonele	2.17	--	--	--	1.50	4.00	2.00	--	2.00	--	3.00	
Utah	3.53	2.51	1.66	--	4.16	4.18	3.94	3.80	4.31	6.41	4.22	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	3.95	3.69	2.59	5.61	4.18	3.89	4.00	4.70	3.92	5.27	4.28	4.18
Southern Region												
Beaver	4.89	3.75	2.33	5.11	2.60	6.00	1.80	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	3.00	5.33	--	3.00	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	15.00	4.86	--	
Millard	4.48	6.37	6.24	4.33	4.04	3.99	3.64	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	3.94	3.49	4.64	4.58	5.22	5.14	3.77	--	--	--	--	
Washington	3.46	2.23	--	--	2.78	1.11	3.50	--	--	--	--	
Wayne	1.67	3.33	--	3.17	2.43	--	--	--	--	--	--	
REGIONAL TOTALS	3.93	3.69	5.05	5.92	4.43	4.32	3.61	4.70	15.00	4.86	--	5.08
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	6.10	5.03	3.81	3.00	3.73	3.40	2.36	1.68	2.60	3.81	0.86	
Uintah	4.96	5.16	13.00	11.50	4.13	3.65	3.67	2.33	3.30	3.33	1.70	
REGIONAL TOTALS	5.54	5.11	6.38	5.83	3.88	3.52	2.64	2.01	2.82	3.73	1.02	4.15
Southeastern Region												
Carbon	5.67	3.13	--	0.50	3.00	--	--	--	--	--	--	
Emery	2.56	2.93	3.75	4.17	5.15	6.63	6.42	3.60	3.50	5.00	6.50	
Grand	--	5.50	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.93	3.21	3.75	3.80	4.04	6.63	6.42	3.60	3.50	5.00	6.50	4.49
STATE TOTALS	3.88	3.85	3.92	5.04	4.20	4.08	3.68	2.95	3.70	3.81	3.40	3.91

Table 7. Trend of the percent of hens observed with broods during summer roadside pheasant counts, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91	
Northern Region													
Box Elder	73	52	56	74	48	75	64	100	100	83	74		
Cache	71	--	100	50	--	83	50	56	67	70	38		
Davis	67	75	33	42	85	89	86	47	50	50	0		
Morgan	--	--	--	--	--	--	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--		
Weber	91	--	92	--	100	--	--	100	80	60	85		
REGIONAL TOTALS	76	57	66	60	62	82	67	76	74	69	67	69	
Central Region													
Juab	100	100	80	100	100	--	50	6	100	--	--		
Salt Lake	62	--	79	63	90	88	--	--	67	89	--		
Sanpete	92	92	90	92	76	85	88	81	78	83	90		
Tonele	67	--	--	--	50	100	50	--	--	--	--		
Utah	71	60	63	--	86	94	81	66	89	76	86		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	76	71	70	56	84	91	82	51	81	80	87	74	
Southern Region													
Beaver	89	50	33	89	80	100	40	--	--	--	--		
Garfield	--	--	--	--	--	--	--	--	--	--	--		
Iron	100	100	--	100	--	--	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--	--		
Millard	73	94	100	84	98	86	86	--	100	100	--		
Piute	--	--	--	--	--	--	--	--	--	--	--		
Sevier	83	76	91	88	87	86	69	--	--	--	--		
Washington	77	83	--	--	64	22	50	--	--	--	--		
Wayne	78	--	--	83	100	--	--	--	--	--	--		
REGIONAL TOTALS	80	83	91	85	88	82	74	--	100	100	--	87.1	
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--		
Duchesne	66	82	67	75	73	96	39	61	60	84	--		
Uintah	86	75	86	75	73	91	75	56	79	100	--		
REGIONAL TOTALS	75	77	72	75	73	94	46	59	67	86	--	72	
Southeastern Region													
Carbon	67	63	--	50	66	--	--	--	--	--	--		
Emery	58	64	65	67	92	100	100	64	64	100	83		
Grand	--	--	100	--	--	--	--	--	--	--	--		
San Juan	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	59	67	65	65	91	100	100	64	64	100	83	78	
STATE TOTALS	75	74	75	62	83	87	72	64	76	79	85	75	

Table 8. Trend of average brood size for pheasants, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	4.13	4.00	4.63	5.77	5.33	6.00	4.80	8.00	5.40	3.20	4.00	
Cache	6.50	--	3.40	3.00	--	4.80	4.00	4.00	4.50	5.20	4.67	
Davis	2.00	5.40	3.33	3.50	5.12	4.40	6.60	4.50	4.20	6.00	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	5.66	--	6.00	6.33	--	--	5.50	4.30	--	4.33	3.94	
REGIONAL TOTALS	4.88	4.58	4.72	5.11	5.41	5.10	5.40	5.40	5.00	4.53	4.03	5.01
Central Region												
Juab	3.75	6.50	6.00	4.33	4.67	--	4.00	4.00	4.00	--	8.00	
Salt Lake	4.44	4.44	4.75	5.00	5.70	3.80	3.80	--	5.00	4.25	--	
Sanpete	5.93	6.39	6.38	8.28	5.10	4.80	5.80	4.20	4.40	5.00	4.00	
Tooele	3.50	--	--	--	3.00	4.00	4.00	--	3.00	--	--	
Utah	4.99	4.02	2.95	--	4.75	4.90	4.80	5.10	5.00	5.13	5.44	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5.15	5.01	3.75	7.42	4.89	4.80	5.00	4.40	4.70	4.92	5.35	5.00
Southern Region												
Beaver	5.00	6.50	7.00	5.75	3.25	6.00	4.50	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	3.00	5.33	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	3.80	5.40	--	
Millard	6.30	6.40	6.00	40.63	3.72	5.30	4.90	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	4.56	5.14	5.10	5.17	5.69	5.80	5.60	--	--	--	--	
Washington	4.40	3.90	--	--	4.14	5.00	7.00	--	--	--	--	
Wayne	2.00	--	--	3.33	2.25	--	--	--	--	--	--	
REGIONAL TOTALS	4.98	5.18	5.421	7.35	4.70	5.60	5.30	5.30	3.80	15.40	5.30	
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	
Duchesne	7.31	4.50	5.87	4.00	5.75	3.90	5.30	2.70	5.30	4.50	0.68	
Uintah	4.25	5.11	5.50	6.33	5.71	4.40	5.30	4.20	4.90	3.33	3.00	
REGIONAL TOTALS	5.84	4.87	5.72	4.78	5.74	4.10	5.30	3.50	5.10	4.18	0.80	4.91
Southeastern Region												
Carbon	6.00	3.00	--	1.00	--	--	--	--	--	--	--	
Emery	4.42	6.60	5.00	5.20	6.89	5.00	7.10	5.70	5.60	4.50	7.00	
Grand	--	5.50	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	4.64	5.30	5.00	4.82	5.46	5.00	7.10	5.70	5.60	4.50	7.00	5.31
STATE TOTALS	5.11	5.03	4.78	6.71	4.94	5.10	5.30	4.60	4.80	4.61	3.93	5.10

Table 9. Summary of pheasant hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	308	16,847	10,805	0.64	11.21	12.59
CACHE	246	14,128	8,370	0.59	9.40	9.76
DAVIS	162	8,690	2,505	0.29	5.78	2.92
MORGAN	4	106	0	0.00	0.07	0.00
RICH	0	0	0	0.00	0.00	0.00
SUMMIT	0	0	0	0.00	0.00	0.00
WEBER	256	14,484	5,651	0.39	9.64	6.59
REGIONAL TOTALS	976	54,257	27,333	0.50	36.11	31.86
CENTRAL REGION						
JUAB	95	4,194	2,754	0.66	2.79	3.21
SALT LAKE	117	5,580	2,150	0.39	3.71	2.51
SANPETE	163	8,175	4,887	0.60	5.44	5.70
TOOELE	86	4,496	1,066	0.24	2.99	1.24
UTAH	643	37,747	24,667	0.65	25.12	28.75
WASATCH	4	177	53	0.30	0.12	0.06
REGIONAL TOTALS	1,108	60,371	35,579	0.59	40.18	41.47
SOUTHERN REGION						
BEAVER	20	710	266	0.38	0.47	0.31
GARFIELD	0	0	0	0.00	0.00	0.00
IRON	19	675	177	0.26	0.45	0.21
KANE	1	35	0	0.00	0.02	0.00
MILLARD	187	9,099	6,895	0.76	6.06	8.04
PIUTE	4	159	159	1.00	0.11	0.19
SEVIER	121	6,735	3,287	0.49	4.48	3.83
WASHINGTON	12	639	390	0.61	0.43	0.46
WAYNE	2	124	142	1.14	0.08	0.17
REGIONAL TOTALS	366	18,180	11,320	0.62	12.10	13.19
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	124	6,504	5,118	0.79	4.33	5.97
UINTAH	71	4,496	3,074	0.68	2.99	3.58
REGIONAL TOTALS	195	11,000	8,192	0.74	7.32	9.55
SOUTHEASTERN REGION						
CARBON	37	2,274	1,101	0.48	1.51	1.28
EMERY	72	3,945	2,097	0.53	2.63	2.44
GRAND	3	88	124	1.40	0.06	0.14
SAN JUAN	2	53	53	1.00	0.04	0.06
REGIONAL TOTALS	114	6,362	3,376	0.53	4.23	3.94
UNKNOWN	1	71	0	0.00	0.05	0.00
STATE TOTALS	2,760	150,244	85,803	0.57	100.00	100.00

* Total hunter trips from questionnaire returns.

Table 10. Summary of pheasants bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.66	0.52	0.62	0.49	0.40	0.58	0.53	0.64
Cache	0.42	0.44	0.52	0.47	0.32	0.46	0.51	0.59
Davis	0.46	0.36	0.43	0.32	0.28	0.26	0.34	0.29
Morgan	0.05	0.18	0.70	1.71	0.40	(0.67)	(0.15)	(0.00)
Rich	(0.17)	0.00	(1.00)	(0.18)	(0.17)	0.00	0.00	(0.00)
Summit	0.00	0.00	(0.67)	0.00	(0.67)	0.00	(0.05)	(0.00)
Weber	0.55	0.39	0.40	0.34	0.29	0.34	0.37	0.39
REGIONAL TOTALS	0.53	0.42	0.49	0.40	0.32	0.42	0.44	0.50
<u>Central Region</u>								
Juab	0.70	0.64	0.66	0.49	0.38	0.39	0.57	0.66
Salt Lake	0.53	0.40	0.45	0.26	0.32	0.51	0.32	0.39
Sanpete	0.98	0.72	0.73	0.80	0.65	0.57	0.59	0.60
Tooele	0.60	0.44	0.56	0.31	0.29	0.36	0.44	0.24
Utah	0.65	0.64	0.68	0.64	0.58	0.53	0.55	0.65
Wasatch	(0.55)	(0.17)	(0.32)	(0.60)	(1.33)	0.00	0.68	(0.30)
REGIONAL TOTALS	0.69	0.60	0.65	0.5	0.54	0.51	0.53	0.59
<u>Southern Region</u>								
Beaver	0.52	0.56	0.37	0.41	0.39	0.68	0.55	0.38
Garfield	0.17	0.58	0.14	2.75	0.71	0.00	0.00	(0.00)
Iron	0.49	0.32	0.28	0.23	0.34	0.34	0.29	0.26
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)
Millard	0.88	0.77	0.68	0.60	0.66	0.74	0.59	0.76
Piute	0.56	0.83	0.67	0.42	1.12	(0.50)	(0.10)	(1.00)
Sevier	0.71	0.68	0.65	0.57	0.45	0.42	0.36	0.49
Washington	0.42	0.40	0.21	0.39	0.33	0.38	0.21	0.61
Wayne	1.22	0.33	0.24	0.63	(0.46)	0.00	(0.50)	(1.14)
REGIONAL TOTALS	0.73	0.67	0.60	0.77	0.52	0.56	0.45	0.62
<u>Northeastern Region</u>								
Daggett	(0.50)	0.00	(0.50)	(0.20)	0.00	0.00	0.00	(0.00)
Duchesne	0.88	0.84	0.87	0.90	0.62	0.78	0.66	0.79
Uintah	0.62	0.79	0.80	0.64	0.42	0.57	0.47	0.68
REGIONAL TOTALS	0.75	0.81	0.83	0.56	0.53	0.69	0.58	0.74
<u>Southeastern Region</u>								
Carbon	0.42	0.39	0.47	0.51	0.39	0.30	0.22	0.48
Emery	0.58	0.46	0.48	0.68	0.44	0.44	0.50	0.53
Grand	(2.00)	(0.50)	(0.86)	(0.20)	(0.33)	(0.33)	(0.48)	(1.40)
San Juan	0.40	0.58	1.64	1.50	(2.00)	0.00	(0.36)	(1.00)
REGIONAL TOTALS	0.51	0.44	0.53	0.63	0.43	0.39	0.39	0.53
Unknown Counties	1.00	0.40	0.63	0.54	0.60	0.00	0.00	0.00
STATE TOTALS	0.63	0.55	0.60	0.53	0.46	0.49	0.48	0.57

() 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, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	9.84	8.16	9.00	8.30	7.65	12.70	11.67	12.59
Cache	3.61	4.07	4.83	5.09	4.01	7.53	9.68	9.76
Davis	7.34	5.80	6.12	5.48	4.80	3.96	4.38	2.92
Morgan	0.01	0.05	0.14	0.20	0.15	(0.21)	(0.07)	(0.00)
Rich	(0.01)	0.00	(0.02)	(0.03)	(0.03)	0.00	0.00	(0.00)
Summit	0.00	0.00	(0.04)	0.00	(0.05)	0.00	0.02	(0.00)
Weber	12.28	8.81	5.46	7.42	7.40	8.39	(8.03)	6.59
<u>REGIONAL TOTALS</u>	<u>33.08</u>	<u>26.90</u>	<u>25.63</u>	<u>26.55</u>	<u>24.09</u>	<u>32.79</u>	<u>33.85</u>	<u>31.86</u>
<u>Central Region</u>								
Juab	2.13	2.95	3.47	1.94	1.69	2.09	2.47	3.21
Salt Lake	5.28	4.90	4.48	2.18	2.67	4.30	2.23	2.51
Sanpete	10.25	10.32	9.53	10.63	10.76	7.92	5.94	5.70
Tooele	2.61	2.63	2.79	2.20	2.03	2.19	1.72	1.24
Utah	17.24	22.25	23.70	25.83	27.35	23.44	27.43	28.75
Wasatch	(0.09)	(0.02)	(0.12)	(0.15)	(0.51)	0.00	0.50	(0.06)
<u>REGIONAL TOTALS</u>	<u>37.52</u>	<u>43.07</u>	<u>44.12</u>	<u>42.96</u>	<u>45.02</u>	<u>39.94</u>	<u>40.30</u>	<u>41.47</u>
<u>Southern Region</u>								
Beaver	0.51	0.65	0.45	0.56	0.36	0.73	0.69	0.31
Garfield	0.04	0.13	0.02	0.18	0.13	0.00	0.00	(0.00)
Iron	0.72	0.47	0.32	0.25	0.62	0.50	0.55	0.21
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(0.00)
Millard	7.85	8.30	6.29	6.03	7.99	8.71	7.62	8.04
Piute	0.13	0.18	0.24	0.18	0.74	(0.08)	(0.02)	(0.19)
Sevier	6.58	7.42	7.07	6.34	5.75	3.94	3.62	3.83
Washington	0.70	0.61	0.24	0.22	1.05	0.78	0.43	0.46
Wayne	0.16	0.04	0.16	0.08	(0.15)	0.00	(0.02)	(0.17)
<u>REGIONAL TOTALS</u>	<u>16.70</u>	<u>17.80</u>	<u>14.82</u>	<u>13.88</u>	<u>16.80</u>	<u>14.73</u>	<u>12.96</u>	<u>13.19</u>
<u>Northeastern Region</u>								
Daggett	(0.03)	0.00	(0.08)	(0.05)	0.00	0.00	0.00	(0.00)
Duchesne	5.04	4.11	5.26	6.34	5.86	5.71	5.73	5.97
Uintah	3.72	4.16	4.74	3.91	3.16	3.15	3.07	3.58
<u>REGIONAL TOTALS</u>	<u>8.76</u>	<u>8.27</u>	<u>10.09</u>	<u>10.30</u>	<u>9.01</u>	<u>8.86</u>	<u>8.79</u>	<u>9.55</u>
<u>Southeastern Region</u>								
Carbon	1.26	1.37	1.37	1.48	1.90	0.76	0.84	1.28
Emery	2.44	2.32	3.00	3.93	2.88	2.76	2.92	2.44
Grand	0.06	0.11	0.37	(0.01)	(0.08)	(0.16)	(0.24)	(0.14)
San Juan	0.03	0.13	0.47	0.10	(0.15)	0.00	(0.10)	(0.06)
<u>REGIONAL TOTALS</u>	<u>3.78</u>	<u>3.93</u>	<u>5.22</u>	<u>5.53</u>	<u>5.01</u>	<u>3.68</u>	<u>4.10</u>	<u>3.94</u>
Unknown Counties	0.16	0.04	0.10	0.75	0.08	0.00	0.00	0.00
<u>STATE TOTALS</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

() Data may be biased 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, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	9.38	8.60	8.67	8.91	8.77	10.67	10.66	11.21
Cache	5.39	5.16	5.59	5.69	5.68	7.98	9.18	9.40
Davis	10.00	8.92	8.43	8.95	7.85	7.32	6.31	5.78
Morgan	0.20	0.17	0.12	0.06	0.18	(0.15)	(0.23)	(0.07)
Rich	(0.05)	0.00	0.01	0.09	(0.07)	(0.01)	(0.02)	(0.00)
Summit	(0.04)	(0.01)	0.03	0.09	(0.04)	(0.01)	(0.23)	(0.00)
Weber	14.05	12.36	8.19	11.42	11.59	12.13	10.47	9.64
REGIONAL TOTALS	39.03	35.22	31.06	35.24	34.17	38.29	37.10	36.11
Central Region								
Juab	1.91	2.54	3.15	2.11	2.02	2.61	2.11	2.79
Salt Lake	6.31	6.72	5.91	4.54	3.84	4.11	3.41	3.71
Sanpete	6.55	7.86	7.76	7.04	7.55	6.81	4.87	5.44
Tooele	2.76	3.29	2.99	3.80	3.17	2.95	1.91	2.99
Utah	16.81	19.12	20.72	21.42	21.39	21.57	24.00	25.12
Wasatch	(0.10)	(0.06)	(0.23)	(0.13)	(0.18)	0.00	0.36	(0.12)
REGIONAL TOTALS	34.34	39.59	40.78	39.06	38.15	38.06	36.66	40.18
Southern Region								
Beaver	0.66	0.64	0.73	0.72	0.42	0.52	0.61	0.47
Garfield	0.17	0.12	0.08	0.03	0.08	(0.08)	0.01	(0.00)
Iron	0.91	0.80	0.70	0.58	0.83	0.71	0.92	0.45
Kane	(0.02)	(0.02)	0.00	0.00	(0.01)	0.00	0.00	(0.02)
Millard	5.60	5.95	5.49	5.29	5.52	5.74	6.27	6.06
Piute	0.15	0.12	0.22	0.23	0.30	(0.08)	(0.12)	(0.11)
Sevier	5.83	6.00	6.48	5.91	5.79	4.58	4.86	4.48
Washington	1.04	0.84	0.71	0.29	1.47	1.02	1.01	0.43
Wayne	0.08	0.06	0.41	0.07	(0.15)	(0.06)	(0.02)	(0.08)
REGIONAL TOTALS	14.39	14.56	14.85	13.16	14.58	12.80	13.82	12.10
Northeastern Region								
Daggett	(0.04)	(0.02)	(0.09)	(0.13)	(0.01)	(0.01)	0.00	(0.00)
Duchesne	3.58	2.69	3.61	3.74	4.27	3.55	4.22	4.33
Uintah	3.77	2.91	3.56	3.22	3.41	2.71	3.16	2.99
REGIONAL TOTALS	7.34	5.62	7.27	7.10	7.70	6.28	7.38	7.32
Southeastern Region								
Carbon	1.71	1.90	(0.06)	1.92	1.76	1.54	2.21	1.51
Emery	2.43	2.66	2.79	3.71	3.05	2.99	2.80	2.63
Grand	0.10	0.02	0.12	0.25	0.04	(0.11)	(0.24)	(0.06)
San Juan	0.05	0.12	0.17	0.03	(0.04)	(0.01)	(0.13)	(0.04)
REGIONAL TOTALS	4.63	4.94	5.91	4.67	5.34	4.57	5.04	4.23
Unknown Counties	0.47	0.25	0.05	0.09	0.74	0.06	0.00	0.05
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

() Data may be biased because sample size inflated county harvest beyond reasonable estimate for known pheasant populations.

Table 13. Statewide summary of pheasant harvest statistics, 1948-92.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Pheasants Per Hunter-Day	Pheasants Per Hunter
1948	96,534	280,914	—	—	2.91
1949	88,369	263,340	189,453	1.39	2.98
1950	92,724	249,428	235,309	1.06	2.69
1951	76,576	246,575	171,233	1.44	3.22
1952	78,773	246,559	185,383	1.33	3.13
1953	82,595	245,307	176,480	1.39	2.97
1954	82,370	260,289	201,774	1.29	3.16
1955	78,793	196,195	178,359	1.10	2.49
1956	77,826	206,239	182,512	1.13	2.65
1957	83,025	228,319	170,387	1.34	2.75
1958	88,290	309,015	220,725	1.40	3.50
1959	86,268	243,276	202,730	1.21	2.82
1960	81,976	232,812	177,719	1.31	2.84
1961	83,493	238,439	243,305	0.98	2.86
1962	86,336	262,448	209,921	1.25	3.04
1963	87,647	297,873	198,582	1.50	3.40
1964	88,242	225,775	196,314	1.15	2.56
1965	77,409	211,876	186,215	1.14	2.74
1966	78,721	249,814	209,082	1.19	3.17
1967	85,664	284,000	257,033	1.10	3.32
1968	90,453	297,752	267,788	1.11	3.29
1969	90,573	250,241	277,887	0.90	2.76
1970	78,585	250,503	244,958	1.02	3.19
1971	87,878	259,189	294,618	0.88	2.95
1972	84,311	240,573	327,669	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
1987	57,118	119,236	199,470	0.60	2.09
1988	54,514	97,658	184,180	0.53	1.79
1989	50,382	80,769	177,364	0.46	1.60
1990	47,025	78,944	161,634	0.49	1.68
1991	42,813	72,612	150,096	0.48	1.70
1992	41,640	85,803	150,244	0.57	2.06
Totals					
(1948-92)	3,496,402	9,400,274	9,712,430	--	--
Averages					
(1948-91)	78,517	211,693	217,322	0.94	2.64

Table 14. Pheasant field bag check summary, 1992.

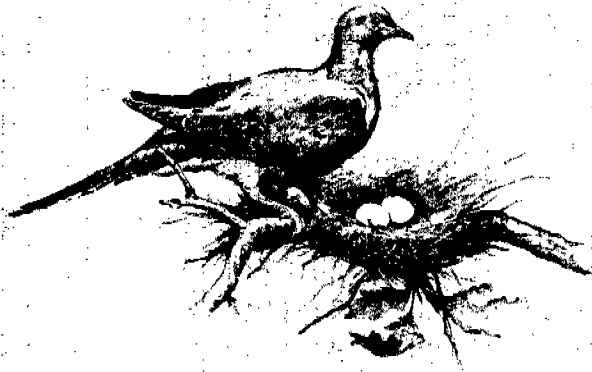
Region and County	All Hunts				Complete Hunts				Birds/ Hunter		
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/ 100 Hr	Complete Hunts	Total Hunters	Total Hours		Total Birds	Birds/ 100 Hr
Northern Region											
Box Elder	--	53	52	1	2	--	240	--	71	--	0.30
Cache	--	36	18	10	56	--	--	--	--	--	--
Davis	--	91	120	15	13	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	98	81	25	31	--	--	--	--	--	--
REGIONAL TOTALS	--	278	271	51	19	--	240	--	71	--	0.30
Central Region											
Juab	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--
Sanpete	21	90	304	38	13	6	29	112	15	13	0.52
Tooele	--	--	--	--	--	--	--	--	--	--	--
Utah	164	336	938	145	15	56	103	304	78	26	0.76
Wasatch	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	185	426	1,242	183	15	62	132	416	93	22	0.70
Southern Region											
Beaver	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region											
Daggett	--	--	--	--	--	--	--	--	--	--	--
Duchesne	34	106	378	49	13	4	8	58	9	16	1.13
Uintah	3	5	4	2	50	2	4	4	2	50	0.50
REGIONAL TOTALS	37	111	382	51	13	6	12	62	11	18	0.92
Southeastern Region											
Carbon	1	5	15	1	7	--	--	--	--	--	--
Emery	68	148	436	66	15	22	53	80	27	34	0.51
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	69	153	451	67	15	22	53	80	27	34	0.51
STATE TOTALS	291	988	2,346	352	15	90	437	558	202	36	0.46

Table 15. Pheasant hunter success trend as determined by field check, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	Birds/100 Hr	Birds/Hunter	Birds/100 Hr	Birds/Hunter	Birds/100 Hr	Birds/Hunter	Birds/100 Hr	Birds/Hunter	Birds/100 Hr	Birds/Hunter	Birds/100 Hr	Birds/Hunter
Northern Region												
Box Elder	11	0.29	7	0.21	8	0.22	18	0.27	100	1.00	--	0.30
Cache	31	1.25	2	0.08	4	0.10	7	0.23	40	0.57	--	--
Davis	18	0.80	8	0.20	2	0.06	8	0.19	--	0.00	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	9	0.13	11	0.21	9	0.12	--	--	27	1.00	--	--
REGIONAL TOTALS	11	0.23	28	0.20	8	0.18	33	0.27	24	0.30	--	0.30
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	13	0.38	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	17	1.05	13	0.52
Tooele	--	--	--	--	8	0.26	--	--	--	--	--	--
Utah	24	0.68	16	0.50	24	0.53	19	0.40	13	0.34	26	0.76
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	24	0.11	16	0.08	19	0.46	17	0.40	14	0.47	22	0.70
Southern Region												
Beaver	6	0.18	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	9	0.50	10	0.33	4	0.24	8	0.48	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	6	1.67	56	0.56	--	--	--	--	--	--	--	--
Washington	33	0.50	17	0.22	38	0.71	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	12	0.40	12	0.37	4	0.24	8	0.05	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	13	0.50	27	1.96	16	0.85	16	0.84	13	0.50	16	1.13
Uintah	--	--	8	0.53	4	0.15	10	0.43	--	--	50	0.50
REGIONAL TOTALS	13	0.50	20	1.41	14	0.68	14	0.65	13	0.48	18	0.92
Southeastern Region												
Carbon	0	0.00	25	0.71	25	0.50	--	--	--	--	--	--
Emery	6	0.33	--	0.43	26	0.63	9	0.19	22	0.36	34	0.51
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	5	0.32	25	0.71	26	0.53	9	0.19	22	0.36	34	0.51
STATE TOTALS	13	0.32	11	0.35	10	0.30	12	0.36	16	0.42	36	0.46

MIGRATORY UPLAND GAME BIRDS

SUMMARY



Mourning Doves

The breeding density index decreased slightly in 1992, and remained well below average.

Harvest statistics derived from the questionnaire indicated a decrease in number of hunters and harvest compared to 1991. However, hunter success for the season increased slightly.

Field bag checks indicated a slight increase in hunter success on opening day. Hunters who participated hunted more hours than the previous year, but spent less time afield per dove harvested.

Aging of wings indicated the juvenile per 100 adult ratio decreased to 92 compared to 116 in 1991. Juvenile per 100 adult ratio remains 21 percent below the long-term average.

Band-tailed Pigeons

A band-tailed pigeon hunting permit was required again in 1992 to obtain mailing addresses for a questionnaire. Twenty hunters purchased permits and 18 went afield. A total of 73 pigeons were harvested. Hunter interest remains low.



MOURNING DOVE

Call Count Survey

Results of the 1992 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 U.S. Fish and Wildlife Service. However, indicated trends are similar (Figure 1). The following is a comparison of the results of the 1992 survey compared to 1991 and the average for the period 1968-1991:

	<u>1992</u>	<u>Percent change from 1991</u>	<u>Average</u>
Average doves heard per route	9.20	-8	-20
Average doves seen per route	5.53	-31	-44

Coo count data indicated slightly decreased breeding activity in late May compared to 1991, but was 20 percent below the long-term average of doves heard per route.

Harvest

Hunter Questionnaire

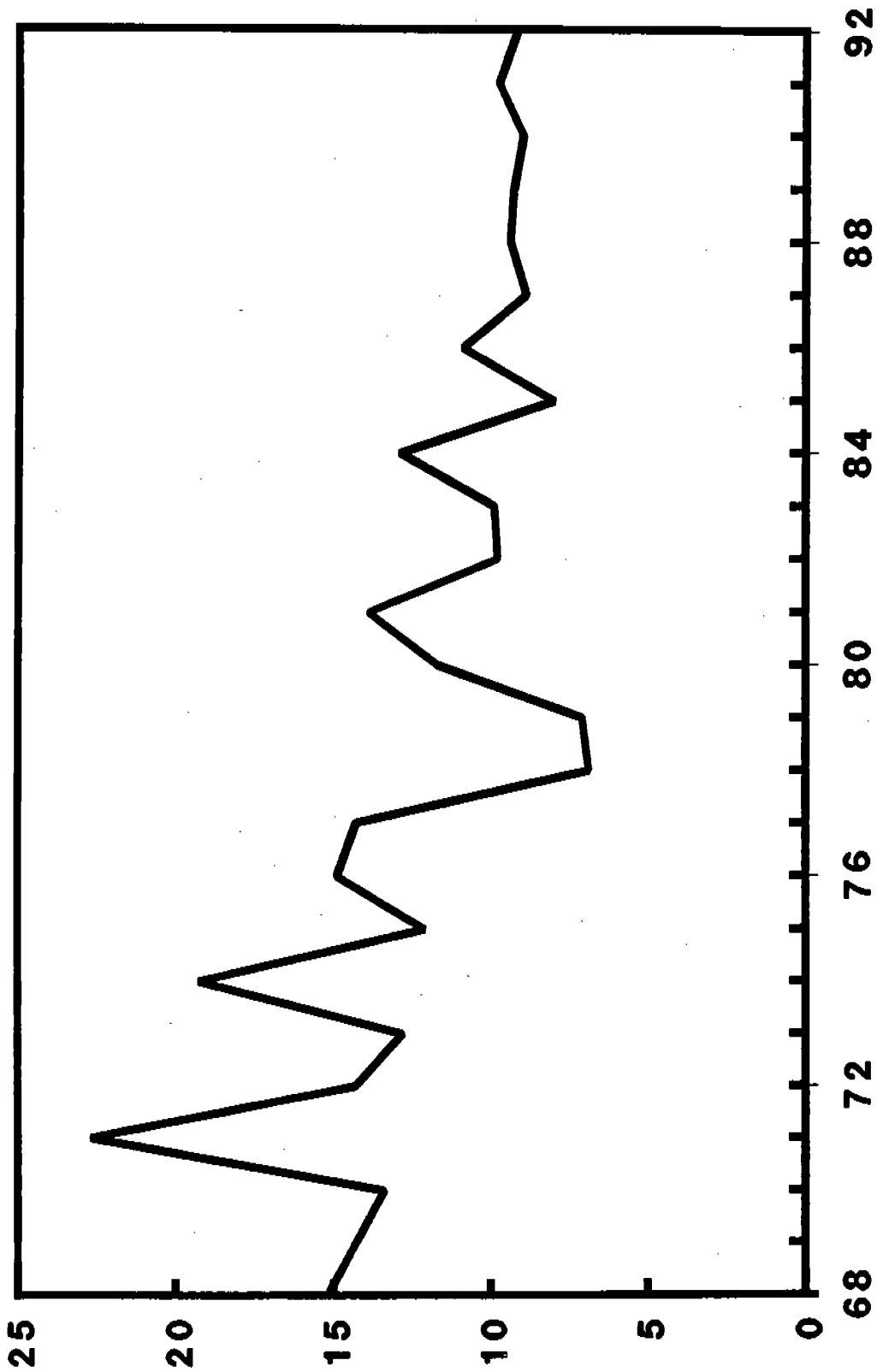
Information obtained from the hunter questionnaire for 1992 is summarized in Table 3. Long-term trends of mourning doves bagged per hunter-day, percent of harvest and percent of pressure (hunter-days) by county are found in Tables 4-6 and total statewide harvest statistics in Table 7 and Figures 2 and 3. The following is a comparison of the harvest statistics for 1992 compared to 1991 and the previous 41-year average:

	<u>1992</u>	<u>Percent change from 1991</u>	<u>Average</u>
Mourning dove hunters	18,021	-20	-19
Mourning doves harvested	161,902	-9	-22
Hunter-days afield	68,937	-12	0
Mourning doves per hunter-day	2.35	+3	-30
Mourning doves per hunter	8.98	+14	-1

Dove hunter success was predicted to be similar to 1991 due to the second year of no significant change in the spring dove call count index and summer drought. Hunter success dropped slightly from 1991. Total harvest decreased 9 percent compared to 1991. Numbers of dove hunters and hunter-days afield decreased slightly. Doves per hunter-day and doves per hunter increased slightly from 1991.

Long-term harvest trends are depicted in Figure 2.

AVERAGE DOVES HEARD PER ROUTE



YEAR

Figure 1. Mourning dove breeding density index trend, 1968-92.

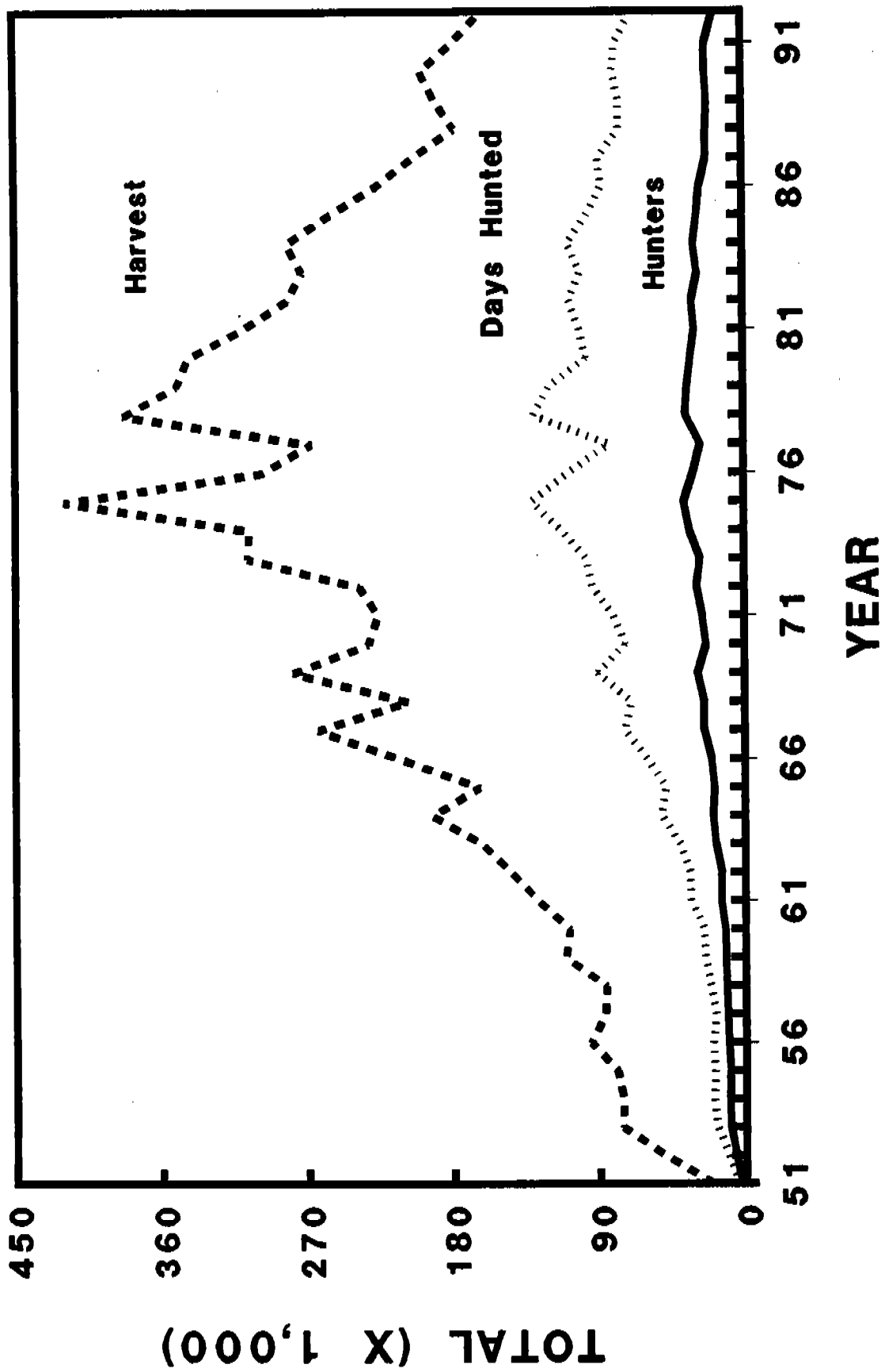


Figure 2. Statewide trends of mourning dove harvest statistics, 1951-92.

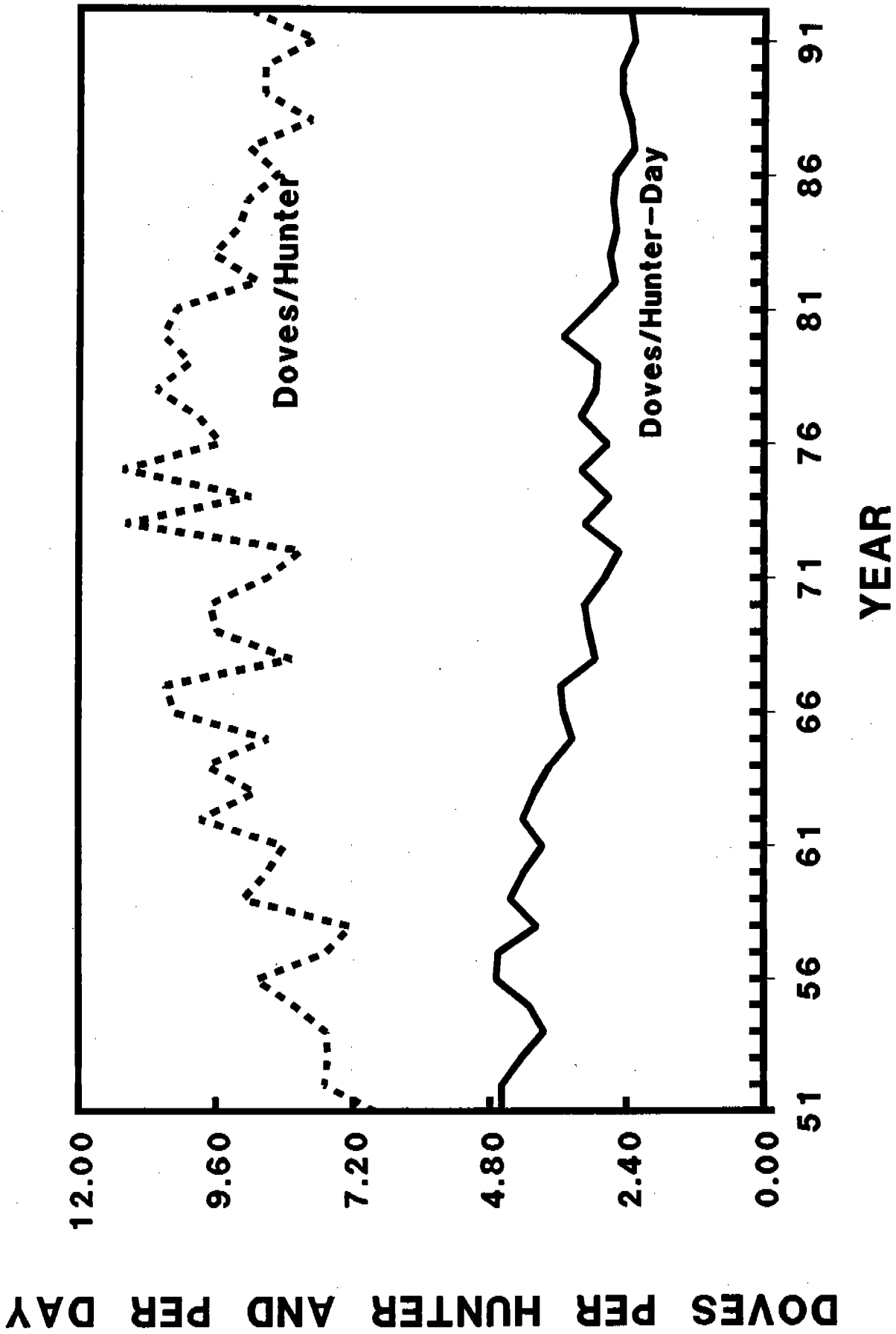
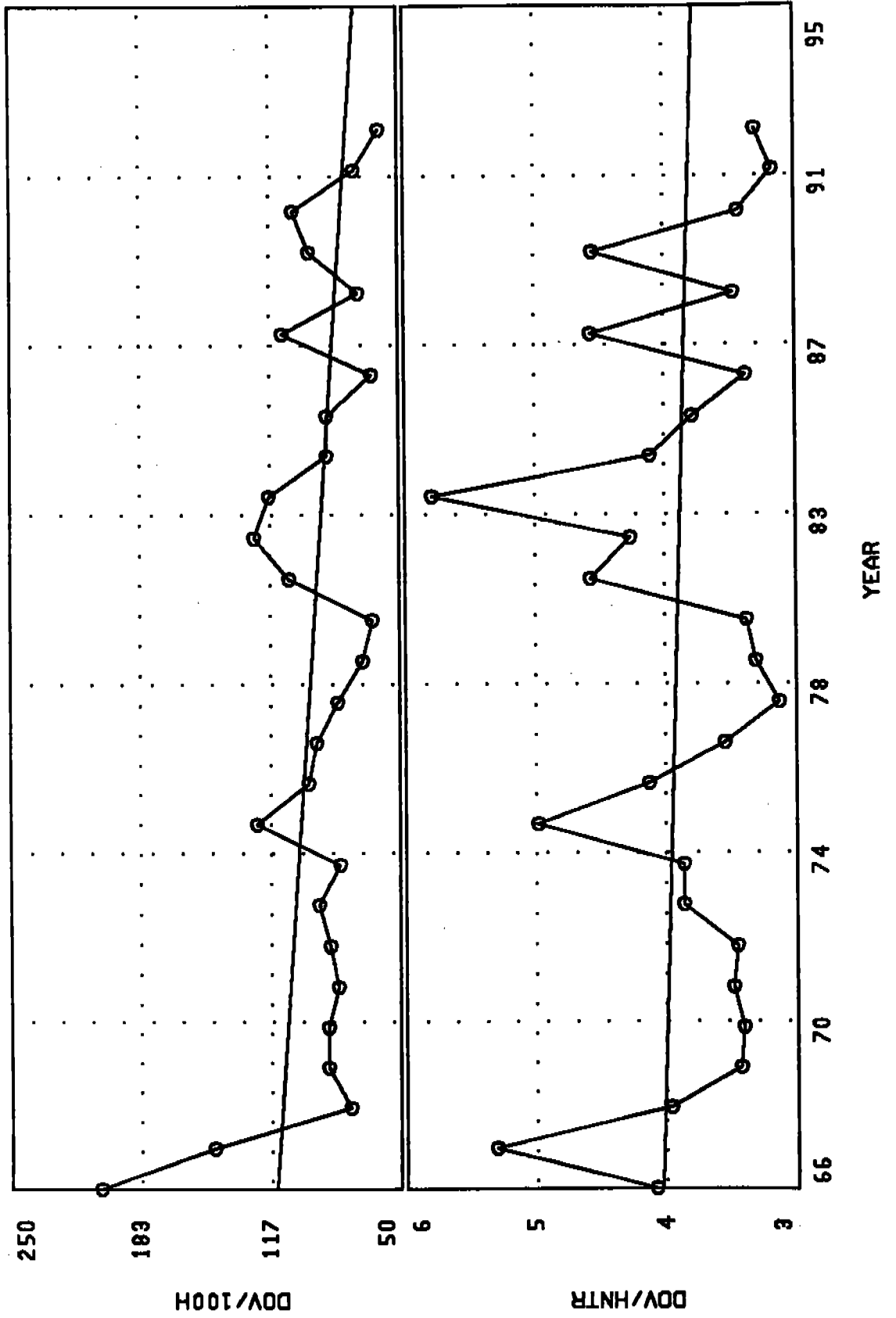


Figure 3. Statewide trends of mourning dove hunter success rates, 1951-92.

FIGURE 4. MOURNING DOVE FIELD BAG CHECK INDICES, 1966-92.



Field Bag Checks

A summary of field bag check data for 1992 is shown in Table 8. Hunter success trends determined via this method are shown in Table 9. Results of the 1992 survey compared to 1991 and the 10-year average (1982-91) follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	392	-62	-75
Total hours hunted	1,853	-51	-68
Doves per hunter (complete hunts)	2.85	+6	-24
Doves bagged per 100 hours (complete hunts)	60	-18	-33
Average hours per hunter-day (complete hunts)	4.72	+28	+21
Hours hunted per dove bagged (complete hunts)	0.60	-56	-45

This year's hunt opened on Tuesday, September 1, 1992. Hunter participation could have been off a bit because of the weekday opening. Field bag checks indicated a slight increase in hunter success. The total number of hunters checked was down 62 percent from 1991. Dove hunters spent more time afield per hunter-day than in 1991, and less 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 1983 through 1992 is contained in Table 10. Hatching dates for immature doves harvested in the Northern Region since 1982 are shown in Table 11. Hatching dates for immature doves harvested in Utah in 1992 are shown in Table 12.

Following is a comparison of data collected in 1992 compared to 1991 and long-term averages (1966-91):

	<u>1992</u>	<u>Percent change from</u> <u>1991</u>	<u>Average</u>
Sample size	887	-52	-72
Immatures/100 adults	92	-19	-21
Percent of immatures hatched on: (N. Region)			
August 3 or later	37.82	--	+7
July 25 or later	79.96	--	+9
Before July 25	20.04	--	+6

Sample size decreased 52 percent in 1992. The 92 immatures per 100 adults in the harvest was down 19 percent from the previous year and 21 percent below the 26-year average.

Table 1. Summary of the mourning dove call-count survey for 1992.

Region and County	Route Number	Total Doves Heard / Route	Total Doves Seen / Route
Northern Region			
Box Elder	R1500	4	16
Summit	R1020	4	1
REGIONAL TOTALS		8	17
Central Region			
Juab	R2830	15	4
REGIONAL TOTALS		15	4
Southern Region			
Beaver	R3820	3	10
Garfield	R1090	3	0
Iron	R4000	26	5
Millard	R3640	7	5
Sevier-Sanpete	R0370	5	16
Washington	R4310	12	0
Wayne-Sevier	R0660	3	0
REGIONAL TOTALS		59	36
Northeastern Region			
Duchesne	R0080	3	0
Unitah	R0220	2	4
REGIONAL TOTALS		5	4
Southeastern Region			
Emery	R0540	8	7
San Juan	R1171	34	14
San Juan	R1450	9	1
REGIONAL TOTALS		51	22
STATE TOTALS		138	83
STATE AVERAGES		9.20	5.53
PERCENT CHANGE (from previous year)		-8	-31

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, 1978-92.

Region and County	Route Number	Number of Doves Heard Per Route														
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region																
Box Elder	R1500	2	9	4	8	--	1	0	0	1	2	0	0	1	1	4
Summit	R1020	5	6	5	4	5	--	1	4	5	3	5	3	3	3	4
REGIONAL TOTALS		7	15	9	12	5	1	1	4	6	5	5	3	4	4	8
Central Region																
Juah	R2830	31	15	31	22	9	25	19	20	19	16	23	13	36	38	15
REGIONAL TOTALS		31	15	31	22	9	25	19	20	19	16	23	13	36	38	15
Southern Region																
Beaver	R3820	0	5	9	7	13	3	6	6	4	17	13	14	9	--	3
Garfield	R1090	0	0	0	9	2	3	15	3	1	1	0	16	0	0	3
Iron	R4000	12	14	40	36	21	19	31	41	26	23	20	10	12	15	26
Millard	R3640	8	4	2	10	9	5	14	2	2	3	5	4	5	8	7
Sevier-Sanpete	R0370	0	0	3	0	0	3	5	4	4	3	3	2	6	2	5
Washington	R4310	1	4	3	6	0	14	1	0	6	7	1	6	12	14	12
Wayne-Sevier	R0660	1	2	5	14	4	--	17	3	2	0	3	7	5	0	3
REGIONAL TOTALS		22	29	62	82	49	47	89	59	45	54	45	59	49	39	59
Northeastern Region																
Duchesne	R0060	2	2	1	13	7	0	1	8	3	4	8	13	11	7	3
Utah	R0220	4	--	49	19	1	9	10	5	20	12	6	0	2	3	2
REGIONAL TOTALS		6	2	50	32	8	9	11	13	23	16	14	13	13	10	5
Southeastern Region																
Emery	R0540	10	9	7	22	7	11	10	3	10	11	15	8	2	5	8
San Juan	R1170	24	28	14	38	26	30	57	25	60	31	37	43	31	38	34
San Juan	R1450	3	1	3	0	24	5	7	2	0	1	2	1	0	3	9
REGIONAL TOTALS		37	38	24	60	57	46	74	30	70	43	54	52	33	46	51
STATE TOTALS		103	99	176	208	128	128	194	126	163	134	141	140	135	137	138
STATE AVERAGES		6.87	6.60	11.73	13.87	8.53	8.53	12.93	8.40	10.87	8.93	9.40	9.33	9.00	9.79	9.20
PERCENT CHANGE (from previous year)		-52	-4	78	18	-38	0	52	-35	29	-18	5	-1	-4	1	-8

Table 3. Summary of mourning dove hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	101	5,740	14,715	2.56	8.33	9.09
CACHE	79	5,402	11,658	2.16	7.84	7.20
DAVIS	21	1,563	1,866	1.19	2.27	1.15
MORGAN	8	533	1,315	2.47	0.77	0.81
RICH	8	462	1,048	2.27	0.67	0.65
SUMMIT	6	426	1,386	3.25	0.62	0.86
WEBER	66	4,158	7,428	1.79	6.03	4.59
REGIONAL TOTALS	289	18,287	39,418	2.16	26.53	24.35
CENTRAL REGION						
JUAB	92	3,270	10,911	3.34	4.74	6.74
SALT LAKE	65	3,892	8,335	2.14	5.65	5.15
SANPETE	48	2,807	5,775	2.06	4.07	3.57
TOOELE	94	5,047	10,787	2.14	7.32	6.66
UTAH	207	13,844	24,543	1.77	20.08	15.16
WASATCH	12	675	1,599	2.37	0.98	0.99
REGIONAL TOTALS	518	29,536	61,953	2.10	42.85	38.27
SOUTHERN REGION						
BEAVER	15	995	3,394	3.41	1.44	2.10
GARFIELD	2	53	88	1.67	0.08	0.05
IRON	29	2,274	9,010	3.96	3.30	5.57
KANE	6	390	1,581	4.05	0.57	0.98
MILLARD	103	5,793	19,104	3.30	8.40	11.80
PIUTE	5	373	497	1.33	0.54	0.31
SEVIER	51	3,785	9,170	2.42	5.49	5.66
WASHINGTON	18	959	2,434	2.54	1.39	1.50
WAYNE	5	124	355	2.86	0.18	0.22
REGIONAL TOTALS	234	14,750	45,638	3.09	21.40	28.19
NORTHEASTERN REGION						
DAGGETT	2	71	231	3.25	0.10	0.14
DUCHESNE	15	870	1,954	2.24	1.26	1.21
UINTAH	23	1,581	3,252	2.06	2.29	2.01
REGIONAL TOTALS	40	2,523	5,438	2.15	3.66	3.36
SOUTHEASTERN REGION						
CARBON	21	1,244	1,883	1.51	1.80	1.16
EMERY	35	1,901	5,900	3.10	2.76	3.64
GRAND	2	53	0	0.00	0.08	0.00
SAN JUAN	11	639	1,670	2.61	0.93	1.03
REGIONAL TOTALS	69	3,838	9,454	2.46	5.57	5.84
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	1,150	68,937	161,902	2.35	100.00	100.00

* Total hunter trips from questionnaire returns.

Table 4. Summary of mourning doves bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	2.18	3.18	3.46	3.41	2.83	2.73	2.27	2.56
Cache	2.34	1.92	1.79	1.92	2.24	1.67	1.97	2.16
Davis	1.53	1.24	1.18	1.51	1.31	1.53	1.77	1.19
Morgan	1.72	2.04	3.00	2.36	1.03	1.73	2.31	2.47
Rich	2.28	3.72	0.00	2.63	1.26	1.95	3.45	2.27
Summit	1.92	1.08	2.50	2.19	1.61	7.00	1.78	3.25
Weber	1.68	1.63	1.15	1.21	1.88	1.48	1.30	1.79
REGIONAL TOTALS	1.92	2.26	2.19	2.09	2.20	2.02	1.99	2.16
<u>Central Region</u>								
Juab	5.16	4.54	2.95	3.25	4.45	3.70	3.33	3.34
Salt Lake	1.91	1.95	1.36	1.84	2.18	2.37	2.02	2.14
Sanpete	2.71	3.51	1.88	2.75	2.40	3.06	2.69	2.06
Tooele	2.55	2.87	2.17	2.31	2.88	1.90	2.29	2.14
Utah	2.50	2.14	2.30	1.97	2.08	2.05	1.89	1.77
Wasatch	1.50	1.97	0.82	1.20	1.22	2.42	2.11	2.37
REGIONAL TOTALS	2.71	2.72	2.11	2.23	2.55	2.41	2.25	2.10
<u>Southern Region</u>								
Beaver	3.43	2.02	1.72	3.50	4.35	1.71	3.32	3.41
Garfield	0.60	0.20	1.67	3.86	2.27	2.34	2.40	1.67
Iron	4.99	3.54	3.10	3.71	2.91	4.38	2.80	3.96
Kane	2.54	1.06	3.06	1.71	3.11	1.00	3.03	4.05
Millard	4.30	3.58	2.83	3.01	3.54	4.42	3.13	3.30
Piute	1.60	1.62	1.67	4.17	0.00	1.45	2.50	1.33
Sevier	2.33	1.82	2.15	2.03	2.70	2.18	2.09	2.42
Washington	3.17	3.90	2.68	3.37	2.12	2.81	3.63	2.54
Wayne	2.47	2.57	5.65	2.29	3.53	0.61	0.75	2.86
REGIONAL TOTALS	3.53	2.85	2.62	2.90	3.01	3.20	2.87	3.09
<u>Northeastern Region</u>								
Daggett	0.00	1.20	0.83	0.00	0.25	2.00	1.00	3.25
Duchesne	2.50	2.70	2.46	2.83	1.42	1.85	2.21	2.24
Uintah	2.39	1.91	2.82	2.68	2.33	3.17	1.06	2.06
REGIONAL TOTALS	2.39	2.05	2.55	2.68	1.82	2.46	1.64	2.15
<u>Southeastern Region</u>								
Carbon	2.76	2.76	1.94	2.06	0.75	1.18	2.15	1.51
Emery	3.28	1.62	2.41	2.87	1.77	2.04	1.68	3.10
Grand	2.00	4.28	2.41	2.00	2.18	4.04	1.13	0.00
San Juan	3.38	3.26	4.08	2.91	4.22	1.69	3.56	2.61
REGIONAL TOTALS	3.01	2.54	2.76	2.56	1.85	2.07	2.14	2.46
Unknown Counties	0.00	0.00	1.93	1.30	2.86	0.00	0.00	0.00
STATE TOTALS	2.59	2.65	2.61	2.28	2.49	2.49	2.28	2.35

Table 5. Percentage distribution of mourning dove harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	5.48	10.36	11.51	10.31	12.06	9.95	9.60	9.09
Cache	3.85	2.46	2.99	2.94	4.87	3.34	5.54	7.20
Davis	2.91	2.08	1.93	3.27	2.01	2.57	2.39	1.15
Morgan	0.76	0.44	0.18	0.61	0.44	0.59	0.65	0.81
Rich	0.55	1.08	0.00	0.66	0.26	0.38	0.97	0.65
Summit	0.84	0.12	0.18	0.65	0.32	0.51	0.16	0.86
Weber	4.21	2.71	2.12	3.67	3.54	3.54	2.39	4.59
REGIONAL TOTALS	18.61	19.26	18.92	22.15	23.50	20.88	21.71	24.35
<u>Central Region</u>								
Juab	10.97	11.09	8.36	8.09	9.79	9.45	8.78	6.74
Salt Lake	5.59	5.50	5.39	4.37	3.56	5.71	5.00	5.15
Sanpete	4.08	5.54	2.88	4.30	4.34	3.23	4.84	3.57
Tooele	7.42	11.39	8.55	10.92	8.58	6.37	8.56	6.66
Utah	17.75	14.38	20.06	16.17	16.27	12.83	16.37	15.16
Wasatch	0.98	0.52	0.61	0.90	0.54	1.08	0.94	0.99
REGIONAL TOTALS	46.79	48.42	45.87	44.78	43.08	38.67	44.50	38.27
<u>Southern Region</u>								
Beaver	1.55	1.82	1.67	1.76	2.28	1.29	1.94	2.10
Garfield	0.02	0.01	0.12	0.25	1.09	0.92	0.35	0.05
Iron	4.05	3.82	3.24	3.22	3.07	6.20	3.07	5.57
Kane	0.28	0.30	0.66	0.33	0.64	0.07	0.91	0.98
Millard	10.25	9.42	9.80	11.73	9.92	13.35	9.29	11.80
Piute	0.56	0.19	0.24	0.46	0.00	0.57	0.68	0.31
Sevier	3.24	3.50	4.67	3.59	6.11	4.05	4.80	5.66
Washington	2.44	3.26	2.28	1.10	2.62	4.99	5.16	1.50
Wayne	0.35	0.33	1.35	0.14	0.73	0.11	0.03	0.22
REGIONAL TOTALS	22.75	22.64	24.05	22.63	26.46	31.57	26.22	28.19
<u>Northeastern Region</u>								
Daggett	0.00	0.16	0.12	0.00	0.02	0.06	0.01	0.14
Duchesne	1.42	1.05	0.76	1.27	0.85	1.62	2.61	1.21
Uintah	2.78	1.92	2.81	2.46	1.70	2.46	1.21	2.01
REGIONAL TOTALS	4.20	3.14	3.70	3.73	2.57	4.15	3.82	3.36
<u>Southeastern Region</u>								
Carbon	2.93	1.65	0.74	1.67	0.44	0.41	1.24	1.16
Emery	3.35	1.83	2.66	3.70	2.23	2.85	1.16	3.64
Grand	0.27	1.24	0.84	0.18	0.26	0.96	0.18	0.00
San Juan	1.10	1.81	2.54	0.59	1.24	0.51	1.18	1.03
REGIONAL TOTALS	7.65	6.54	6.80	6.16	4.17	4.74	3.74	5.84
Unknown counties	0.00	0.00	0.64	0.53	0.22	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 6. Percentage distribution of mourning dove hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	6.68	8.50	7.59	7.07	10.62	9.07	9.63	8.33
Cache	4.37	3.34	3.81	3.59	5.43	4.96	6.43	7.84
Davis	5.04	4.38	3.75	5.08	3.80	4.19	3.08	2.27
Morgan	1.18	0.57	0.13	0.61	1.06	0.85	0.64	0.77
Rich	0.64	0.76	0.00	0.59	0.52	0.49	0.64	0.67
Summit	1.15	0.28	0.16	0.70	0.49	0.18	0.20	0.62
Weber	6.66	4.35	4.22	7.11	4.70	5.94	4.19	6.03
REGIONAL TOTALS	25.74	22.17	19.69	24.77	26.62	25.67	24.83	26.53
<u>Central Region</u>								
Juab	5.64	6.37	6.47	5.82	5.49	6.35	6.01	4.74
Salt Lake	7.75	7.36	9.02	5.52	4.07	5.99	5.64	5.65
Sanpete	4.00	4.12	3.51	3.65	4.51	2.62	4.10	4.07
Tooele	7.73	10.36	8.99	11.08	7.41	8.33	8.54	7.32
Utah	18.88	17.53	19.93	19.18	19.53	15.52	19.75	20.08
Wasatch	1.73	0.69	1.70	1.77	1.11	1.11	1.02	0.98
REGIONAL TOTALS	45.73	46.43	49.64	47.09	42.12	39.91	45.06	42.85
<u>Southern Region</u>								
Beaver	1.20	2.34	2.22	1.18	1.30	1.88	1.33	1.44
Garfield	0.11	0.12	0.16	0.15	1.20	0.98	0.33	0.08
Iron	2.15	2.82	2.38	2.03	2.63	3.52	2.51	3.30
Kane	0.29	0.73	0.49	0.46	0.52	0.18	0.69	0.57
Millard	6.33	6.86	7.89	9.11	6.98	7.50	6.77	8.40
Piute	0.93	0.31	0.32	0.26	0.05	0.98	0.62	0.54
Sevier	3.69	4.99	4.96	4.14	5.65	4.63	5.24	5.49
Washington	2.04	2.18	1.94	0.76	3.07	4.42	3.24	1.39
Wayne	0.38	0.33	0.54	0.15	0.52	0.46	0.09	0.18
REGIONAL TOTALS	17.12	20.68	20.95	18.26	21.92	24.54	20.81	21.40
<u>Northeastern Region</u>								
Daggett	0.07	0.35	0.32	0.06	0.22	0.08	0.02	0.10
Duchesne	1.51	1.02	0.71	1.05	1.49	2.18	2.68	1.26
Uintah	3.09	2.63	2.27	2.14	1.82	1.93	2.60	2.29
REGIONAL TOTAL	4.66	4.00	3.31	3.26	3.53	4.19	5.30	3.66
<u>Southeastern Region</u>								
Carbon	2.82	1.56	0.87	1.90	1.44	0.87	1.31	1.80
Emery	2.71	2.96	2.52	3.02	3.15	3.47	1.58	2.76
Grand	0.35	0.76	0.79	0.21	0.30	0.59	0.36	0.08
San Juan	0.87	1.44	1.42	0.48	0.73	0.75	0.75	0.93
REGIONAL TOTALS	6.75	6.72	5.62	5.62	5.62	5.68	3.99	5.57
Unknown counties	0.00	0.00	0.76	0.96	0.19	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 7. Statewide summary of mourning dove harvest statistics, 1951-92.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Doves Per Hunter-Day	Doves Per Hunter
1951	3,007	20,448	4,455	4.59	6.80
1952	6,420	49,498	10,784	4.59	7.71
1953	9,887	75,636	17,797	4.25	7.65
1954	9,901	75,941	19,724	3.85	7.67
1955	9,653	79,444	19,282	4.12	8.23
1956	10,744	95,729	20,411	4.69	8.91
1957*	11,298	86,769	18,620	4.66	7.68
1958	11,853	85,934	21,591	3.98	7.25
1959	12,142	110,856	24,911	4.45	9.13
1960	12,440	108,477	25,766	4.21	8.72
1961	15,192	128,001	33,434	3.89	8.42
1962	14,663	144,826	34,281	4.23	9.89
1963	18,258	162,769	40,490	4.02	8.91
1964	19,829	193,538	51,671	3.75	9.76
1965	18,710	164,087	48,835	3.36	8.69
1966	20,594	212,696	60,608	3.51	10.33
1967	25,161	263,949	74,171	3.56	10.49
1968	25,105	207,922	70,186	2.96	8.28
1969	29,131	279,311	90,965	3.07	9.59
1970	23,908	232,469	73,984	3.14	9.72
1971	26,064	226,645	81,271	2.79	8.70
1972	29,341	238,354	94,046	2.53	8.12
1973	27,435	307,062	97,788	3.14	11.19
1974	34,021	306,076	112,967	2.71	9.00
1975	37,378	420,308	131,312	3.20	11.24
1976	31,293	298,505	108,780	2.74	9.54
1977	26,905	267,487	83,218	3.21	9.94
1978	35,985	383,696	130,173	2.95	10.66
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
1987***	22,553	204,030	89,378	2.28	9.05
1988	22,457	178,469	76,219	2.34	7.95
1989	21,696	190,328	76,372	2.49	8.77
1990	22,700	199,007	80,076	2.49	8.77
1991	22,632	178,853	78,405	2.28	7.90
1992	18,021	161,902	68,937	2.35	8.98
Totals					
(1951-92)	929,320	8,664,606	2,891,419	--	--
Averages					
(1951-91)	22,227	207,383	68,841	3.33	9.05

* Estimated.

**Bag limit increased to 15.

***Bag limit reduced to 10.

Table 8. Mourning dove field bag check summary, 1992.

Region and County	All Hunts				Complete Hunts				
	Total Parties	Total Hunters	Total Hours	Total Birds	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hr Hunter
Northern Region									
Box Elder	5	20	19	64					
Cache	8	18	12	82					
Davis	12	23	35	30					
Morgan									
Rich									
Summit									
Weber									
REGIONAL TOTALS	25	61	66	176					267
Central Region									
Juab									
Salt Lake									
Sanpete									
Towele									
Utah									
Wasatch									
REGIONAL TOTALS									
Southern Region									
Beaver									
Garfield									
Iron									
Kane									
Millard									
Piute									
Sevier									
Washington									
Wayne									
REGIONAL TOTALS									
Northeastern Region									
Daggett									
Duchesne									
Uintah									
REGIONAL TOTALS									
Southeastern Region									
Carbon	6	13	42	92	6	13	42	92	219 7.08
Emery	13	24	47	94	9	15	23	61	265 4.07
Grand									
San Juan									
REGIONAL TOTALS	19	37	89	186	15	28	65	153	235 5.46
LEHI CHECK STATION	27	64	247	118	111	213	1,170	581	50 2.73
NEPHI CHECK STATION	20	42	143	63	44	96	461	385	84 4.01
THIHKOL CHECK STATION					26	55	157	200	127 3.64
STATE TOTALS	91	204	545	543	194	392	1,853	1,119	60 2.85

Table 9. Mourning dove hunter success trend as determined by field bag checks, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	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	143	5.52	81	3.21	110	4.55	38	2.29	200	2.27	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	64	1.20	33	0.50	160	5.00	110	1.77	158	1.88	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	40	0.71	39	0.83	73	1.00	--	--
REGIONAL TOTALS	140	5.20	80	3.10	109	4.42	42	1.93	147	1.79	--	--
Central Region												
Juab	--	--	--	--	133	6.39	116	4.60	64	2.49	--	--
Salt Lake	--	--	--	--	37	1.30	--	--	14	0.50	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tonele	--	--	--	--	--	--	285	10.00	--	--	--	--
Utah	--	--	--	--	91	3.47	65	2.43	76	2.86	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	108	4.28	114	2.95	70	2.69	--	--
Southern Region												
Beaver	131	5.75	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	550	11.00	167	2.50	467	1.40	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	64	2.73	175	1.08	--	--	104	7.78	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	333	10.00	--	--	--	--	--	--	--	--
Washington	--	--	206	5.54	369	1.20	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	126	5.23	213	3.68	444	1.33	104	7.78	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	111	3.33	111	3.33	214	8.57	--	--	--	--	--	--
REGIONAL TOTALS	111	3.33	111	3.33	214	8.57	--	--	--	--	--	--
Southeastern Region												
Carbon	--	--	85	2.80	--	--	--	--	--	--	219	7.08
Emery	641	7.05	139	4.00	--	--	127	4.00	300	7.50	265	4.07
Grand	--	--	--	--	92	2.00	--	--	--	--	--	--
San Juan	397	7.38	200	4.00	--	--	129	6.00	250	5.00	--	--
REGIONAL TOTALS	485	7.22	113	3.40	92	2.00	127	4.90	294	7.14	235	5.46
LEHI CHECK STATION	78	3.23	50	2.19	91	3.47	65	2.43	76	2.86	50	2.73
NEPH CHECK STATION	114	5.09	89	5.12	133	6.39	104	7.78	64	2.49	84	4.01
THOOKOL CHECK STATION	--	--	--	--	--	--	--	--	--	--	127	3.64
STATE TOTALS	110	4.33	71	3.05	110	4.31	104	3.00	73	2.70	60	2.85

Table 10. Age composition (Immatures/100 Adults) of Mourning Doves Harvested, 1982-92.

Region and County	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91 Average										
	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)	I/100A(n)										
Northern Region																						
Box Elder	124	716	143	515	135	1,172	146	137	131	1,066	129	770	82	435	239	487	-	-	-			
Cache	-	-	67	5	-	181	45	-	-	325	17	-	-	-	-	-	-	-	-			
Davis	107	56	55	17	121	42	85	74	-	-	-	-	-	-	-	-	-	-	-			
Morgan	-	-	188	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Rich	4,200	43	-	-	53	23	609	7	-	-	-	-	-	-	-	-	-	-	-			
Summit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Weber	-	138	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	135	815	143	617	133	1,237	138	263	131	1,066	152	787	82	435	239	487	-	-	142	716		
Central Region																						
Juab	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Salt Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Snapete	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Tonele	80	137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Utah	100	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Wasatch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	89	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	169		
Southern Region																						
Beaver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Garfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Kane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Millard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Plate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Sevier	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Washington	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Wayne	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Northeastern Region																						
Daggett	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Duchesne	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Uintah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Southeastern Region																						
Carbon	160	138	-	-	-	-	-	-	-	-	-	-	-	128	73	-	-	-	68	84		
Emery	76	88	-	-	52	67	80	187	70	187	85	37	79	143	81	96	169	70	-	-		
Grand	-	-	-	-	-	-	-	-	-	-	50	10	-	-	-	-	-	-	-	-		
San Juan	-	-	-	-	53	227	63	275	31	42	56	39	93	137	36	30	63	150	-	-		
REGIONAL TOTALS	119	226	-	-	53	294	63	462	61	229	56	86	93	353	68	126	81	304	73	254		
LEHI CHECK STATION	83	1,075	84	1,021	96	1,517	107	1,391	137	1,396	130	1,293	114	741	92	978	116	144	109	587	-	
NEPHI CHECK STATION	62	754	108	1,239	198	1,130	107	1,678	140	1,137	188	1,004	1,047	671	64	955	134	829	126	772	93	
THORKOL CHECK STATION	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	115	370	90	
STATE TOTALS	91	3,009	106	2,877	131	3,884	117	3,332	127	3,913	137	3,536	100	1,641	77	2,454	127	1,813	114	1,855	92	

Table 11. Percent of harvest by hatching date of immature mourning doves in northern Utah, 1983-92.

Date Hatched	Age (Days)	P	PERCENT OF HARVEST BY HATCH DATE										SAMPLE SIZE									
			1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Aug 3	29	none	22.80	43.10	44.70	31.20	34.80	--	41.30	52.20	--	37.82	77	304	115	192	155	--	81	254	--	118
Jul 31	32	1	21.30	29.40	26.80	35.00	21.80	--	30.10	26.70	--	32.05	72	207	69	215	97	--	59	130	--	100
Jul 25	38	2	21.00	19.00	14.00	15.60	17.50	--	18.40	13.10	--	10.90	71	134	36	96	78	--	36	64	--	34
Jul 18	45	3	14.80	6.00	3.90	8.60	10.60	--	6.60	4.30	--	9.29	50	42	10	53	47	--	13	21	--	29
Jul 9	54	4	9.20	2.10	1.90	4.70	5.70	--	2.60	2.30	--	4.49	31	15	5	29	25	--	5	11	--	14
Jun 30	63	5	6.20	0.40	1.60	2.80	4.30	--	0.50	0.60	--	4.17	21	3	4	17	19	--	1	3	--	13
Jun 21	72	6	2.10	0.00	0.00	1.30	3.80	--	0.00	0.40	--	0.96	7	0	0	8	17	--	0	2	--	3
Jun 8	85	7	2.40	--	0.00	0.50	1.10	--	0.50	--	--	0.32	8	0	0	3	5	--	1	--	--	1
May 22	102	8	0.00	--	0.00	0.30	0.20	--	0.00	--	--	--	1	0	0	2	1	--	0	--	--	--
Apr 27	127	9	--	--	0.00	0.00	0.20	--	0.00	0.40	--	--	0	0	0	0	1	--	0	2	--	--
Apr 21	133	10	--	--	7.00	0.00	0.00	--	0.00	0.00	--	--	0	0	18	0	0	--	0	--	--	--
			99.80	100	99.90	100	100	--	100	100	--	100	338	705	257	615	445	--	196	487	--	312

P = Last primary molted.

Table 12. Percent of harvest by hatching date of immature mourning doves in Utah, 1992.

Date Hatched (Days)	Age	P	PERCENT OF HARVEST BY HATCH DATE						SAMPLE SIZE													
			Lehi		Nephi		C Region		Thiokol		SE		Lehi		Nephi		C Region		Thiokol		SE	
			CS	CS	CS	CS	Total	Region	CS	CS	Total	Region	CS	CS	Total	Region	CS	CS	Total	Region		
Aug 3	29	none	45.95	47.94	47.08	--	75.00	68	93	161	--	42										
Jul 31	32	1	25.00	23.71	24.27	--	0.00	37	46	83	--	--										
Jul 25	38	2	12.84	13.92	13.45	--	10.71	19	27	46	--	6										
Jul 18	45	3	5.41	8.25	7.02	--	8.93	8	16	24	--	5										
Jul 9	54	4	4.05	3.61	3.80	--	1.79	6	7	13	--	1										
Jun 30	63	5	5.41	2.06	3.51	--	1.79	8	4	12	--	1										
Jun 21	72	6	0.68	0.52	0.58	--	1.79	1	1	2	--	1										
Jun 8	85	7	0.68	0.00	0.29	--	0.00	1	0	1	--	0										
May 22	102	8	0.00	0.00	0.00	--	0.00	0	0	0	--	0										
Apr 27	127	9	0.00	0.00	0.00	--	0.00	0	0	0	--	0										
Apr 21	133	10	0.00	0.00	0.00	--	0.00	0	0	0	--	0										
			100	100	100	--	100	148	194	342	--	56										

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 1992 band-tailed pigeon harvest is in Table 13. Permits were required in 1992 and a questionnaire was sent to participants. Only 20 hunters purchased the \$3.00 band-tailed pigeon permit in 1992. Harvest trends since 1970 are shown in Figures 4 & 5 and Table 14.

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Band-tailed pigeon hunters	18	+20	-62
Band-tailed pigeon harvest	73	+135	-44
Hunter-days afield	70	+250	-43
Pigeons per hunter-day	1.05	-30	+3
Pigeons per hunter	4.29	+104	+55

Band-tailed pigeon hunters afield increased slightly from 1991, but remains 62 percent below the long-term average. Hunter success rates remained above the long-term average. Seventy-three birds were harvested. Forty-two of these were suspected of being feral pigeons due to the location of harvest. Pigeon harvest was reported in Beaver, Davis, Iron, San Juan, Sanpete, Utah and Washington Counties. Most of the harvest for 1992 was reported in Davis County, but these birds were suspected of being feral.

Table 13. Band-tailed pigeon harvest statistics, 1992.

Area Hunted	Participating Hunters		Hunter-Days Afield		Harvest		Pigeons/ Hunter-Day	Percent Pressure**	Percent Harvest
	Reported	Calc.	Reported	Calc.	Reported	Calc.			
Beaver County	1	2	2	3	3	5	1.50	9	7
Blue Mountain-Elk Ridge	*	*	*	*	*	*	*	*	*
Carbon County	*	*	*	*	*	*	*	*	*
Garfield County	*	*	*	*	*	*	*	*	*
Davis County***	1	2	6	10	25	42	4.17	9	57
Iron County	4	7	14	23	9	15	0.64	36	20
Kane County	*	*	*	*	*	*	*	*	*
LaSal Mountain	1	2	7	12	0	0	0.00	9	0
Millard County	*	*	*	*	*	*	*	*	*
Piute County	*	*	*	*	*	*	*	*	*
Sanpete County	2	3	4	7	0	0	0.00	18	0
Utah County	1	2	2	3	3	5	1.50	9	7
Washington County	1	2	7	12	4	7	0.57	9	9
Wayne County	*	*	*	*	*	*	*	*	*
Mixed Counties (Washington and Iron)	*	*	*	*	*	*	*	*	*
Totals	11	18	42	70	44	73	1.05	100	100

**Based on hunter-days.

***Closed to band-tailed pigeon hunting—birds harvested are suspected of being feral pigeons.

Projection Factor = 1.666666667 (20 permits issued/12 questionnaires returned)

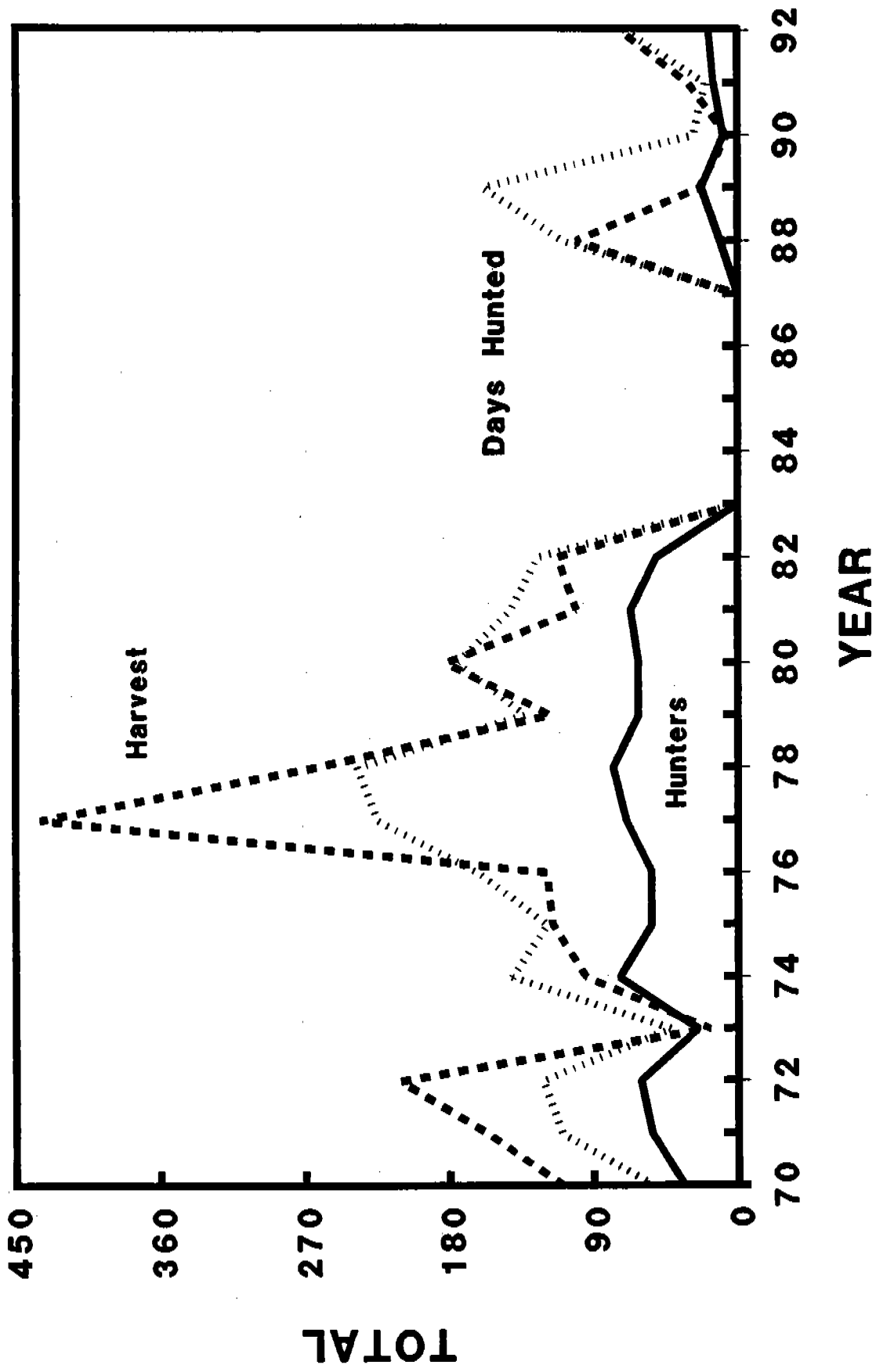


Figure 4. Statewide trends of band-tailed pigeon harvest statistics, 1970-92.

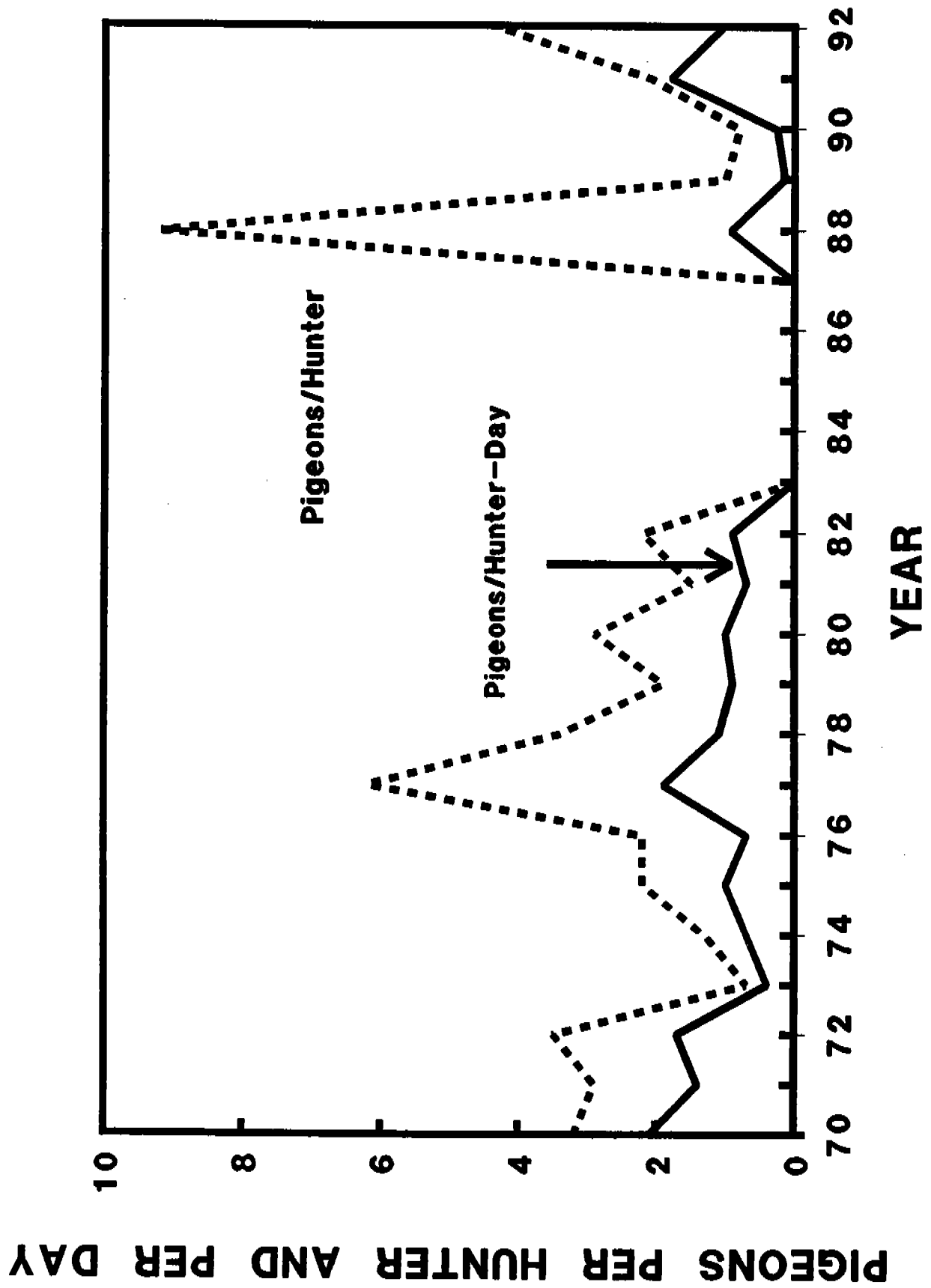


Figure 5. Statewide trends of band-tailed pigeon hunter success rates, 1970-92.

Table 14. Statewide summary of band-tailed pigeon harvest statistics, 1970-92.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Pigeons/Hunter-Day	Pigeons/Hunter
1970	34	109	53	2.10	3.20
1971	54	156	110	1.40	2.90
1972	61	211	122	1.70	3.50
1973	25	18	42	0.40	0.70
1974	74	95	141	0.70	1.30
1975	54	116	119	1.00	2.20
1976	54	119	162	0.70	2.20
1977	70	435	225	1.90	6.20
1978	78	264	238	1.10	3.40
1979	62	117	133	0.90	1.90
1980	62	182	175	1.00	2.90
1981	67	101	142	0.70	1.50
1982	51	113	125	0.90	2.20
1983	--	--	--	--	--
1984	--	--	--	--	--
1985	--	--	--	--	--
1986	--	--	--	--	--
1987	--	--	--	--	--
1988	11	101	109	0.93	9.20
1989	23	24	159	0.15	1.00
1990	9	7	28	0.26	0.80
1991	15	31	20	1.50	2.10
1992	18	73	70	1.05	4.06
Totals (1970-92)	822	2,272	2,173	--	--
Averages (1970-91)	47	129	124	1.02	2.78

CHUKAR PARTRIDGE

SUMMARY

The statewide breeding population of chukars decreased slightly in 1992 following the seventh straight year of drought over much of Utah. Late winter and early spring precipitation, critical to successful chukar production, was average.

Results of the brood survey indicated that brood production was below average. Chukar density decreased during 1992, and was below average.

Harvest statistics from mail questionnaires reflected an increase in harvest. Hunter success (chukars per hunter-day) increased slightly from 1991. Chukar hunters increased by 5 percent, while time afield decreased 45 percent from the year before. Hunting success on opening weekend, as measured by field bag checks, indicated increased hunter success.

Interest in chukar hunting increased in 1992. This may be as a result of sportsmen exploring bird hunting opportunities other than the more popular pheasants and mourning doves because of decreased populations.



Brood Counts

Results of the annual random brood survey for 1992 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and chukars observed per 100 hours are found in Tables 2-4 and Figure 1. Following are the survey results for 1992 compared to 1991 and the 10-year (1982-91) average:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total chukars observed	126	+66	-76
Young per 100 adults	215	-60	-52
Mean brood size	7.83	+7	+4
Chukars observed per 100 hours	200	-25	-55
Total hours effort	63	+117	-47

Harvest data for 1991 indicated breeding populations for 1992 were still significantly below statewide averages. However, winter and early spring precipitation (January-April) was average over the entire state (Figure 4). Summer drought continued over most of Utah for the seventh straight year.

Effort on chukar brood counts increased significantly in 1992 but remained below average.

Brood count sample sizes were again small or nonexistent for all regions. Chukar density remained below the 10-year average and production seemed to be down from 1991.

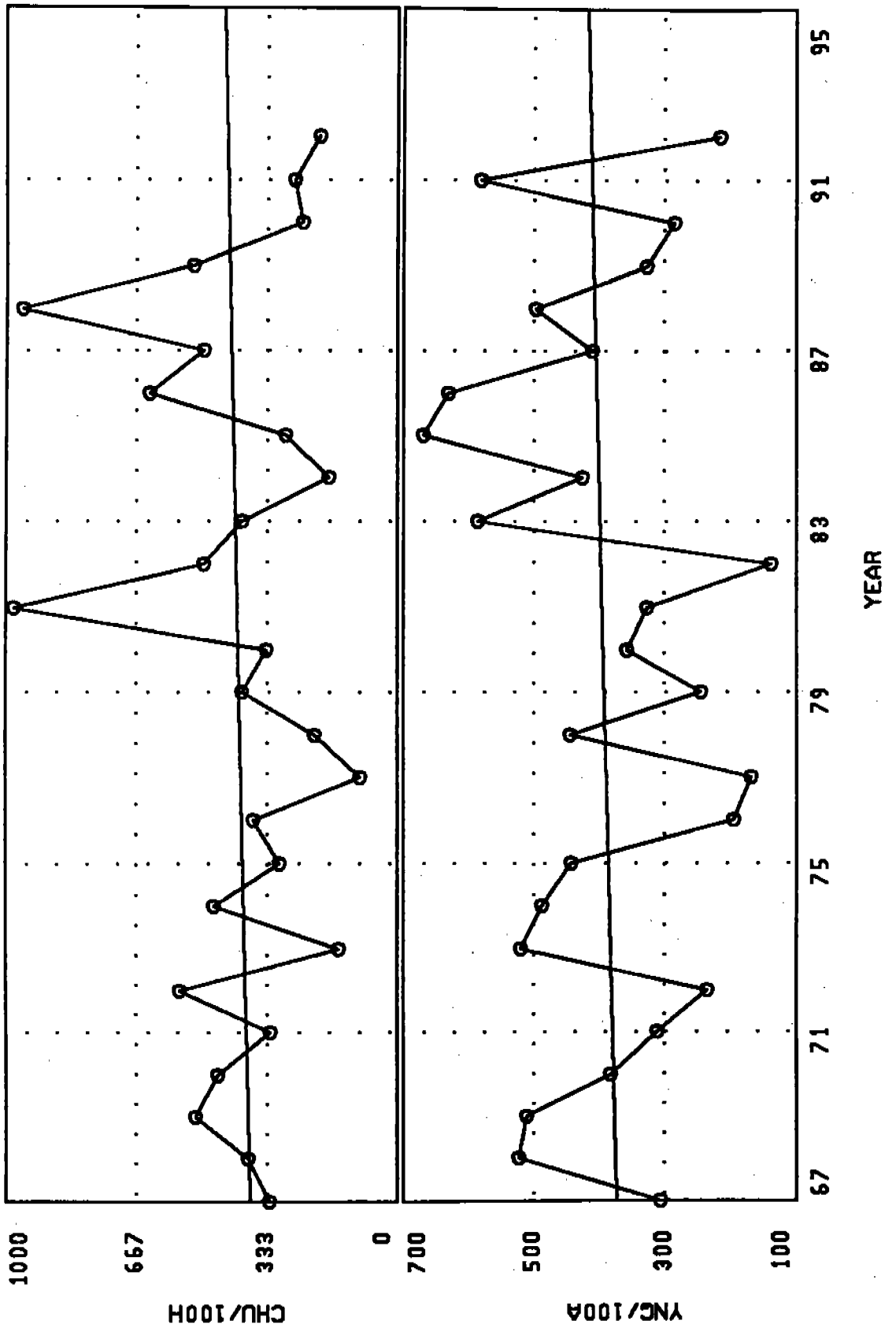
Harvest

Hunter Questionnaire

Results of the hunter questionnaire survey for 1992 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 and Figures 2 and 3. Following is a comparison of 1992 harvest statistics to 1991 and the previous 34-year average:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Chukar hunters	11,125	+5	-20
Chukars harvested	28,599	+17	-27
Hunter-days afield	37,463	+10	-11
Chukars per hunter-day	0.76	+6	-16
Chukars per hunter	2.57	+12	-6

FIGURE 1. CHUKAR PRODUCTION INDICES, 1967-92.



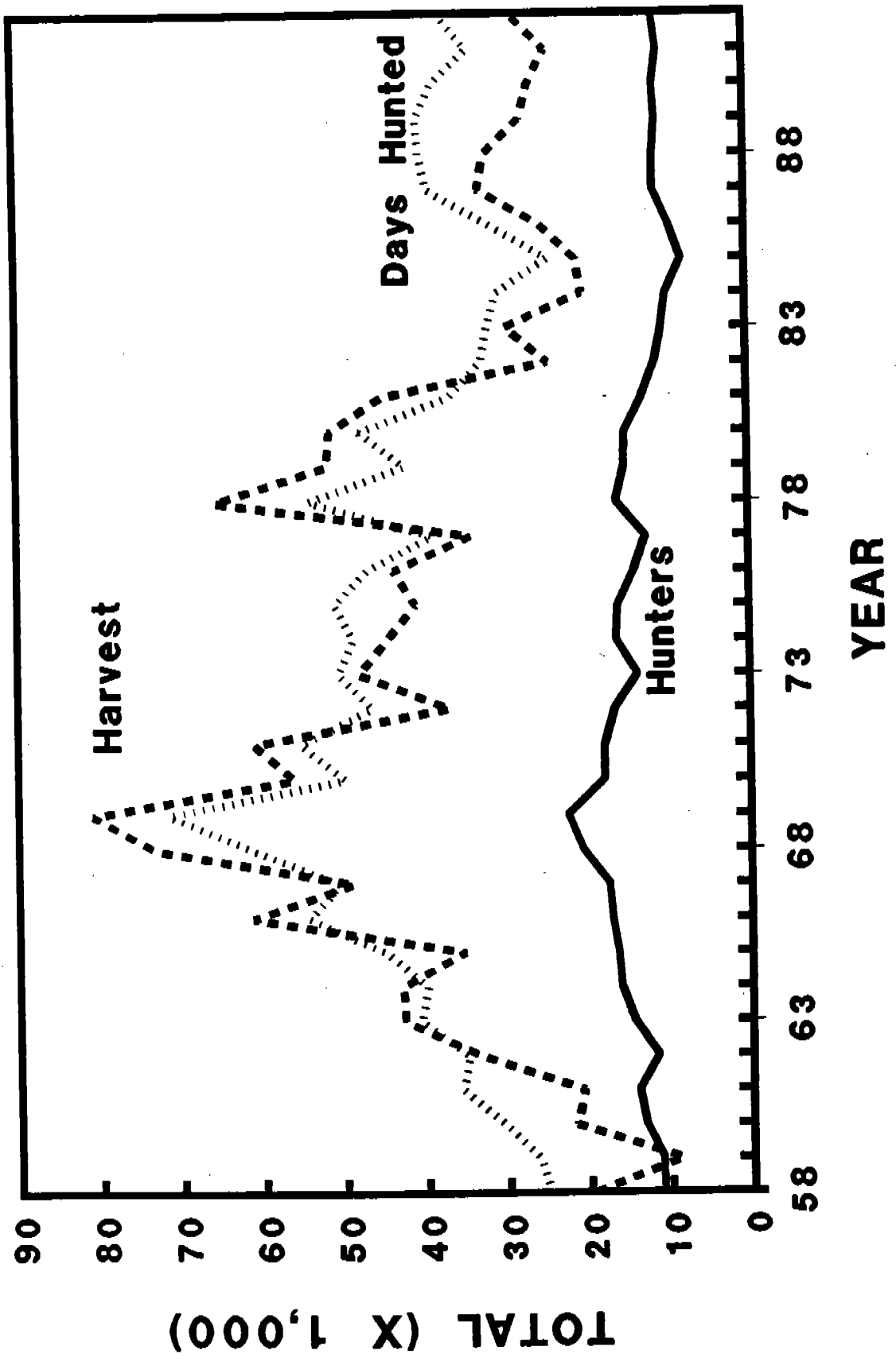


Figure 2. Statewide trends of chukar partridge harvest statistics, 1958-92.

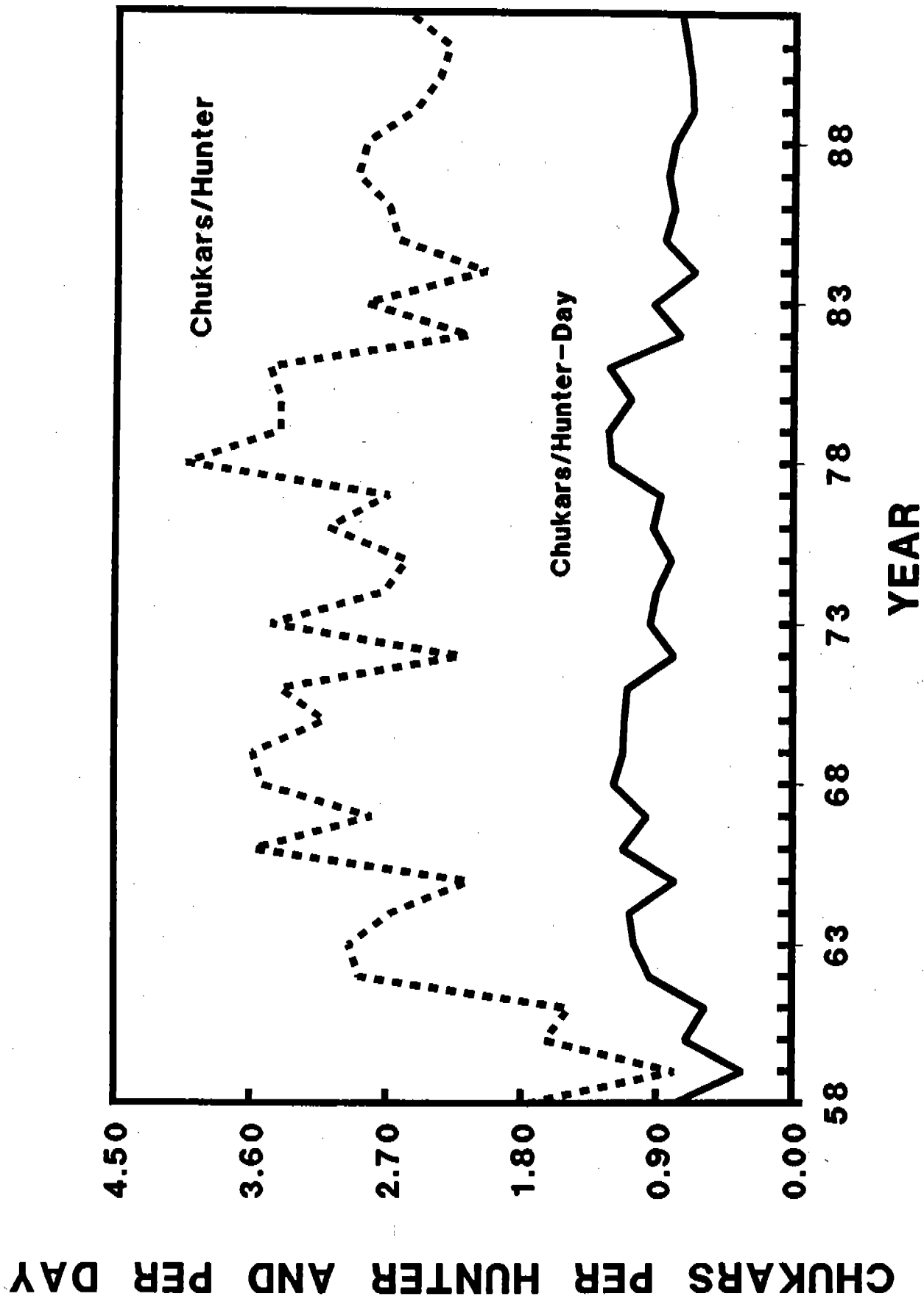


Figure 3. Statewide trends of chukar hunter success rates, 1958-92.

YOUNG/100 ADULTS & PRECIP. INDEX

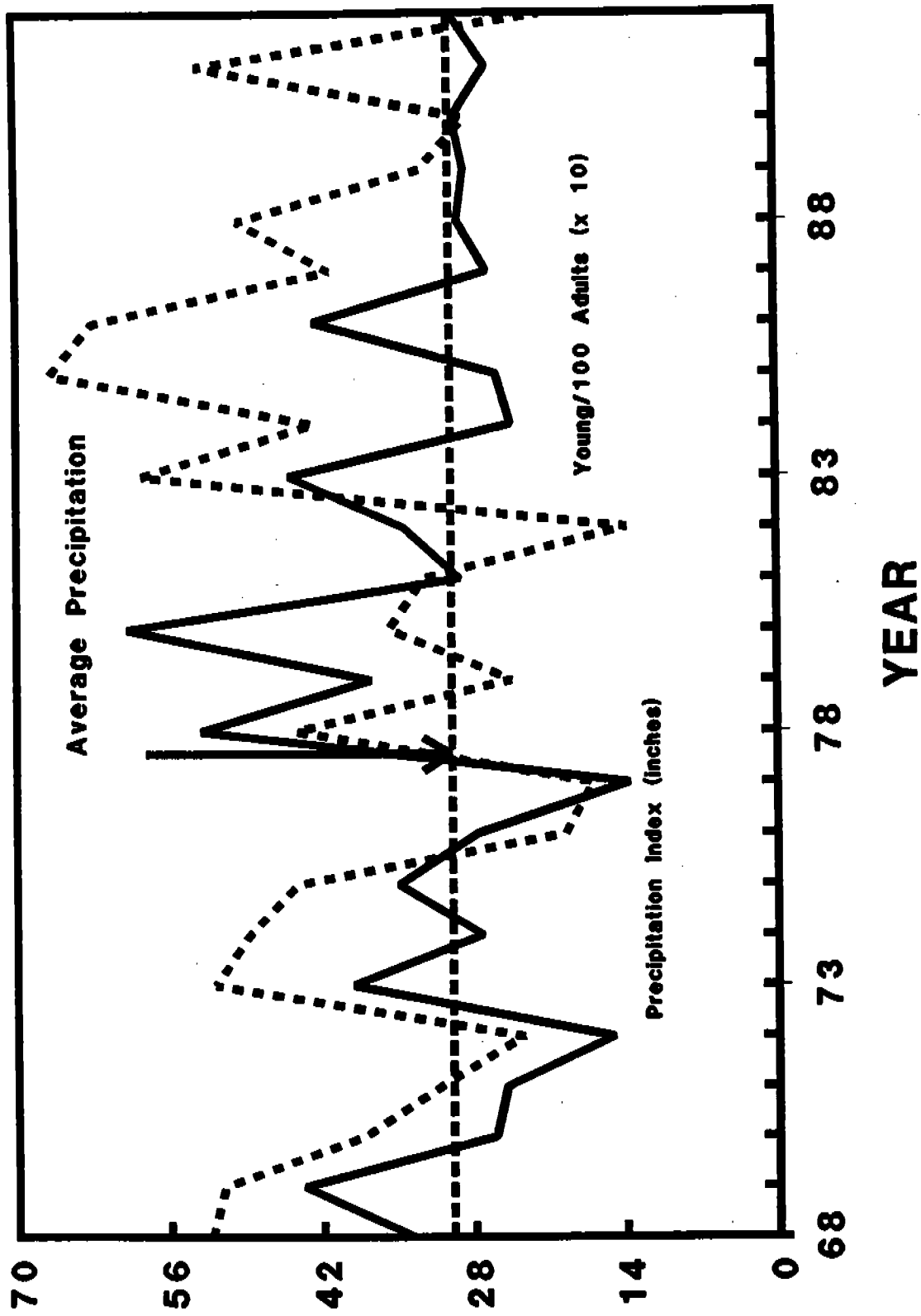
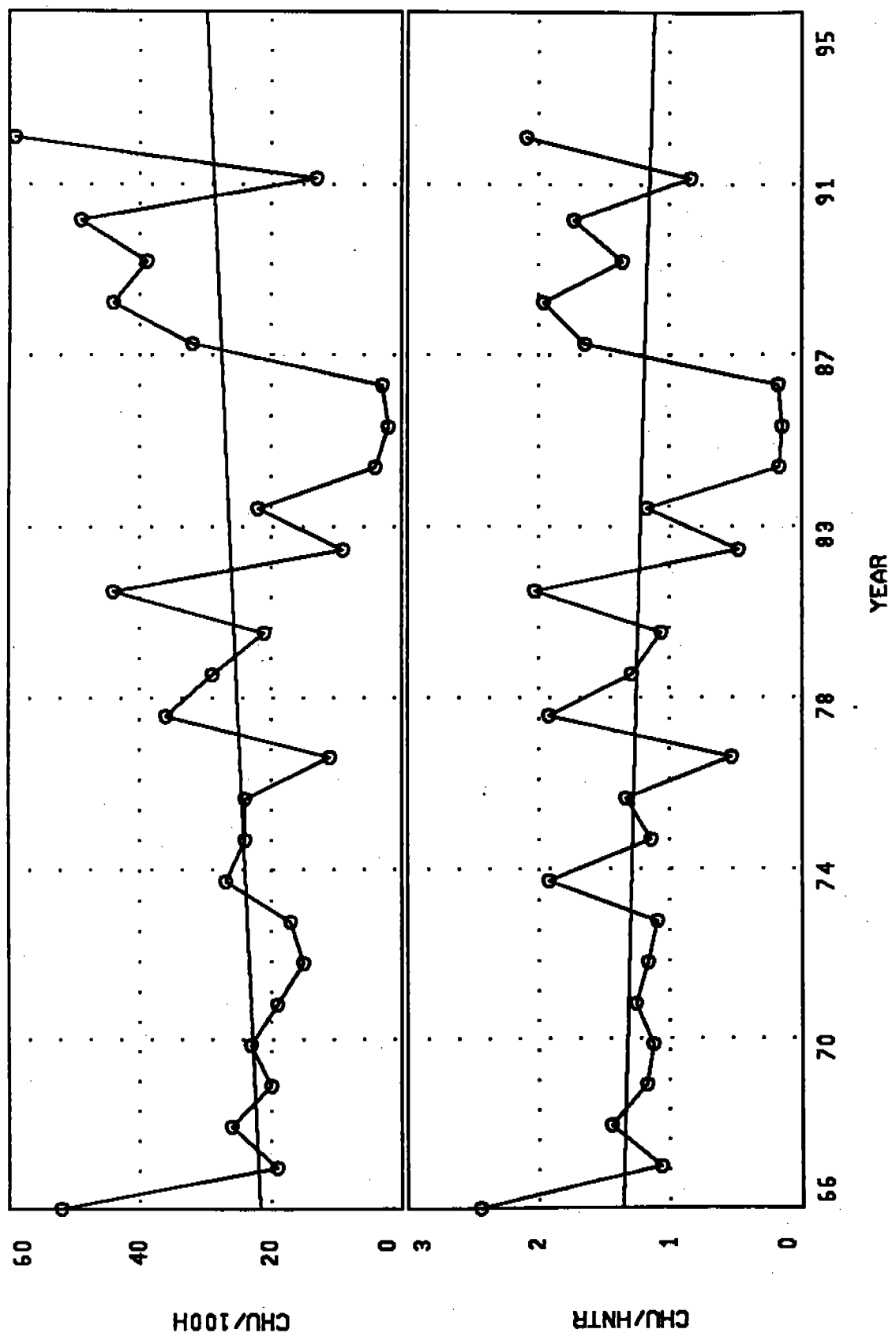


Figure 4. Relationship between late winter and early spring (Jan.-April) precipitation and chukar production, 1968-92.

FIGURES. CHUKAR FIELD BAG CHECK INDICES, 1966-92.



Chukar hunters and hunter effort increased from 1991. Chukars per hunter-day increased slightly from 1991, but remains 16 percent below the statewide average. Total harvest increased 18 percent. The Central Region again had the highest percentage of the harvest (51%) in 1992, and also had the highest percentage of hunter pressure (52%).

Field Bag Checks

A summary of field bag check data for 1992 is shown in Table 10. The hunter success trend determined by field bag checks since 1987 is shown in Table 11 and Figure 5. Data for the 1992 season compared to 1991 and the 10-year (1982-91) average follow:

	<u>Percent change from</u>		
	<u>1992</u>	<u>1991</u>	<u>Average</u>
Total hunters checked	27	0	-88
Total hours hunted	79	-46	-92
Chukars per hunter (complete hunts)	1.74	+149	+116
Chukars bagged per 100 hours (complete hunts)	59	+354	+165
Average hours per hunter-day (complete hunts)	2.93	-45	-34
Hours hunted per chukar bagged (complete hunts)	1.68	-78	-89

Field bag checks indicated hunter success on opening weekend was up from 1991 and was well above average. This may be the result of higher vulnerability of birds as they congregated around water sources. However, sample sizes were extremely small.

Table 1. Chukkar summer inventory, 1992.

Region and County	District		Mixed Young				Total Adults	Total Young	Total Young/100 Adults	Vehicle		Horse		Birds/100 Hr
	#	Broods	Mean Brood	Adults & Young		Miles				Vehicle	Horse	Effort		
				Adult	Young							Walk	Total	
Northern Region														
Box Elder	--	--	--	--	--	3	--	--	--	--	10	--	10	30
Cache	--	--	--	--	--	8	--	--	178	12	--	--	12	67
Davis	2	2	3.00	--	--	2	6	300	--	2	--	3	5	160
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	2	2	3.00	--	--	11	6	46	178	14	10	3	27	70
Central Region														
Juab	1	1	10.00	--	--	1	10	1,000	200	9	--	--	9	122
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	3	23	3	23	767	10	1	--	--	1	2,600
Tooele	--	--	--	2	6	2	6	300	60	2	--	0	2	400
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1	1	10.00	5	29	6	39	650	270	12	0	0	12	375
Southern Region														
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region														
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region														
Carbon	--	--	--	--	--	--	--	--	30	4	--	--	4	--
Emery	1	2	18.00	10	10	6	18	156	50	5	--	4	9	511
Grand	1	1	4.00	--	--	1	4	200	90	6	--	--	6	100
San Juan	1	1	9.00	--	--	1	9	900	46	5	--	--	5	200
REGIONAL TOTALS	3	4	10.33	10	10	7	41	195	216	20	4	4	24	258
STATE TOTALS	6	7	7.83	15	39	18	86	215	664	46	10	7	63	200

Table 2. Trend of chukar young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	120	--	--	4,200	700	283	136	--	--	--	--	--
Cache	--	600	--	--	--	850	300	--	848	--	--	--
Davis	7	--	--	--	--	24	--	--	400	--	300	--
Morgan	--	750	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	750	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	27	262	--	4,200	560	125	117	--	675	--	46	1,073
Central Region												
Juab	600	--	800	--	739	600	462	120	587	367	1,000	--
Salt Lake	50	--	--	--	--	--	--	--	--	--	--	--
Snappe	400	--	--	--	--	--	--	--	--	1,000	767	--
Tooele	585	--	436	550	566	535	484	263	157	443	300	--
Utah	--	--	--	300	--	875	--	472	--	1,200	--	--
Wasatch	--	800	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	512	800	481	457	642	591	468	240	266	533	650	499
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	122	--	--	--	125	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	550	927	--	--	--	--
Piute	642	--	--	--	--	370	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	600	737	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	389	737	--	--	125	370	550	927	--	--	--	516
Northeastern Region												
Daggett	--	--	--	--	--	0	--	--	--	--	--	--
Duchesne	--	--	--	--	--	0	--	--	--	--	--	--
Uintah	--	--	--	--	--	267	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	267	--	--	--	--	--	267
Southeastern Region												
Carbon	--	--	359	--	1,300	1,014	600	--	--	--	--	--
Emery	220	--	--	--	--	500	--	--	243	--	156	--
Grand	518	617	775	730	730	573	621	64	0	--	200	--
San Juan	--	--	337	--	--	--	--	200	--	--	900	--
REGIONAL TOTALS	426	617	392	408	287	631	620	93	131	--	195	401
STATE TOTALS	138	586	426	670	631	411	496	327	285	533	215	450

Table 3. Trend of average brood size for chukars, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	8.33	12.00	--	9.00	--	8.50	7.50	--	--	--	--	--
Cache	--	6.00	--	--	--	--	6.00	--	13.50	--	--	--
Davis	--	--	--	--	--	--	--	14.00	12.00	--	3.00	--
Morgan	--	7.50	--	--	--	--	--	7.00	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	7.50	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3.00	7.00	--	9.00	--	8.50	7.00	10.50	13.00	--	3.00	7.25
Central Region												
Juab	6.00	--	8.00	--	7.45	8.00	6.75	5.50	4.30	--	10.00	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	10.00	--	--
Tonele	10.60	--	6.00	8.43	7.86	8.00	7.43	6.40	3.40	5.50	--	--
Utah	--	--	--	10.00	--	10.50	--	3.00	--	12.00	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	10.14	--	6.80	8.63	7.69	8.23	7.07	5.00	3.60	7.33	10.00	7.17
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	2.00	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	7.75	7.50	--	--	--	--
Piute	3.00	--	--	--	--	5.00	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	9.00	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	7.00	--	--	--	--	5.00	7.75	7.50	--	--	--	6.81
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	10.00	--	--	--	10.00	--	--	--	--	--	--
REGIONAL TOTALS	--	10.00	--	--	--	10.00	--	--	--	--	--	5.00
Southeastern Region												
Carbon	--	--	5.50	--	12.50	9.67	6.00	--	--	--	--	--
Emery	--	--	--	5.00	--	5.00	--	--	8.50	--	18.00	--
Grand	11.90	8.25	7.75	9.00	--	8.57	9.11	1.00	--	--	4.00	--
San Juan	5.33	--	--	--	--	--	--	4.00	--	--	9.00	--
REGIONAL TOTALS	11.30	8.25	7.00	7.67	10.40	8.25	8.95	2.50	8.50	--	10.33	8.09
STATE TOTALS	8.48	8.00	6.91	8.46	8.13	7.93	8.00	5.65	5.50	7.33	7.83	7.44

Table 4. Trend of chinkars observed per 100 hours, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	80	--	--	239	168	40	236	--	--	--	30	--
Cache	--	700	--	--	--	83	35	--	294	--	67	--
Davis	1,127	100	--	--	22	313	500	250	333	--	160	--
Morgan	--	850	--	--	--	--	--	500	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	479	227	--	155	102	91	111	135	295	--	70	199
Central Region												
Juab	363	--	200	--	2,611	850	913	500	229	200	122	--
Salt Lake	43	--	--	--	--	--	--	--	--	--	--	--
Sanpete	857	--	--	--	--	--	--	--	--	733	2,600	--
Tonele	1,013	--	441	681	1,046	1,123	653	314	365	475	400	--
Utah	38	--	--	578	--	1,950	--	2,100	--	1,300	--	--
Wasatch	--	--	491	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	578	164	291	542	1,424	844	822	623	281	434	375	600
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	500	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	1,486	1,596	--	--	--	--
Piute	433	--	--	--	--	1,567	--	--	--	--	--	--
Sevier	17	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	700	3,350	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	266	3,350	--	--	--	1,567	1,486	1,596	--	--	--	1,653
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	790	--	--	--	--	--	--	--	--	--	--	--
Uintah	454	86	--	--	0	856	--	--	--	--	--	--
REGIONAL TOTALS	348	27	--	--	0	241	--	--	--	--	--	154
Southeastern Region												
Carbon	--	--	420	--	--	7,800	350	--	--	--	--	--
Emery	--	--	--	833	--	771	--	--	480	--	511	--
Grand	1,167	2,871	291	424	2,075	1,167	3,983	240	67	--	100	--
San Juan	--	--	1,750	--	--	--	--	225	--	--	200	--
REGIONAL TOTALS	1,578	2,871	858	530	2,075	1,335	3,293	225	150	--	258	1,435
STATE TOTALS	496	398	176	286	633	496	959	522	244	267	200	448

Table 5. Summary of chukar hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	138	5,775	4,993	0.86	15.42	17.49
CACHE	29	1,510	1,350	0.89	4.03	4.73
DAVIS	15	1,172	444	0.38	3.13	1.56
MORGAN	8	657	266	0.41	1.76	0.93
RICH	5	159	53	0.33	0.43	0.19
SUMMIT	2	53	17	0.33	0.14	0.06
WEBER	12	568	373	0.66	1.52	1.31
REGIONAL TOTALS	209	9,898	7,499	0.76	26.42	26.26
CENTRAL REGION						
JUAB	54	2,594	1,990	0.77	6.93	6.97
SALT LAKE	20	1,350	1,457	1.08	3.61	5.10
SANPETE	28	1,759	1,350	0.77	4.70	4.73
TOOELE	120	6,682	5,047	0.76	17.84	17.67
UTAH	111	7,073	4,567	0.65	18.88	15.99
WASATCH	5	337	106	0.32	0.90	0.37
REGIONAL TOTALS	338	19,797	14,519	0.73	52.85	50.84
SOUTHERN REGION						
BEAVER	11	444	124	0.28	1.19	0.44
GARFIELD	3	106	0	0.00	0.28	0.00
IRON	2	159	71	0.44	0.43	0.25
KANE	0	0	0	0.00	0.00	0.00
MILLARD	28	1,155	1,563	1.35	3.08	5.48
PIUTE	7	302	53	0.18	0.81	0.19
SEVIER	50	3,181	2,132	0.67	8.49	7.47
WASHINGTON	1	17	0	0.00	0.05	0.00
WAYNE	3	88	17	0.20	0.24	0.06
REGIONAL TOTALS	105	5,455	3,963	0.73	14.56	13.88
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	4	124	231	1.86	0.33	0.81
UINTAH	13	568	426	0.75	1.52	1.49
REGIONAL TOTALS	17	693	657	0.95	1.85	2.30
SOUTHEASTERN REGION						
CARBON	7	426	533	1.25	1.14	1.87
EMERY	19	870	764	0.88	2.32	2.68
GRAND	3	177	604	3.40	0.47	2.12
SAN JUAN	2	53	0	0.00	0.14	0.00
REGIONAL TOTALS	31	1,528	1,901	1.24	4.08	6.66
UNKNOWN	1	88	17	0.20	0.24	0.06
STATE TOTALS	701	37,463	28,559	0.76	100.00	100.00

* Total hunter trips from questionnaire returns.

Table 6. Summary of chukars bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.55	0.49	0.62	0.63	0.54	0.89	0.78	0.86
Cache	0.13	0.14	0.85	0.58	0.73	0.51	0.37	0.89
Davis	0.43	0.50	0.20	1.65	0.42	0.79	0.76	0.38
Morgan	0.30	0.00	1.33	1.08	0.56	0.71	0.54	0.41
Rich	0.00	0.00	1.00	1.43	0.70	1.67	0.32	0.33
Summit	0.00	0.00	1.25	0.68	0.20	2.14	0.14	0.33
Weber	0.18	0.00	0.44	0.45	1.07	0.73	0.84	0.66
REGIONAL TOTALS	0.46	0.39	0.64	0.69	0.58	0.82	0.69	0.76
<u>Central Region</u>								
Juab	1.63	0.87	1.10	0.90	0.66	0.73	0.87	0.77
Salt Lake	0.96	1.08	1.16	0.69	1.05	1.16	1.68	1.08
Sanpete	1.28	0.88	0.58	1.26	1.06	1.35	0.83	0.77
Tooele	1.12	0.90	0.84	0.82	0.69	0.77	0.70	0.76
Utah	0.71	0.65	0.71	0.64	0.78	0.67	0.79	0.65
Wasatch	0.07	0.00	0.83	1.00	0.60	0.67	0.50	0.32
REGIONAL TOTALS	1.06	0.84	0.86	0.83	0.78	0.81	0.79	0.73
<u>Southern Region</u>								
Beaver	0.00	0.13	0.63	0.35	0.50	0.42	0.67	0.28
Garfield	0.00	0.33	0.40	1.13	0.63	0.00	2.50	0.00
Iron	0.00	0.00	0.00	0.00	0.00	0.25	0.18	0.44
Kane	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00
Millard	1.55	1.88	1.09	0.95	0.57	0.62	0.55	1.35
Piute	0.71	0.13	0.81	0.30	0.54	0.29	1.00	0.18
Sevier	0.21	0.48	0.57	0.67	0.47	0.51	0.72	0.67
Washington	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	1.00	0.00	2.00	1.83	0.27	0.00	1.80	0.20
REGIONAL TOTALS	0.72	0.92	0.82	0.72	0.50	0.45	0.68	0.73
<u>Northeastern Region</u>								
Daggett	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00
Duchesne	2.00	0.00	0.20	2.12	0.73	0.27	0.19	1.86
Uintah	1.00	0.00	1.68	0.69	2.14	0.09	0.79	0.75
REGIONAL TOTALS	1.09	0.00	1.44	1.42	1.81	0.17	0.38	0.95
<u>Southeastern Region</u>								
Carbon	0.42	0.89	0.87	1.29	0.42	0.16	0.46	1.25
Emery	0.62	0.74	0.90	0.95	0.29	0.50	0.43	0.88
Grand	1.31	1.57	1.19	1.26	0.92	0.56	0.38	3.40
San Juan	0.00	0.86	1.67	0.50	0.00	0.00	0.50	0.00
REGIONAL TOTALS	0.65	1.05	1.07	1.03	0.50	0.39	0.44	1.24
Unknown Counties	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.20
STATE TOTALS	0.86	0.80	0.84	0.80	0.68	0.69	0.72	0.76

Table 7. Percentage distribution of chukar harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	8.39	7.64	10.59	10.15	13.21	18.42	23.43	17.49
Cache	0.20	0.24	1.64	2.29	4.05	4.43	1.93	4.73
Davis	0.61	0.16	0.07	1.71	0.83	0.85	1.57	1.56
Morgan	0.31	0.00	0.29	0.67	1.43	0.93	1.36	0.93
Rich	0.00	0.00	0.07	0.52	0.53	1.17	0.64	0.19
Summit	0.00	0.00	0.37	0.88	0.08	1.17	0.14	0.06
Weber	0.41	0.00	0.59	0.26	1.13	1.48	1.93	1.31
REGIONAL TOTALS	9.92	8.04	13.65	16.51	21.25	28.44	31.00	26.26
<u>Central Region</u>								
Juab	11.67	7.89	12.68	7.18	5.33	5.13	8.57	6.97
Salt Lake	5.12	3.33	4.32	1.87	3.15	2.87	3.00	5.10
Sanpete	8.90	4.72	2.83	7.96	9.83	8.08	6.07	4.73
Tooele	32.85	27.07	20.44	24.63	19.67	28.21	15.29	17.67
Utah	10.75	9.02	9.77	9.06	15.09	10.26	16.86	15.99
Wasatch	0.10	0.00	0.37	0.20	0.23	0.16	0.93	0.37
REGIONAL TOTALS	69.40	52.03	50.44	50.93	53.30	54.70	50.71	50.84
<u>Southern Region</u>								
Beaver	0.00	0.16	1.41	1.09	1.05	2.18	3.00	0.44
Garfield	0.00	0.24	0.14	0.46	0.75	0.00	0.36	0.00
Iron	0.00	0.00	0.00	0.00	0.00	0.31	0.14	0.25
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00
Millard	10.64	18.78	13.13	8.22	4.65	3.11	3.21	5.48
Piute	1.53	0.40	1.26	0.52	1.13	0.85	1.00	0.19
Sevier	0.72	5.93	5.67	8.80	5.26	4.74	5.79	7.47
Washington	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wayne	0.31	0.00	0.14	0.57	0.30	0.00	0.64	0.06
REGIONAL TOTALS	13.20	25.53	21.79	19.68	13.14	11.19	14.36	13.88
<u>Northeastern Region</u>								
Daggett	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Duchesne	0.20	0.00	0.07	1.87	0.60	0.78	0.43	0.81
Uintah	1.02	0.00	2.38	0.57	5.78	0.16	0.79	1.49
REGIONAL TOTALS	1.23	0.00	2.68	2.44	6.38	0.93	1.21	2.30
<u>Southeastern Region</u>								
Carbon	1.33	2.60	0.97	0.93	1.13	0.62	0.86	1.87
Emery	3.17	4.15	3.20	7.18	1.35	3.73	1.14	2.68
Grand	1.74	7.15	6.86	2.23	2.70	0.39	0.36	2.12
San Juan	0.00	0.49	0.37	0.05	0.00	0.00	0.36	0.00
REGIONAL TOTALS	6.24	14.39	11.41	10.41	5.18	4.74	2.71	6.66
Unknown Counties	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.06
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 8. Percentage distribution of chukar hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	13.02	12.36	14.35	12.95	16.59	14.18	21.53	15.42
Cache	1.04	1.43	1.63	3.16	3.80	5.94	3.73	4.03
Davis	1.23	0.26	0.31	0.83	1.34	0.75	1.48	3.13
Morgan	0.88	0.91	0.18	0.49	1.75	0.91	1.79	1.76
Rich	0.09	0.07	0.06	0.29	0.51	0.48	1.43	0.43
Summit	0.09	0.07	0.25	1.04	0.26	0.37	0.72	0.14
Weber	1.93	1.50	1.12	0.45	0.72	1.39	1.64	1.52
REGIONAL TOTALS	18.66	16.59	17.93	19.24	24.96	24.02	32.33	26.42
Central Region								
Juab	6.16	7.22	9.65	6.41	5.55	4.87	7.06	6.93
Salt Lake	4.58	2.47	3.13	2.16	2.05	1.71	1.28	3.61
Sanpete	5.98	4.29	4.13	5.03	6.37	4.12	5.27	4.70
Tooele	25.26	24.14	20.50	24.07	19.62	25.25	15.70	17.84
Utah	13.02	11.13	11.53	11.32	13.20	10.59	15.24	18.88
Wasatch	1.32	0.20	0.37	0.16	0.26	0.16	1.33	0.90
REGIONAL TOTALS	56.34	49.45	49.34	49.18	47.05	46.71	45.88	52.85
Southern Region								
Beaver	1.85	0.98	1.88	2.49	1.44	3.53	3.22	1.19
Garfield	0.97	0.59	0.31	0.33	0.82	0.59	0.10	0.28
Iron	0.00	0.00	0.00	0.00	0.36	0.86	0.56	0.43
Kane	0.89	0.26	0.06	0.00	0.00	0.05	0.10	0.00
Millard	5.89	8.00	10.09	6.95	5.60	3.48	4.19	3.08
Piute	1.85	2.47	1.31	1.37	1.44	2.03	0.72	0.81
Sevier	2.99	9.95	8.33	10.53	7.60	6.37	5.73	8.49
Washington	1.06	0.00	0.12	0.00	0.00	0.27	0.20	0.05
Wayne	0.26	0.00	0.06	0.24	0.77	0.05	0.26	0.24
REGIONAL TOTALS	15.76	22.25	22.19	21.94	18.03	17.23	15.09	14.56
Northeastern Region								
Daggett	0.00	0.00	0.06	0.00	0.00	0.59	0.00	0.00
Duchesne	0.09	0.00	0.31	0.70	0.56	1.98	1.59	0.33
Uintah	0.88	0.78	1.19	0.66	1.85	1.18	0.72	1.52
REGIONAL TOTALS	0.97	0.78	1.56	1.37	2.41	3.75	2.30	1.85
Southeastern Region								
Carbon	2.73	2.34	0.94	0.58	1.85	2.68	1.33	1.14
Emery	4.40	4.49	3.00	6.03	3.18	5.14	1.89	2.32
Grand	1.14	3.64	4.82	1.41	2.00	0.48	0.66	0.47
San Juan	0.00	0.46	0.18	0.08	0.00	0.00	0.51	0.14
REGIONAL TOTALS	8.27	10.93	8.96	8.11	7.04	8.29	4.40	4.08
Unknown Counties	0.00	0.00	0.00	0.12	0.51	0.00	0.00	0.24
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 9. Statewide summary of chukar partridge harvest statistics, 1958-92.

Year	Total Hunters	Total Harvest	Hunter-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
1987	11,276	32,848	39,099	0.84	2.91
1988	11,237	32,057	40,088	0.80	2.85
1989	10,910	27,628	40,384	0.68	2.53
1990	11,195	26,486	38,463	0.69	2.37
1991	10,577	24,355	34,010	0.72	2.30
1992	11,125	28,599	37,463	0.76	2.57
Totals (1958-92)	486,836	1,362,516	1,467,007	-	-
Averages (1958-91)	13,992	39,233	42,045	0.90	2.73

Table 10. Chukar field bag check summary, 1992.

Region and County	All Hunts			Complete Hunts								
	Total Parties	Total Hunters	Total Hours	Total Birds	Total Birds/100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hr	Birds/Hunter	
Northern Region												
Box Elder	3	4	11	3	27	--	--	--	--	--	--	--
Cache	3	5	10	1	10	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	9	21	4	19	--	--	--	--	--	--	--
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tonope	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	3	6	8	12	150	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	6	8	12	150	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	11	27	79	47	59	11	27	79	47	59	1.74	1.74
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	11	27	79	47	59	11	27	79	47	59	1.74	1.74
STATE TOTALS	20	42	108	63	58	11	27	79	47	59	1.74	1.74

Table 11. Chukar hunter success trend as determined by field bag check, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter
Northern Region												
Box Elder	31	1.41	13	0.43	50	2.50	133	4.00	--	--	--	--
Cache	38	1.37	52	2.00	--	--	--	--	--	--	--	--
Davis	25	1.00	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	33	1.39	23	0.82	50	2.50	133	4.00	--	--	--	--
Central Region												
Juab	--	--	75	2.57	95	1.90	116	7.00	67	2.00	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	53	1.25	--	--
Tonele	22	2.00	67	1.71	2	0.09	--	--	1	0.07	--	--
Utah	--	--	--	--	50	1.00	10	2.00	67	2.00	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	22	2.00	73	2.29	31	1.00	48	1.36	13	0.70	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	38	1.50	--	--	--	--
Uintah	--	--	87	3.71	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	87	3.71	--	--	38	1.50	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	133	4.00	33	1.00	--	--	59	1.74
Grand	17	0.67	49	2.54	75	1.50	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	17	0.67	49	2.54	100	2.30	33	1.00	--	--	59	1.74
STATE TOTALS	32	1.37	44	1.63	39	1.13	49	1.44	13	0.70	59	1.74

SAGE GROUSE

SUMMARY

Harvest data for 1991 indicated above average breeding populations of sage grouse for 1992. Strutting ground surveys indicated an increase in the average male grouse attendance from 1991.

Brood surveys showed decreased production throughout the state. Birds observed per 100 hours remained about the same as in 1991, and was 10 percent below average. The ratio of young to adults decreased 22 percent compared to 1991 and was 38 percent below average.

The decrease in production, as indicated from brood counts, in 1992, was apparent in harvest statistics collected from questionnaires and from field bag checks. Harvest was just below the 42-year average. Age ratios derived from wings indicated a 32 percent increase in young per 100 adults and was 26 percent below average.



Strutting Ground Counts

The status of the sage grouse breeding population for 1992, as indicated by strutting ground counts, is shown in Table 1 and Figure 1 of this section. Results of this survey for 1992 compared to 1991 and the 1967-91 average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Number of grounds counted	125	+76	+15
Total male grouse counted	2,050	+64	0
Average male grouse per ground	16	+100	-14
Percent change from previous year (comparable grounds)	+3		

Access for spring 1992 strutting ground counts was generally good in most regions of the state. The numbers of male grouse observed increased 64 percent statewide. Harvest data for 1991 indicated decreased populations going into the winter of 1991-92, and the numbers of juvenile birds observed during the summer indicated decreased production compared to 1991. Loss of habitat continues to be the trend in many areas of the state.

Brood Counts

Results of the summer inventory survey for 1992 are found in Table 2. Long-term trends of young per adult ratios, mean brood size and sage grouse observed per 100 hours are shown in Tables 3-5 and Figure 2. Indices for 1992 are compared to 1991 and the previous 10-year (1982-91) average as follows:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total sage grouse counted	710	+30	-39
Young per 100 adults	95	-22	-38
Mean brood size	4.21	+14	-5
Sage grouse observed per 100 hours	272	0	-10
Total hours effort	261	+30	-32

The effort devoted to sage grouse brood counts was 32 percent below average, and the total number of grouse counted was 39 percent below average.

Sage grouse density remained about the same as in 1991, production of young per 100 adults decreased 22 percent. The average brood size was 5 percent below the 10-year average. Continued drought conditions may have negatively influenced brood survival or caused an earlier dispersal of broods.

FIGURE 1. SAGE GROUSE STRUTTING
GROUND COUNTS, 1959-92.

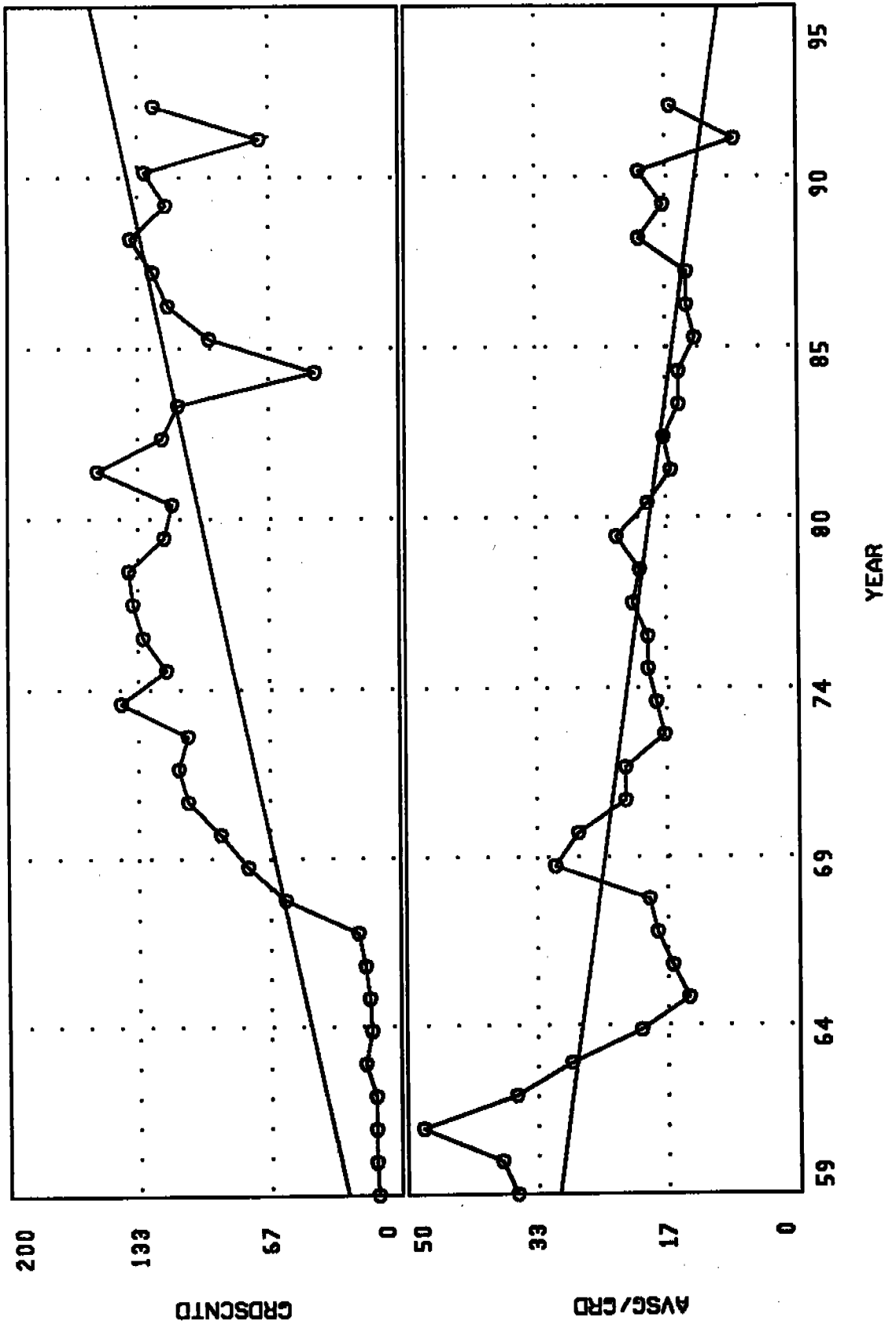
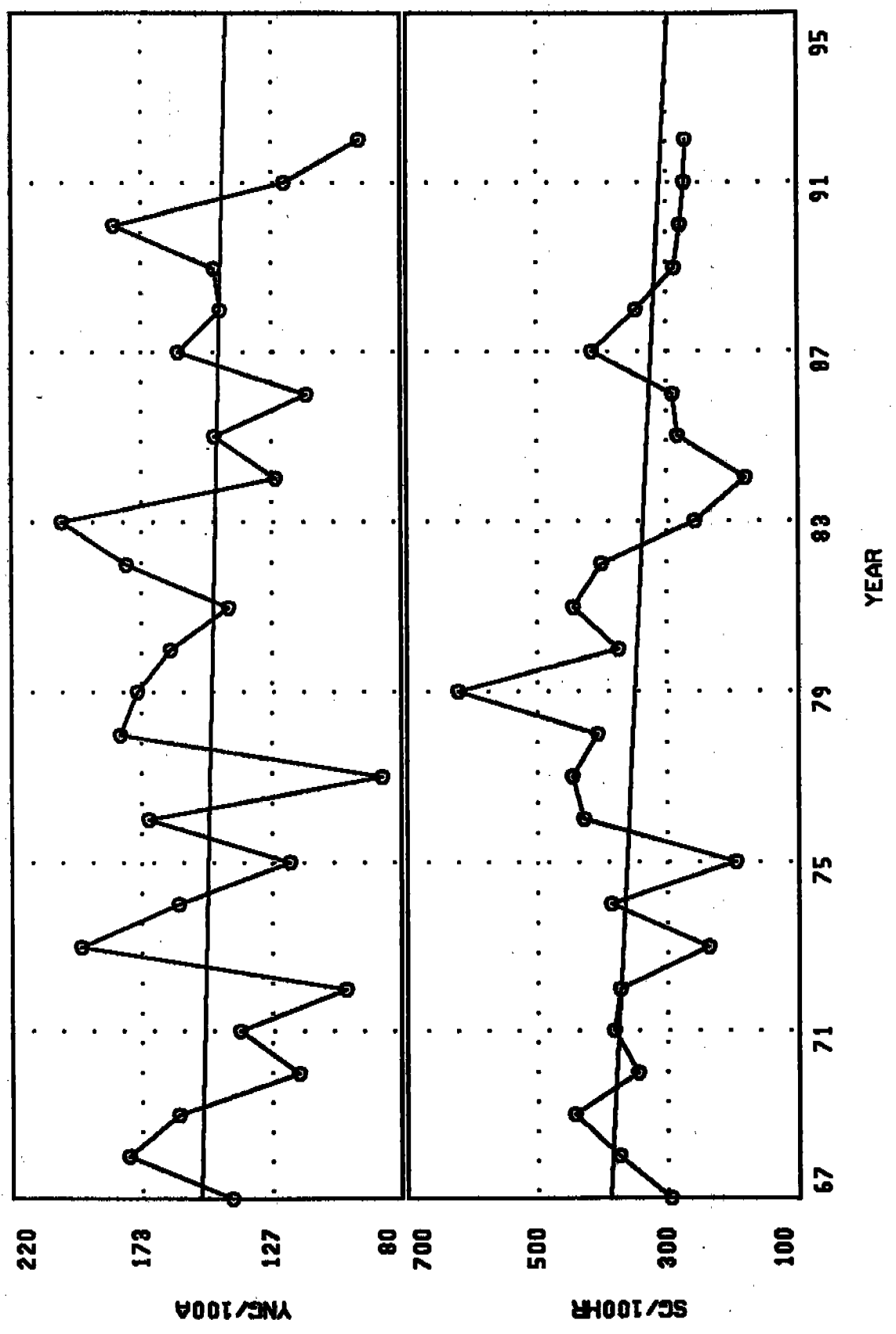


FIGURE 2. SAGE GROUSE PRODUCTION INDICES, 1967-92.



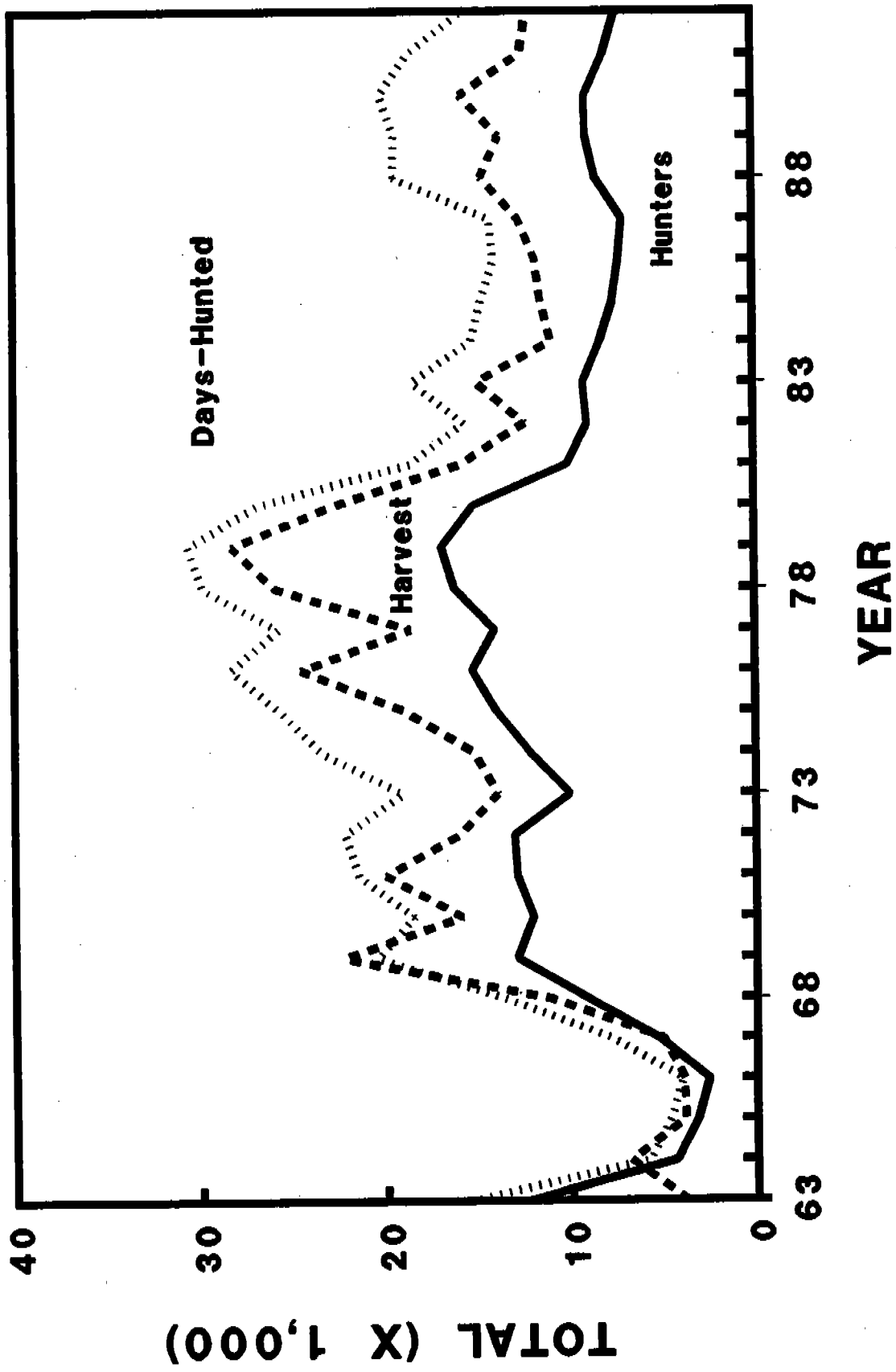


Figure 3. Statewide trends of sage grouse harvest statistics, 1963-92.

SAGE GROUSE PER HUNTER AND PER DAY

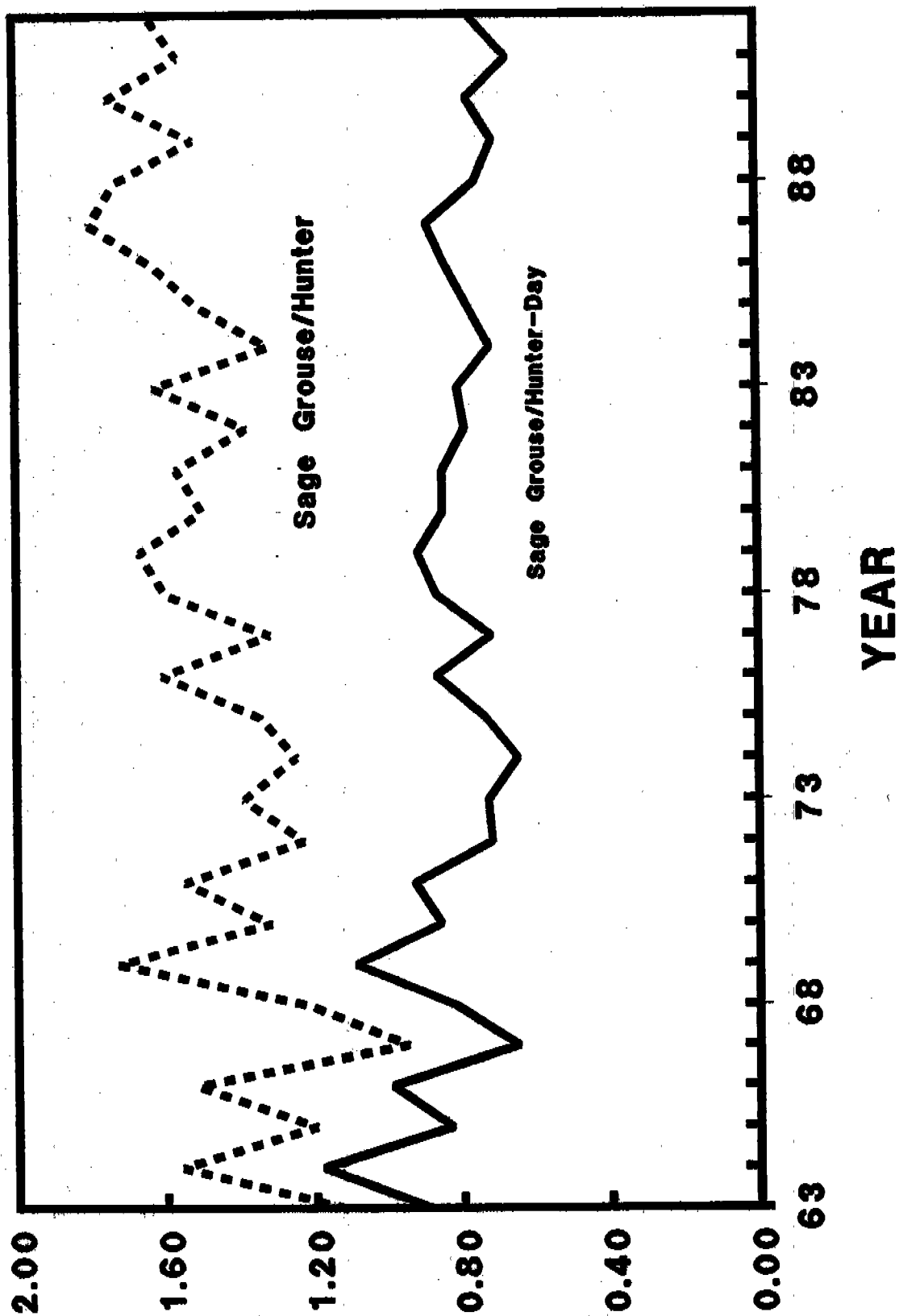
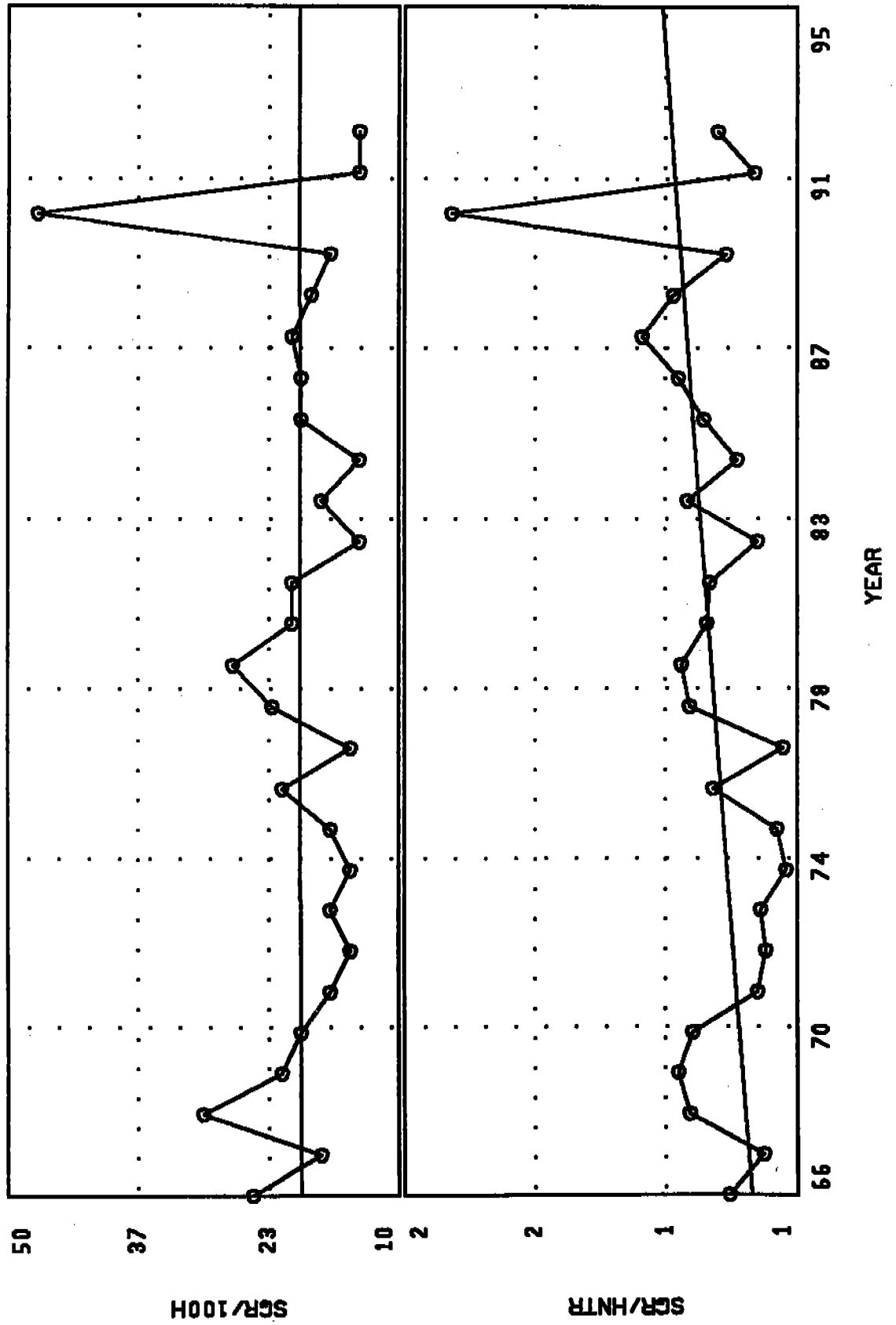


Figure 4. Statewide trends of sage grouse hunter success rates, 1963-92.

FIGURES. SAGE GROUSE FIELD BAG
CHECK INDICES, 1966-92.



Harvest

Hunter Questionnaire

Results of the 1992 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 1991 hunting season compared to 1991 and the previous 42-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Sage grouse hunters	7,392	-8	-1
Sage grouse harvested	12,156	-3	+10
Hunter-days afield	15,781	-15	+20
Sage grouse per hunter-day	0.77	+15	+26
Sage grouse per hunter	1.64	+5	-11

Sage grouse per hunter-day success rate increased 15 percent in 1992. Total statewide harvest decreased 23 percent, and there was a slight decrease in total sage grouse hunters. Forty-three percent of the harvest and 42 percent of the hunting pressure still occurred in the Northern region.

Long-term sage grouse harvest trends are shown in Figures 3 and 4.

Field Bag Checks

A summary of field bag check data for 1992 is shown in Table 11. Hunter success trends determined via this method are shown in Table 12 and Figure 5. Results of the 1992 survey compared to 1991 and the 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	575	-39	-46
Total hours hunted	3,651	-27	-29
Sage grouse per hunter (complete hunts)	0.88	+17	-13
Sage grouse bagged per 100 hours	14	0	-29
Average hours per hunter-day (complete hunts)	6.35	+21	+24
Hours hunted per grouse bagged (complete hunts)	7.23	+3	+29

Much of Utah was again dry with birds concentrated around available water. Hunter success rates from field bag checks showed slightly increased success for 1992 compared to 1991. However, more time was spent afield per grouse bagged.

Sex and Age Composition of the Harvest

A summary of the sex and age composition of harvested sage grouse in 1992 is found in Table 13 and the trend from 1989-92 in Table 14.

Following are data derived from wing surveys in 1992 compared to 1991 and the 1973-91 average:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Sample size	930	-1	-17
Percent males	41	-2	0
Percent females	59	+2	0
Young per 100 adults	107	+32	-26
Young per 100 hens (adult)	169	+24	-23

Analysis of wings collected at checking stations during the 1992 season indicates that statewide production was up compared to 1991, and was below the previous 19-year average. This indicates that early brood dispersal occurred probably as a result of the continuing drought.

Table 1. Summary of sage grouse strutting ground counts by region and county, 1982-92.

Region and County	Year											
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder												
No. Strutting Grounds Counted	15	17	8	32	10	18	15	11	20	16	13	
Total Male Grouse Counted	384	322	216	309	288	314	419	343	327	--	307	
County Average (all strutting grounds)	26	19	27	10	29	18	28	31	23	21	24	
% Change From Previous Year - Comparable Grounds	-24	-29	-8	7	17	-12	33	-3	-17	-11	8	
Cache												
No. Strutting Grounds Counted	1	0	1	0	2	1	1	2	--	--	3	
Total Male Grouse Counted	19	0	5	--	8	0	9	15	--	--	27	
County Average (all strutting grounds)	19	--	5	--	4	0	9	8	--	--	9	
% Change From Previous Year - Comparable Grounds	58	--	--	--	--	--	100	40	--	--	--	
Morgan												
No. Strutting Grounds Counted	3	3	1	3	3	2	1	--	--	--	1	
Total Male Grouse Counted	65	31	2	33	22	26	19	--	--	--	39	
County Average (all strutting grounds)	22	10	2	11	7	13	19	--	--	--	39	
% Change From Previous Year - Comparable Grounds	16	-31	-91	1000	-33	18	-21	--	--	--	--	
Rich												
No. Strutting Grounds Counted	7	9	6	18	11	12	3	6	19	22	14	
Total Male Grouse Counted	153	188	103	399	296	431	319	281	863	710	372	
County Average (all strutting grounds)	22	21	17	22	27	36	53	47	41	32	27	
% Change From Previous Year - Comparable Grounds	-21	2	-2	49	-28	53	-10	5	-7	-18	-38	
Summit												
No. Strutting Grounds Counted	2	7	1	0	7	7	10	--	--	--	3	
Total Male Grouse Counted	11	46	16	--	23	25	17	--	--	--	0	
County Average (all strutting grounds)	6	7	16	--	3	4	2	--	--	--	--	
% Change From Previous Year - Comparable Grounds	-50	-9	78	--	--	-65	-32	--	--	--	--	
REGIONAL TOTALS												
No. Strutting Grounds Counted	28	36	17	53	33	40	33	19	39	38	34	
Total Male Grouse Counted	632	587	342	741	637	806	783	639	1,190	710	745	
Average Grouse Per Ground (all strutting grounds)	23	16	20	14	19	20	24	34	31	27	26	
% Change From Previous Year - Comparable Grounds	-20	-22	-9	27	-8	16	11	5	--	-15	-15	

Table 1 (continued)

Region and County	Year											
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Central Region												
Juab												
No. Strutting Grounds Counted	-	-	-	-	-	1	1	1	1	1	1	3
Total Male Grouse Counted	-	-	-	-	-	9	14	11	4	15	5	5
County Average (all strutting grounds)	-	-	-	-	-	9	14	11	4	15	2	2
% Change From Previous Year - Comparable Grounds	-	-	-	-	-	0	56	-21	-63	-	-	-100
Sanpete												
No. Strutting Grounds Counted	2	2	2	2	2	2	2	2	2	2	2	-
Total Male Grouse Counted	11	8	0	0	0	0	0	0	0	0	0	-
County Average (all strutting grounds)	6	4	-	-	-	-	0	0	0	0	-	-
% Change From Previous Year - Comparable Grounds	22	-27	-100	0	0	0	0	0	0	0	-	-
Tooele												
No. Strutting Grounds Counted	5	6	6	6	6	5	5	5	5	5	5	4
Total Male Grouse Counted	28	28	23	55	82	96	89	77	91	82	100	100
County Average (all strutting grounds)	6	5	4	9	16	19	18	15	18	16	25	25
% Change From Previous Year - Comparable Grounds	-64	0	-18	139	149	17	-5	-17	20	-15	32	32
Wasatch												
No. Strutting Grounds Counted	2	2	2	2	2	2	2	2	2	2	2	2
Total Male Grouse Counted	18	54	57	63	117	54	52	44	51	11	49	49
County Average (all strutting grounds)	9	27	29	32	59	27	26	22	26	6	24	24
% Change From Previous Year - Comparable Grounds	-60	200	6	11	205	-54	-4	-19	18	-75	300	300
REGIONAL TOTALS												
No. Strutting Grounds Counted	9	10	10	10	10	7	10	10	10	10	9	9
Total Male Grouse Counted	57	90	80	118	199	150	155	132	146	108	154	154
Average Grouse Per Ground (all strutting grounds)	6	9	8	12	18	17	16	13	15	12	17	17
% Change From Previous Year - Comparable Grounds	-43	58	-11	48	170	-25	-3	-16	11	-45	77	77

Table 1 (continued)

Region and County	Year										
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Southern Region											
Beaver											
No. Strutting Grounds Counted	7	7	4	3	4	4	3	5	2	-	3
Total Male Grouse Counted	131	117	48	45	55	52	46	71	33	-	68
County Average (all strutting grounds)	19	17	12	15	14	13	15	14	16	41	19
% Change From Previous Year - Comparable Grounds	-6	-11	78	-	22	-5	-	-7	-	-	-54
Garfield											
No. Strutting Grounds Counted	9	8	7	-	8	9	8	8	10	-	9
Total Male Grouse Counted	359	197	133	-	152	175	251	126	244	-	211
County Average (all strutting grounds)	39	25	19	-	19	19	31	16	24	35	23
% Change From Previous Year - Comparable Grounds	78	-12	-46	-	13	0	24	-50	-	-	-23
Iron											
No. Strutting Grounds Counted	9	4	-	5	6	4	6	6	3	-	2
Total Male Grouse Counted	111	105	-	81	131	64	111	127	50	-	43
County Average (all strutting grounds)	12	26	-	16	22	16	19	21	20	52	21
% Change From Previous Year - Comparable Grounds	-3	27	-	-	49	-11	-13	14	-	-	-36
Kaine											
No. Strutting Grounds Counted	-	-	-	-	-	-	-	2	-	-	3
Total Male Grouse Counted	-	-	-	-	-	-	-	41	-	-	30
County Average (all strutting grounds)	-	-	-	-	-	-	-	31	-	-	14
% Change From Previous Year - Comparable Grounds	-	-	-	-	-	-	-	-	-	-	-28
Millard											
No. Strutting Grounds Counted	1	-	1	1	1	-	-	-	-	-	-
Total Male Grouse Counted	22	-	4	2	3	-	-	-	-	-	-
County Average (all strutting grounds)	22	-	4	2	3	-	-	-	-	-	-
% Change From Previous Year - Comparable Grounds	0	-	-	-	33	-	-	-	-	-	-
Serier											
No. Strutting Grounds Counted	4	-	-	-	2	-	2	-	-	1	3
Total Male Grouse Counted	5	-	-	-	0	-	0	-	-	20	22
County Average (all strutting grounds)	1	-	-	-	-	-	-	-	-	20	7
% Change From Previous Year - Comparable Grounds	-	-	-	-	-	-	-	-	-	-	-
Wayne											
No. Strutting Grounds Counted	14	1*	(12)*	-	13	13	13	13	10	16	12
Total Male Grouse Counted	300	123	(89)	-	120	182	326	268	259	367	289
County Average (all strutting grounds)	21	123	(7)	-	9	14	25	21	26	23	22
% Change From Previous Year - Comparable Grounds	-	-	-	-	-15	79	-18	-	-	-	-
REGIONAL TOTALS											
No. Strutting Grounds Counted	44	23	12	21	34	30	32	34	25	17	32
Total Male Grouse Counted	928	563	185	391	461	473	734	633	596	387	663
Average Grouse Per Ground (all strutting grounds)	21	24	15	19	14	16	23	19	24	31	17
% Change From Previous Year - Comparable Grounds	33	-9	-33	-	12	13	48	-18	-	-	-35

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

Table 1 (continued)

Region and County	Year										
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Northeastern Region											
Daggett											
No. Strutting Grounds Counted	6	6	--	5	6	6	6	7	6	--	6
Total Male Grouse Counted	18	45	--	25	22	26	46	25	42	--	17
County Average (all strutting grounds)	3	7	--	5	3	4	8	4	7	--	3
% Change From Previous Year - Comparable Grounds	-57	56	--	-43	--	16	77	-24	24	--	--
Duchesne											
No. Strutting Grounds Counted	15	15	--	13	14	14	7	11	15	--	16
Total Male Grouse Counted	156	178	--	121	117	104	9	76	173	--	129
County Average (all strutting grounds)	10	12	--	9	8	7	1	7	12	--	8
% Change From Previous Year - Comparable Grounds	15	17	--	-29	--	-12	-83	167	22	--	--
Grand											
No. Strutting Grounds Counted	--	--	--	--	--	--	2	--	--	--	--
Total Male Grouse Counted	--	--	--	--	--	--	5	--	--	--	--
County Average (all strutting grounds)	--	--	--	--	--	--	3	--	--	--	--
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	--	0	--	--	--	--
Uintah											
No. Strutting Grounds Counted	12	16	--	12	14	14	22	20	20	--	22
Total Male Grouse Counted	242	273	--	190	216	159	468	266	321	--	287
County Average (all strutting grounds)	20	17	--	16	15	11	21	13	16	--	13
% Change From Previous Year - Comparable Grounds	40	-21	--	-21	--	-26	66	-45	0	--	--
Wasatch											
No. Strutting Grounds Counted	--	--	--	--	--	--	2	2	--	--	--
Total Male Grouse Counted	--	--	--	--	--	--	22	22	--	--	--
County Average (all strutting grounds)	--	--	--	--	--	--	11	11	--	--	--
% Change From Previous Year - Comparable Grounds	--	--	--	--	--	--	120	0	--	--	--
REGIONAL TOTALS											
No. Strutting Grounds Counted	33	37	--	30	34	34	37	40	41	--	44
Total Male Grouse Counted	416	396	--	336	339	289	550	389	536	--	433
Average Grouse Per Ground (all strutting grounds)	13	13	--	11	10	9	15	10	13	--	5
% Change From Previous Year - Comparable Grounds	17	-3	--	-26	--	-18	37	-37	9	--	--

Table 1 (continued)

Region and County	Year										
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Southeastern Region											
Carbon	1	1	--	--	2	7	10	10	9	8	8
No. Strutting Grounds Counted	0	16	--	--	32	55	196	181	146	103	40
Total Male Grouse Counted	--	16	--	--	16	8	20	18	16	13	5
County Average (all strutting grounds)	--	100*	--	--	--	-27	142	-8	-38	-11	-61
% Change From Previous Year - Comparable Grounds											
Emery	2	--	--	1	1	2	2	2	2	2	2
No. Strutting Grounds Counted	9	--	--	12	11	10	12	28	5	7	7
Total Male Grouse Counted	5	--	--	12	11	5	6	14	3	4	4
County Average (all strutting grounds)	--	--	--	--	-8	-18	20	167	-82	40	0
% Change From Previous Year - Comparable Grounds											
San Juan											
No. Strutting Grounds Counted	4	6	4	4	4	4	4	4	4	4	4
Total Male Grouse Counted	47	59	57	39	29	35	32	39	41	32	40
County Average (all strutting grounds)	12	10	14	10	7	9	8	10	10	8	10
% Change From Previous Year - Comparable Grounds	-25	52	-14	-29	-26	28	-9	22	5	-22	25
REGIONAL TOTALS											
No. Strutting Grounds Counted	7	7	4	4	7	13	16	16	15	6	6
Total Male Grouse Counted	56	75	57	39	72	100	240	248	192	47	55
Average Grouse Per Ground (all strutting grounds)	8	11	14	10	10	8	15	16	13	8	9
% Change From Previous Year - Comparable Grounds	-28	34	-14	-29	-26	0	74	3	-35	2	-12
STATE TOTALS											
No. Strutting Grounds Counted	121	113	43	97	118	126	137	119	130	71	125
Total Male Grouse Counted	2,089	1,711	664	1,234	1,708	1,818	2,734	2,041	2,660	1,252	2,050
Average Grouse Per Ground (all strutting grounds)	17	15	15	13	14	14	20	17	20	18	16
% Change From Previous Year - Comparable Grounds	-1	-8	-18	-1	5	2	51	14	-2	-11	3

Table 2. Sage grouse summer inventory, 1992.

Region and County	Distinct		Mixed Young		Mean Brood	Total Young	Adults w/o Young	Total Adults	Total Young	Young/100 Adults	Vehicle Miles		Hours of Effort		Birds/100 Hr	
	#	Adults	Adults	& Adults							Young	Young	Vehicle	Miles		Horse
Northern Region																
Box Elder	12	12	50	4.17	10	10	20	42	60	143	--	3	47	20	70	146
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	13	13	59	4.54	27	22	25	65	81	125	--	10	37	9	56	261
Summit	--	--	--	--	--	--	--	--	--	--	--	0	--	--	0	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	25	25	109	4.36	37	32	45	107	141	132	--	13	84	29	126	197
Central Region																
Juab	--	--	--	--	2	9	--	2	9	450	36	3	--	--	3	367
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sampete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	1	1	3	3.00	--	--	--	1	3	308	50	4	--	--	4	100
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	2	2	11	5.50	37	42	2	41	53	129	10	1	30	6	37	254
REGIONAL TOTALS	3	3	14	4.67	39	51	2	44	65	148	96	8	30	6	44	248
Southern Region																
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	12	12	--	--	15	2	--	2	4	829
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	11	11	42	3.82	18	15	103	132	57	43	250	46	--	--	46	411
REGIONAL TOTALS	11	11	42	3.82	18	15	115	144	57	40	265	48	--	2	50	402
Northeastern Region																
Daggett	1	1	6	6.00	7	13	2	10	19	190	51	4	--	1	5	580
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	8	8	38	4.75	3	12	7	18	50	278	142	10	2	1	13	523
REGIONAL TOTALS	9	9	44	4.89	10	25	9	28	69	246	193	14	2	2	18	539
Southeastern Region																
Carbon	3	3	8	2.67	--	--	21	24	8	33	146	4	--	14	18	377
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	1	1	4	4.00	--	--	12	13	4	31	38	3	--	--	3	567
San Juan	1	1	2	2.00	--	--	3	4	2	50	20	2	--	--	2	300
REGIONAL TOTALS	5	5	14	2.80	--	--	36	41	14	34	204	9	--	14	23	239
STATE TOTALS	53	53	223	4.21	104	123	207	364	346	95	758	92	116	53	261	272

Table 3. Trend of sage grouse young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	127	135	75	265	178	94	108	167	267	161	143	
Cache	-	-	-	-	-	-	-	-	500	-	-	
Davis	-	-	-	-	-	-	-	-	-	-	-	
Morgan	-	240	-	300	-	500	-	117	-	-	-	
Rich	85	-	164	96	91	116	153	-	100	67	125	
Summit	80	67	-	400	167	50	-	-	-	-	-	
Weber	-	-	-	-	-	-	-	-	-	-	-	
REGIONAL TOTALS	91	145	126	130	103	115	135	156	235	93	132	133
Central Region												
Juab	-	-	-	-	-	-	380	250	196	-	450	
Salt Lake	-	-	-	-	-	-	-	-	-	-	-	
Sanpete	314	305	-	-	-	-	-	-	-	-	-	
Tonele	107	176	100	125	106	207	100	194	110	287	300	
Utah	-	-	-	-	-	-	150	-	-	1,200	-	
Wasatch	166	157	175	43	200	209	300	-	667	-	129	
REGIONAL TOTALS	209	214	155	64	120	209	135	177	166	344	148	179
Southern Region												
Beaver	32	-	400	43	-	35	-	-	-	-	-	
Garfield	128	133	140	229	125	144	144	40	91	129	-	
Iron	148	150	63	-	250	198	146	155	264	100	-	
Kane	-	1,000	-	-	-	400	-	-	-	-	-	
Millard	-	-	-	-	-	-	-	-	-	-	-	
Plute	-	-	-	-	-	38	-	-	-	-	-	
Serier	-	-	-	-	-	-	-	525	-	500	-	
Washington	-	-	-	-	-	-	-	-	-	-	-	
Wayne	193	104	411	152	44	455	86	-	168	478	43	
REGIONAL TOTALS	130	98	92	137	105	216	127	135	154	128	40	132
Northeastern Region												
Daggett	369	88	250	170	100	124	181	433	533	650	190	
Duchesne	305	240	145	297	180	137	288	217	600	160	-	
Utah	183	375	67	261	127	192	164	148	352	114	278	
REGIONAL TOTALS	237	265	126	255	131	159	172	155	374	161	246	203
Southeastern Region												
Carbon	-	-	238	400	133	150	-	56	33	200	33	
Emery	-	-	-	-	-	-	-	-	-	-	-	
Grand	-	-	-	-	-	-	-	-	-	-	31	
San Juan	-	57	500	88	60	-	200	50	50	200	50	
REGIONAL TOTALS	-	57	267	122	81	150	200	55	88	160	34	118
STATE TOTALS	179	202	125	147	114	160	145	147	183	122	95	152

Table 4. Trend of average brood size for sage grouse, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91	
Northern Region													
Box Elder	3.92	5.00	5.75	5.31	3.57	3.88	33.80	3.80	4.25	3.71	4.17		
Cache	--	--	--	--	--	--	--	--	5.00	--	--		
Davis	--	--	--	--	--	--	--	--	--	--	--		
Morgan	--	4.20	--	3.00	--	5.00	--	7.00	--	--	--		
Rich	4.45	--	3.92	3.96	5.08	5.00	4.27	--	2.00	3.00	4.54		
Summit	2.67	3.33	--	--	4.00	5.00	4.00	--	--	--	--		
Weber	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	4.00	4.25	4.36	4.39	4.74	4.82	4.17	4.30	3.67	3.36	4.36	4.21	
Central Region													
Juab	--	--	--	--	--	--	6.33	4.00	4.75	--	--		
Salt Lake	--	--	--	--	--	--	--	--	--	--	--		
Sanpete	6.36	5.93	--	--	--	--	--	--	--	--	--		
Tooele	3.33	4.33	3.33	3.29	3.25	3.60	3.50	3.00	3.13	3.83	3.00		
Utah	--	--	--	--	--	--	--	--	--	12.00	--		
Wasatch	4.81	3.14	4.90	2.00	5.00	6.94	6.00	--	6.67	--	5.50		
REGIONAL TOTALS	5.32	4.37	4.54	2.56	3.60	5.42	4.29	3.40	4.27	5.00	4.67	4.28	
Southern Region													
Beaver	4.00	--	4.00	5.00	--	5.00	--	--	--	--	--		
Garfield	3.43	3.43	4.00	4.50	2.00	4.00	4.60	--	4.00	6.00	--		
Iron	6.40	3.00	3.50	--	4.00	4.64	3.67	4.66	6.00	5.00	--		
Kane	--	5.00	--	--	--	4.00	--	--	--	--	--		
Millard	--	--	--	--	--	--	--	--	--	--	--		
Piute	--	--	--	--	--	--	--	--	--	--	--		
Sevier	--	--	--	--	--	--	7.00	--	--	--	--		
Washington	--	--	--	--	--	--	--	--	--	--	--		
Wayne	4.43	3.67	5.00	3.57	6.00	6.14	6.29	--	4.30	5.00	3.82		
REGIONAL TOTALS	4.52	3.62	4.27	4.00	4.29	4.89	4.89	4.66	4.82	5.60	3.82	4.56	
Northeastern Region													
Daggett	5.13	5.80	4.63	3.00	1.00	4.00	4.45	4.30	6.00	2.00	6.00		
Duchesne	5.32	4.59	3.77	4.73	4.29	3.54	3.60	2.17	6.00	4.00	--		
Uintah	4.95	5.13	3.00	5.00	5.44	5.55	4.05	5.15	5.60	2.00	4.75		
REGIONAL TOTALS	5.10	5.00	3.96	4.43	4.94	4.59	4.09	4.58	5.63	2.57	4.89	4.49	
Southeastern Region													
Carbon	--	--	4.33	4.00	4.00	1.50	--	4.50	--	6.00	2.67		
Emery	--	--	--	--	--	--	--	--	--	--	--		
Grand	--	--	--	--	--	--	--	--	--	--	4.00		
San Juan	--	4.00	5.00	3.50	3.00	--	--	2.00	--	2.00	2.00		
REGIONAL TOTALS	--	4.00	4.50	3.67	3.40	1.50	--	3.67	--	4.00	2.80	4.32	
STATE TOTALS	4.85	4.58	4.27	4.04	4.53	4.86	4.29	4.37	4.71	3.70	4.21	4.42	

Table 5. Trend of sage grouse observed per 100 hours, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91	
Northern Region													
Box Elder	238	90	195	380	304	475	694	431	303	102	146		
Cache	--	--	11	--	--	0	3	--	126	--	--		
Davis	--	--	--	--	--	--	--	--	--	--	--		
Morgan	77	93	--	19	--	19	--	100	--	--	--		
Rich	188	--	198	288	282	364	287	--	41	304	261		
Summit	109	81	--	--	21	480	300	--	--	--	--		
Weber	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	144	82	110	186	198	251	271	64	78	155	197	154	
Central Region													
Juab	--	--	--	0	--	--	150	311	323	--	--	367	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	
Sampete	426	214	--	--	--	--	--	--	--	--	--	--	
Tooele	207	203	105	242	746	742	150	252	150	414	100		
Utah	--	--	--	--	--	--	125	--	--	1,300	--		
Wasatch	362	41	122	267	92	792	27	19	209	--	254		
REGIONAL TOTALS	342	111	118	244	310	776	118	154	200	338	248	271	
Southern Region													
Beaver	62	767	167	429	--	575	--	--	--	--	--	--	
Garfield	291	300	257	295	225	275	452	207	661	320	--	--	
Iron	315	71	260	--	466	1,331	1,517	1,000	589	400	--	--	
Kane	--	275	--	--	--	500	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	316	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	417	--	--	150	829	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	--	
Wayne	783	612	381	358	344	793	542	--	900	511	411		
REGIONAL TOTALS	429	392	304	342	300	732	574	705	781	314	402	487	
Northeastern Region													
Daggett	300	467	308	284	114	492	474	168	585	1,000	580		
Duchesne	845	433	454	325	165	382	141	123	350	81	--		
Uintah	1,036	866	314	888	813	642	830	1,191	566	1,500	523		
REGIONAL TOTALS	800	631	364	490	474	509	589	741	533	356	539	549	
Southeastern Region													
Carbon	--	--	415	--	200	28	--	125	685	90	377		
Emery	--	--	--	--	--	--	--	--	--	--	--		
Grand	--	--	--	--	--	--	--	--	--	--	567		
San Juan	--	50	57	231	400	--	--	150	120	100	300		
REGIONAL TOTALS	--	50	194	235	271	28	--	129	386	100	239	149	
STATE TOTALS	401	258	180	274	291	415	347	288	279	273	272	301	

Table 6. Summary of sage grouse hunter success and distribution of harvest and hunter pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	63	1,954	1,883	0.96	12.39	15.50
CACHE**	23	1,137	622	0.55	7.21	5.12
DAVIS**	9	355	213	0.60	2.25	1.75
MORGAN**	4	302	213	0.71	1.91	1.75
RICH	70	2,328	1,919	0.82	14.75	15.79
SUMMIT**	4	142	195	1.38	0.90	1.61
WEBER**	10	390	213	0.55	2.48	1.75
REGIONAL TOTALS	183	6,611	5,260	0.80	41.89	43.27
CENTRAL REGION						
JUAB**	4	106	17	0.17	0.68	0.15
SALT LAKE**	2	53	0	0.00	0.34	0.00
SANPETE**	7	408	88	0.22	2.59	0.73
TOOLE**	11	355	231	0.65	2.25	1.90
UTAH**	27	977	941	0.96	6.19	7.75
WASATCH **	7	177	124	0.70	1.13	1.02
REGIONAL TOTALS	58	2,079	1,403	0.68	13.18	11.55
SOUTHERN REGION						
BEAVER	9	319	266	0.83	2.03	2.19
GARFIELD	14	444	426	0.96	2.82	3.51
IRON	17	693	444	0.64	4.39	3.65
KANE	4	124	88	0.71	0.79	0.73
MILLARD**	3	88	71	0.80	0.56	0.58
PIUTE	5	124	213	1.71	0.79	1.75
SEVIER	19	728	355	0.49	4.62	2.92
WASHINGTON**	1	35	35	1.00	0.23	0.29
WAYNE	27	924	853	0.92	5.86	7.02
REGIONAL TOTALS	99	3,483	2,754	0.79	22.07	22.66
NORTHEASTERN REGION						
DAGGETT	10	266	159	0.60	1.69	1.32
DUCHESNE	15	497	177	0.36	3.15	1.46
UINTAH	49	2,292	1,990	0.87	14.53	16.37
REGIONAL TOTALS	74	3,056	2,328	0.76	19.37	19.15
SOUTHEASTERN REGION						
CARBON	9	248	159	0.64	1.58	1.32
EMERY**	4	177	106	0.60	1.13	0.88
GRAND	4	106	142	1.33	0.68	1.17
SAN JUAN**	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	17	533	408	0.77	3.38	3.36
UNKNOWN	1	17	0	0.00	0.11	0.00
STATE TOTALS	432	15,781	12,156	0.77	100.00	100.00

* Total hunter-trips from questionnaire returns.

**Closed to sage grouse hunting in 1992.

Table 7. Summary of sage grouse bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	0.73	0.94	1.05	0.78	0.94	0.92	0.55	0.96
Cache	0.21*	0.18*	0.38*	0.47*	0.45*	0.58	0.32*	0.55*
Davis	0.25*	0.25*	0.00*	0.00*	0.72*	0.25*	0.18*	0.60*
Morgan	0.25*	0.47*	1.25*	0.36*	0.50*	0.33*	0.93*	0.71*
Rich	0.30	0.58	0.88	0.81	0.63	0.85	1.01	0.82
Summit	0.20*	0.50*	0.55*	0.57*	0.71*	0.77*	0.67*	1.38*
Weber	0.43*	0.57*	0.56*	0.64*	0.27*	0.43*	0.34*	0.55*
REGIONAL TOTALS	0.49	0.67	0.76	0.66	0.69	0.75	0.66	0.80
Central Region								
Juab	4.00*	3.00*	0.60*	0.88*	0.22*	0.20*	0.54*	0.17*
Salt Lake	0.08*	2.54*	0.00*	0.50*	0.30*	0.00*	0.70*	0.00*
Sanpete	0.44*	0.38*	0.62*	0.23*	0.61*	1.00*	0.44*	0.22*
Tooele	0.23*	1.54*	1.10*	0.27	0.41*	1.15*	0.35*	0.65*
Utah	0.45*	0.42	0.62	0.42	0.33	0.39	0.86*	0.96*
Wasatch	0.19	0.65*	0.58	0.48*	1.50*	0.55*	0.47*	0.70*
REGIONAL TOTALS	0.46	0.85	0.70	0.36	0.42	0.52	0.53	0.68
Southern Region								
Beaver	0.33	0.90	1.08	0.76	0.42	0.38	0.29	0.83
Garfield	0.78	0.68	1.50	1.17	1.14	0.74	0.52	0.96
Iron	1.85	0.82	1.29	0.61	0.62	0.58	0.93	0.64
Kane	0.50	0.13	0.00	1.00	0.75	0.54	0.67	0.71
Millard	2.00*	0.50*	1.00*	0.00*	0.09*	3.14*	1.27*	0.80*
Piute	0.95	0.50	0.58	0.95	1.87	0.50	1.00	1.71
Sevier	0.40	0.43	1.00	0.67	0.39	1.08	0.39	0.49
Washington	0.50*	0.00	0.00*	0.00*	0.00*	1.63*	2.00*	1.00*
Wayne	1.19	1.19	0.60	1.30	1.05	1.04	1.03	0.92*
REGIONAL TOTALS	0.92	0.75	0.99	0.91	0.86	0.92	0.78	0.79
Northeastern Region								
Daggett	0.92	0.45	1.00	1.20	0.33*	0.73	0.48	0.60
Duchesne	0.67	1.00	0.91	1.00	1.14	1.19	0.67	0.36
Uintah	1.08	1.30	1.25	1.12	0.98	0.87	0.71	0.87
REGIONAL TOTALS	0.95	1.16	1.17	1.11	0.93	0.89	0.68	0.76
Southeastern Region								
Carbon	0.60	1.24	1.09	1.04	0.44	0.29	0.50	0.64
Emery	0.63	2.71	1.00	0.77	0.95	0.20*	0.88*	0.60*
Grand	1.00	0.40	2.00	0.00	1.50	1.11	0.00	1.33
San Juan	0.00	1.33	0.00	10.00	0.00*	0.00*	0.57*	0.00*
REGIONAL TOTALS	0.60	1.44	1.13	1.40	0.63	0.47	0.59	0.77
Unknown counties	5.67	2.00	0.00	1.63	0.00	0.00	0.00	0.00
Closed areas	(9.04)	(10.58)	(6.06)	(3.25)	(4.65)	(9.65)	(10.52)	0.77
STATE TOTALS	0.78	0.84	0.89	0.76	0.71	0.78	0.67	

*Closed season.

Table 8. Percentage distribution of sage grouse harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	14.20	19.61	16.63	16.47	22.39	17.21	12.34	15.50
Cache	1.31*	0.88*	5.02*	4.77*	2.72*	5.22	2.64*	5.12*
Davis	0.18*	0.35*	0.00*	0.00*	2.72*	0.26*	0.28*	1.75*
Morgan	0.37*	2.45*	0.96*	1.36*	1.06*	0.78*	1.80*	1.75*
Rich	2.80	4.90	8.12	12.04	11.65*	14.99	24.55	15.79
Summit	0.37*	0.88*	1.16*	1.81*	0.76*	1.30*	2.22*	1.61*
Weber	1.12*	2.80*	0.96*	2.61*	2.12*	2.48*	2.91*	1.75*
REGIONAL TOTALS	20.37	31.87	32.88	39.09	43.42	42.24	46.74	43.27
Central Region								
Juab	2.98*	2.10*	0.58*	0.79*	0.30*	0.39*	0.97*	0.15*
Salt Lake	0.18*	5.78*	0.00*	0.11*	0.45*	0.00*	0.97*	0.00*
Sanpete	1.49*	1.58*	3.48*	1.25*	2.57*	1.17*	0.97*	0.73*
Tooele	0.56*	3.50*	4.25*	1.81	2.27	1.96*	0.97*	1.90*
Utah	4.67*	3.85	4.64	2.15	3.18	2.09	1.66*	7.75
Wasatch	0.75	2.63*	1.35	1.81*	0.91	0.78*	1.25*	1.02*
REGIONAL TOTALS	10.65	19.44	14.31	7.95	9.68*	6.39	6.80	11.55
Southern Region								
Beaver	1.12	1.58	5.41	1.81	0.76	0.65	0.28	2.19
Garfield	6.54	4.38	4.64	3.86	8.62	7.17	2.36	3.51
Iron	4.48	2.45	3.48	1.59	2.42	1.43	1.94	3.65
Kane	0.18	0.18	0.00	0.11	0.45	0.91	0.28	0.73
Millard	1.87*	0.18*	0.38*	0.00*	0.15*	2.87*	2.64*	0.58*
Piute	3.36	0.35	1.35	2.04	4.24	0.65	2.77	1.75
Sevier	1.12	1.75	2.32	5.00	1.97	6.78	3.05	2.92
Washington	0.37*	0.00	0.00*	0.00*	0.00*	1.69*	0.55*	0.29*
Wayne	8.03	6.65	2.32	8.40	6.51	6.39	10.13	7.02
REGIONAL TOTALS	27.10	17.50	19.92	22.84	25.11	28.55	24.00	22.66
Northeastern Region								
Daggett	2.24	0.88	2.32	2.04	0.76*	3.78	1.39	1.32
Duchesne	5.23	3.68	4.06	2.61	3.63	4.82	2.77	1.46
Uintah	19.43	18.21	23.21	17.61	12.41	11.8	14.98	16.37
REGIONAL TOTALS	26.91	22.78	29.59	22.27	16.79	20.47	19.14	19.15
Southeastern Region								
Carbon	1.12	3.68	2.32	2.95	1.66	0.91	1.80	1.32
Emery	0.93	3.33	0.19	1.13	2.87	0.13*	0.97*	0.88*
Grand	0.18	0.35	0.77	0.00	0.45	1.30	0.00	1.17
San Juan	0.00	0.70	0.00	2.27	0.00*	0.00*	0.55*	0.00*
REGIONAL TOTALS	2.24	8.06	3.28	6.36	4.99	2.35	3.33	3.36
Unknown counties	12.71	0.35	0.00	1.47	0.00	0.00	0.00	0.00
Closed areas	(11.47)	(23.09)	(16.79)	(14.51)	(14.52)	(13.81)	(21.36)	(25.28)
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed season

() Percent of total harvest in closed areas.

Table 9. Percentage distribution of sage grouse hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	15.15	17.53	14.11	15.99	16.81	14.71	15.16	12.39
Cache	4.71*	4.12*	11.87*	7.65*	4.28*	7.05	5.61*	7.21*
Davis	0.58*	1.18*	0.34*	1.63*	2.68*	0.82*	1.03*	2.25*
Morgan	1.16*	4.42*	0.68*	2.83*	1.50*	1.84*	1.31*	1.91*
Rich	7.28	7.07	8.26	11.26	13.17	13.89	16.46	14.75
Summit	1.46*	1.47*	1.89*	2.40*	0.75*	1.33*	2.25*	0.90*
Weber	2.04*	4.12*	1.54*	3.09*	5.57	4.49*	5.80*	2.48
REGIONAL TOTALS	32.51	39.91	38.72	44.88	44.75	44.13	47.62	41.89
Central Region								
Juab	0.58*	0.59*	0.86*	0.68*	0.96*	1.53*	1.22*	0.68*
Salt Lake	1.75*	1.91*	0.17*	0.17*	1.07*	0.51*	0.94*	0.34*
Sanpete	2.62*	3.53*	4.99*	4.12*	3.00*	0.92*	1.50*	2.59*
Tooele	1.89*	1.91*	3.44*	5.07	3.96	1.33*	1.87*	2.25*
Utah	8.01*	7.81	6.71	3.86	6.85	4.19	1.31*	6.19*
Wasatch	3.06	3.39*	2.06	2.83*	0.43*	1.12*	1.78*	1.13*
REGIONAL TOTALS	17.93	19.15	18.24	16.76	16.27	9.60	8.61	13.18
Southern Region								
Beaver	2.62	1.47	4.47	1.80	1.28	1.33	0.65	2.03
Garfield	6.56	5.45	2.75	2.49	5.35	7.56	3.09	2.82
Iron	1.89	2.50	2.40	1.97	2.78	1.94	1.40	4.39
Kane	0.29	1.18	0.00	0.08	0.43	1.33	0.28	0.79
Millard	0.73*	0.29*	0.34*	0.00*	1.18*	0.72*	1.40*	0.56*
Piute	2.77	0.59	2.06	1.63	1.61	1.02	1.87	0.79
Sevier	2.18	3.39	2.06	5.67	3.53	4.90	5.33	4.62
Washington	0.58*	0.00	0.34*	0.42*	0.00*	0.82*	0.19*	0.23*
Wayne	5.24	4.71	3.44	4.90	4.39	4.80	6.64	5.86
REGIONAL TOTALS	22.88	19.59	17.89	18.99	20.56	24.41	20.86	22.07
Northeastern Region								
Daggett	1.89	1.62	2.06	1.28	1.61*	4.09	1.96	1.69
Duchesne	6.12	3.09	3.95	1.97	2.25	3.17	2.81	3.15
Uintah	13.99	11.78	16.52	11.95	8.99	10.73	14.31	14.53
REGIONAL TOTALS	22.01	16.59	22.54	15.21	12.85	17.98	19.08	19.37
Southeastern Region								
Carbon	1.46	2.50	1.89	2.14	2.68	2.45	2.43	1.58
Emery	1.16	1.03	0.17	1.11	2.14	0.51*	0.75*	1.13*
Grand	0.14	0.74	0.34	0.00	0.21	0.92	0.00	0.68
San Juan	0.14	0.44	0.17	0.17	0.54*	0.00*	0.65*	0.00*
REGIONAL TOTALS	2.91	4.71	2.57	3.43	5.57	3.88	3.84	3.38
Unknown counties	1.75	0.15	0.00	0.68	0.00	0.00	0.00	0.11
Closed areas	(26.21)	(26.90)	(26.46)	(25.82)	(23.57)	(15.94)	(26.29)	(29.85)
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed season

() Percent of total pressure in closed areas.

Table 10. Statewide summary of sage grouse harvest statistics, 1951-92.

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	21,509	0.93	1.55
1972	13,040	15,983	22,232	0.72	1.23
1973	10,017	13,926	19,049	0.73	1.39
1974	12,214	15,215	23,516	0.65	1.25
1975	13,996	18,916	25,720	0.74	1.35
1976	15,283	24,541	28,342	0.87	1.61
1977	14,078	18,615	25,759	0.72	1.32
1978	16,231	25,938	29,861	0.87	1.60
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
1987	7,060	12,673	14,242	0.89	1.80
1988	8,499	14,692	19,418	0.76	1.73
1989	9,002	13,710	19,373	0.71	1.52
1990	9,014	15,784	20,147	0.78	1.75
1991	8,018	12,542	18,596	0.67	1.56
1992	7,393	12,156	15,781	0.77	1.64
Totals					
(1951-92)	312,577	463,303	553,407	--	--
Average					
(1951-91)	7,444	11,004	13,113	0.61	1.84

* 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, 1992.

Region and County	All Hunts			Complete Hunts								
	Total Parties	Total Hunters	Total Hours	Total Birds	Birds/100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/100 Hr	Birds/Hunter	
Northern Region												
Box Elder	--	--	--	--	--	--	208	1,529	297	19	1.43	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	188	1,109	97	9	0.52	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	396	2,638	394	15	0.99	
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	125	814	55	7	0.44	
REGIONAL TOTALS	--	--	--	--	--	--	125	814	55	7	0.44	
Northeastern Region												
Daggett	1	9	63	0	0	--	--	--	--	--	--	
Duchene	--	--	--	--	--	--	--	--	--	--	--	
Uintah	20	55	177	36	20	16	42	131	34	26	0.81	
REGIONAL TOTALS	21	64	240	36	15	16	42	131	34	26	0.81	
Southeastern Region												
Carbon	8	19	52	14	27	3	7	28	10	36	1.43	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	2	5	40	12	30	2	5	40	12	30	2.40	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	10	24	92	26	28	5	12	68	22	32	1.83	
STATE TOTALS	31	88	332	62	19	21	575	3,651	505	14	0.88	

Table 12. Sage grouse hunter success trend as determined by field bag check, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	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	19	1.39	16	1.21	21	1.28	25	1.77	11	0.83	19	1.43
Cache	--	--	--	--	--	--	--	--	100	2.00	--	--
Davis	--	--	--	--	--	--	--	--	--	0.00	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	17	0.70	18	0.60	8	0.38	13	0.67	9	0.37	9	0.52
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	19	1.20	17	1.06	16	0.87	20	1.24	10	0.62	15	0.99
Central Region												
Josh	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	40	0.83	41	0.87	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	40	0.93	41	0.87	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	50	1.71	65	1.82	64	0.33	--	--	--	--	--	--
Iron	0	0.00	14	0.70	--	0.64	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	21	0.95	23	1.12	--	--	23	0.81	21	1.02	7	0.44
REGIONAL TOTALS	22	0.97	24	1.15	227	0.51	23	0.81	21	1.02	7	0.44
Northeastern Region												
Daggett	80	1.67	40	0.67	6	0.33	17	0.67	35	1.04	--	--
Duchesne	75	1.50	--	--	--	--	50	1.00	13	0.50	--	--
Uintah	36	1.05	26	0.91	20	0.87	27	0.86	40	1.11	26	0.81
REGIONAL TOTALS	40	1.12	27	0.90	18	0.84	26	0.83	34	1.01	26	0.81
Southeastern Region												
Carbon	50	1.00	--	--	22	0.77	13	0.67	--	--	36	1.43
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	50	3.00	--	--	--	--	--	--	--	--	30	2.40
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	50	1.73	--	--	22	0.77	13	0.67	--	--	32	1.83
STATE TOTALS	21	1.15	19	1.04	17	0.85	47	1.83	14	0.75	14	0.88

Table 13. Sex and age composition of harvested sage grouse, 1992.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	237	61	66	127	51	59	110	87	167
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	238	43	61	104	37	97	134	129	220
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	475	104	127	231	88	156	244	106	192
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	292	37	107	144	66	82	148	103	138
REGIONAL TOTALS	292	37	107	144	66	82	148	103	138
Northeastern Region									
Daggett	116	26	40	66	40	53	93	141	233
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	5	1	2	3	1	1	2	67	100
REGIONAL TOTALS	121	27	42	69	41	54	95	138	226
Southeastern Region									
Carbon	42	5	21	26	10	6	16	62	76
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	42	5	21	26	10	6	16	62	76
STATE TOTALS	930	173	297	470	205	298	503	107	169

Table 14. Sex and age composition of harvested magpie grouse from 1993-92.

Region and County	1993						1990						1991						1992						Average 1993-91																
	Sex Ratio %			Young/100A			Sex Ratio %			Young/100A			Sex Ratio %			Young/100A			Sex Ratio %			Young/100A			Sex Ratio %			Young/100A													
	n	M	F	100M	100A	Young/100A	n	M	F	100M	100A	Young/100A	n	M	F	100M	100A	Young/100A	n	M	F	100M	100A	Young/100A	n	M	F	100M	100A	Young/100A											
Northern Region																																									
Boz Elder	283	37	63	173	11	193	193	61	39	171	119	193	193	61	39	171	119	193	193	61	39	171	119	193	193	61	39	171	119	193	193	61	39	171	119	193	193	61	39	171	119
Chebe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
David	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Morgan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ritch	99	35	65	178	136	141	203	61	39	439	156	203	203	56	34	238	66	238	34	66	238	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129	129		
Summit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Webber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
REGIONAL TOTALS	310	37	63	176	132	159	159	61	39	419	180	193	193	58	38	475	64	475	60	66	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192	192			
Central Region																																									
Jamb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Salt Lake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sagepelt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Towdle	25	24	74	171	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Utah	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Wasatch	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	25	24	74	171	189	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Southern Region																																									
Beaver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Cardfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Icon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Kane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Millard	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Fluite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Braker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Washington	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Wayne	209	33	68	115	97	203	203	42	58	333	156	203	203	42	58	333	156	203	42	58	333	156	203	203	42	58	333	156	203	203	42	58	333	156	203	203	42	58	333		
REGIONAL TOTALS	209	33	68	115	97	203	203	42	58	333	156	203	203	42	58	333	156	203	42	58	333	156	203	203	42	58	333	156	203	203	42	58	333	156	203	203	42	58			
Northwestern Region																																									
Doggett	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Duchess	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Utah	242	36	64	94	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
REGIONAL TOTALS	242	36	64	94	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Southwestern Region																																									
Carbon	65	39	71	84	67	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-		
Emery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Grand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
San Juan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
REGIONAL TOTALS	65	39	71	84	67	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77	-	-	86	64	77	77				
STATE TOTALS	921	38	62	133	98	943	43	58	268	134	268	197	197	41	59	930	41	59	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169				

FOREST GROUSE

SUMMARY

Judging from harvest statistics for the fall of 1991, the 1992 breeding populations of blue and ruffed grouse were just below average. However, blue and ruffed grouse observed per 100 hours of effort during summer brood counts in 1992 increased 16 and 35 percent respectively.

Production of blue and ruffed grouse increased and decreased slightly from 1991. A total of 44 forest grouse broods were observed during 1992 compared with 51 in 1991, 59 in 1990 and 46 in 1989.

Total harvest increased from 34,897 in 1991 to 44,518 in 1992, a 20 percent increase. Total hunters and days afield also increased.

These data indicate that hunters are discovering forest grouse hunting and are using the resources more than 10 years ago.



Brood Counts

Ruffed Grouse

Results of the annual random brood survey for 1992 are shown in Table 1 of this section. Long-term trends of young per 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 1992 compared to 1991 and the previous 10-year average (1982-1991) follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total ruffed grouse observed	56	+2	-41
Young per 100 adults	273	-15	-13
Mean brood size	4.10	+2	-3
Ruffed grouse observed per 100 hours	31	+35	-14
Total hours effort	181	-23	-38

Harvest statistics for 1991 indicated a below average breeding population for 1992.

Effort on brood surveys decreased by 23 percent and was 38 percent below average.

Grouse observed per 100 hours was 14 percent below average, while mean brood size was 3 percent below average indicating decreased production.

Blue Grouse

Results of the annual random brood survey for 1992 are shown in Table 5 of this section. Long-term trends of young per adult ratios, mean brood size and blue grouse observed per 100 hours are found in Tables 6-8. Survey results for 1992 compared to 1991 and the previous 10-year average (1982-91) follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total blue grouse observed	216	-18	-45
Young per 100 adults	243	+2	0
Mean brood size	4.29	+11	+15
Blue grouse observed per 100 hours	130	+16	+19
Total hours effort (forest grouse)	166	-30	-55

Harvest statistics for 1991 indicated the blue grouse breeding population for 1992 was below average.

The 1992 summer surveys on blue grouse indicated that production increased (2 percent) from 1991 and was about average.

Total observations decreased 18 percent, with a 30 percent decrease in effort. The number of grouse observed per 100 hours of effort increased from 1991 and was 19 percent above average.

Harvest

Hunter Questionnaire

Results of the 1992 blue grouse, ruffed grouse and combined hunter questionnaire are shown in Table 10, 11 and 12 respectively. 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 13-15 and total statewide harvest statistics in Table 16 and Figures 1 and 2. Forest grouse season length, bag limits and harvest statistics, 1963-1992 are listed in Table 17. Harvest statistics for 1992 compared to 1991 and the previous 29-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Forest grouse hunters	15,000	+14	+2
Forest grouse harvested	44,518	+28	+25
Hunter-days afield	46,136	+9	+26
Forest grouse per hunter-day	0.96	+17	-1
Forest grouse per hunter	2.97	+23	+29
Percent ruffed grouse	33.73	-2	-13
Percent blue grouse	65.47	+7	+19
Percent unidentified	0.80	-82	-87

Total harvest increased 28 percent from 1991 and was 25 percent above average. Overall, hunter success (grouse per hunter-day) was 26 percent above average and the number of grouse harvested per hunter was 29 percent above average. Hunter pressure increased slightly and was still 2 percent above the 29-year average.

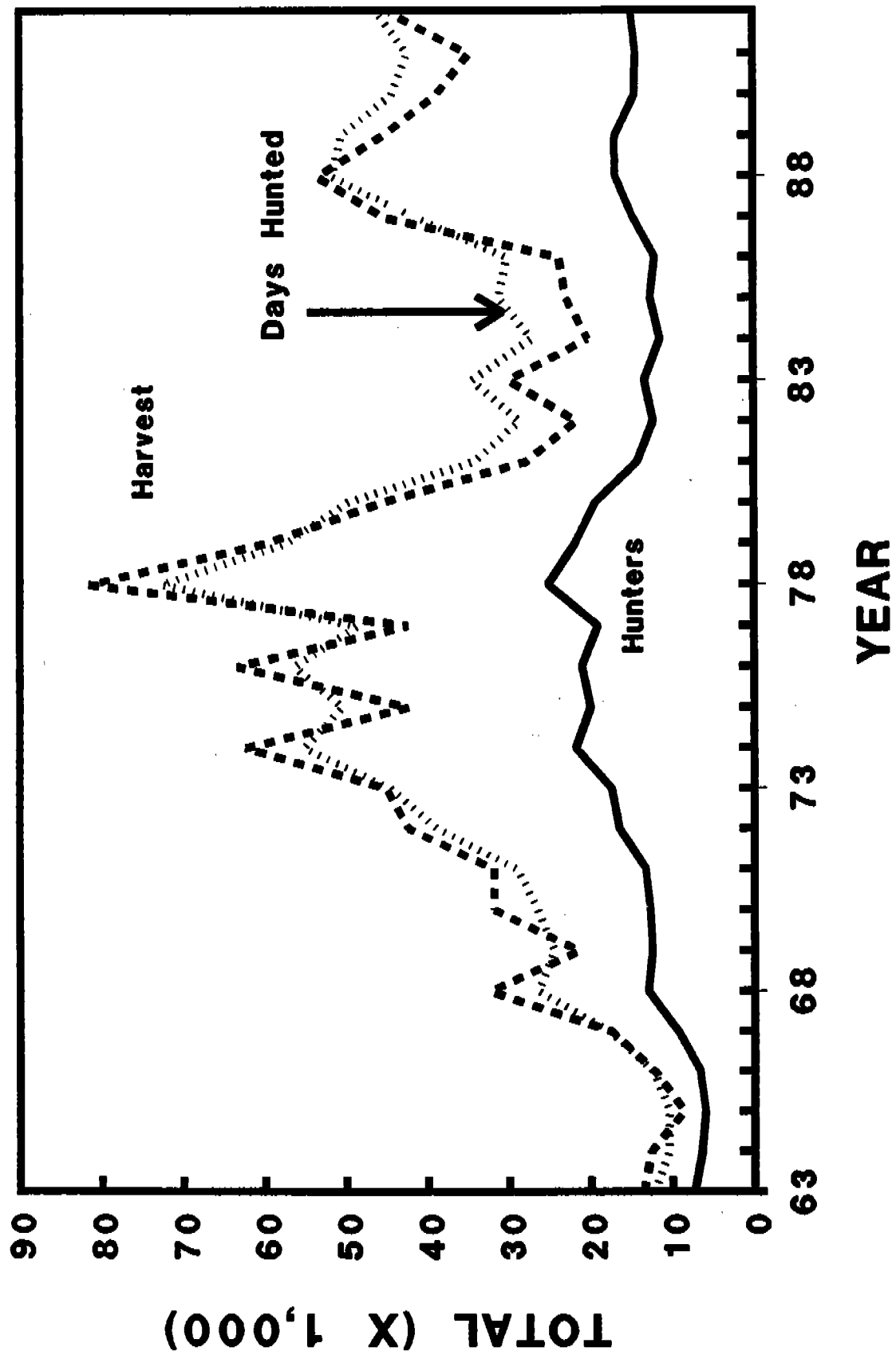


Figure 1. Statewide trends of forest grouse harvest statistics, 1963-92.

FOREST GROUSE PER HUNTER AND PER DAY

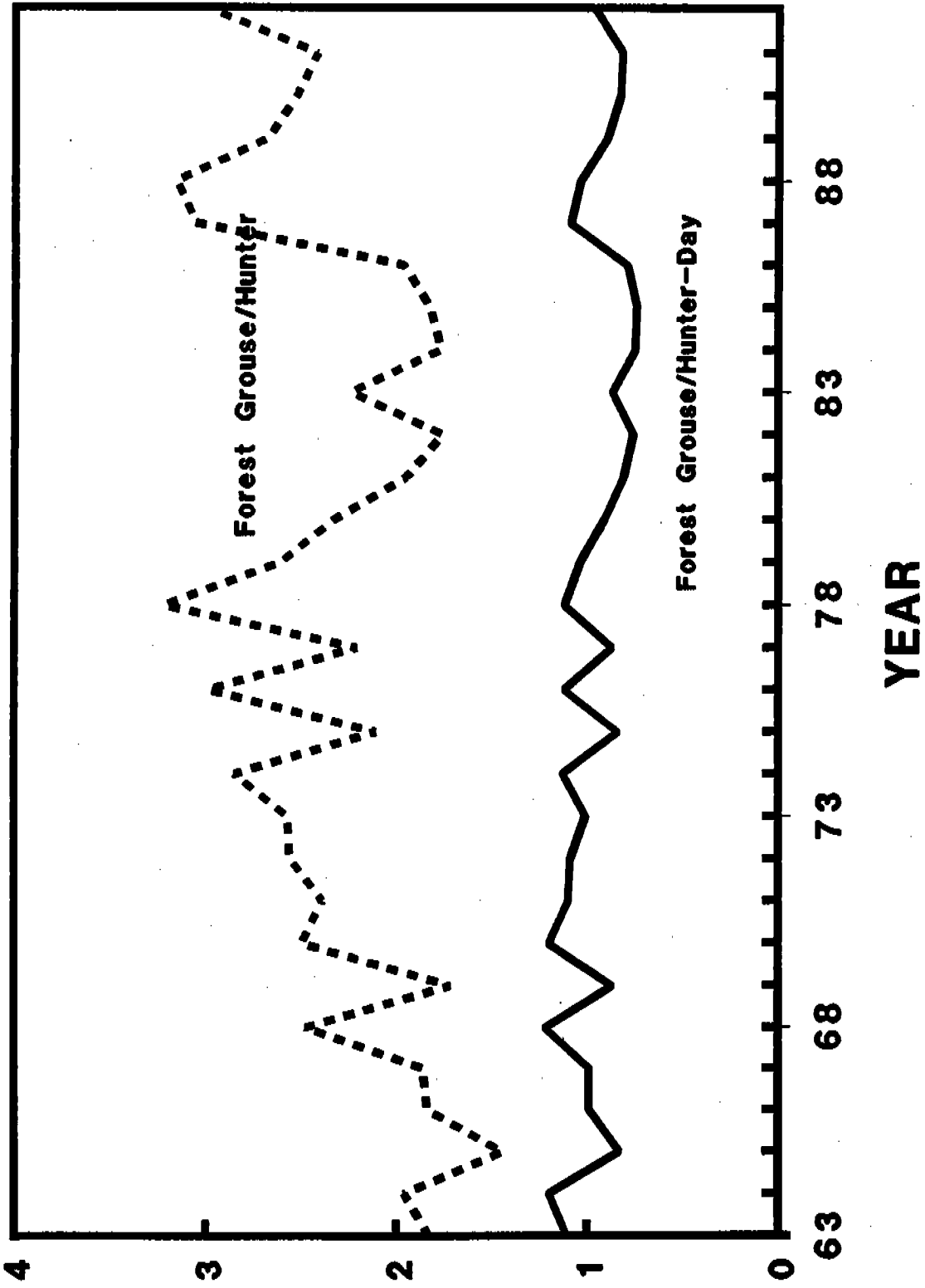


Figure 2. Statewide trends of forest grouse hunter success rates, 1963-92.

Field Bag Checks

A summary of field bag check data for 1992 is found in Table 18. Hunter success trends determined via this method are shown in Table 19. Sex and age composition of the harvest as determined from wings is shown in Table 20 and 21. Results of the 1992 survey compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	341	-35	-47
Total hours hunted	289	-64	-88
Forest grouse per hunter (complete hunts)	0.74	+48	+11
Forest grouse bagged per 100 hours	87	+172	+368
Average hours per hunter-day (complete hunts)	0.85	-45	-77
Hours hunted per grouse bagged (complete hunts)	1.12	-64	-81

There was a substantial decrease in numbers of hunters checked in 1992. Hunter success (grouse per hunter) increased 48 percent from 1991 and was 11 percent above average.

Table 1. Ruffed grouse summer inventory, 1992.

Region and County	Distinct Broods		Mixed Young & Adults		Mean Brood	Total Young	Total Adults	Total Young w/o	Total Young	Young/100 Adults	Vehicle Miles	Hours of Effort			Birds/100 Hr
	#	Adults	Young	Adults								Young	Vehicle	Horse	
Northern Region															
Box Elder	1	1	4	4.00	--	--	--	1	4	400	80	9	2	11	45
Cache	1	1	5	5.00	--	2	3	5	5	167	158	20	--	20	40
Davis	3	3	13	4.33	--	3	6	13	13	217	104	12	--	13	76
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	6	32	--	38
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	3	3	14	4.67	--	3	14	14	467	20	2	8	0	10	170
REGIONAL TOTALS	8	8	36	4.50	--	5	13	36	277	362	49	40	15	104	47
Central Region															
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	1	1	4	4.00	--	--	1	4	400	70	10	--	3	13	38
Tooele	--	--	--	--	--	--	--	--	--	20	2	--	--	2	--
Utah	1	1	1	1.00	--	--	1	1	100	65	8	--	7	15	13
Wasatch	--	--	--	--	--	--	--	--	--	12	2	20	--	22	--
REGIONAL TOTALS	2	2	5	2.50	--	--	2	5	250	167	22	20	10	52	13
Southern Region															
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region															
Daggett	--	--	--	--	--	--	--	--	--	--	10	1	--	1	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	4	--	4	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	10	1	4	--	5	--
Southeastern Region															
Carbon	--	--	--	--	--	--	--	--	--	--	25	4	--	1	5
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	52	6	2	2	10	--
San Juan	--	--	--	--	--	--	--	--	--	28	4	--	1	5	--
REGIONAL TOTALS	--	--	--	--	--	--	5	--	273	644	86	66	29	181	31
STATE TOTALS	10	10	41	4.10	--	5	15	41	273	644	86	66	29	181	31

Table 2. Trend of ruffed grouse young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	300	--	--	433	150	50	--	300	250	400	
Cache	--	700	--	350	100	300	267	300	150	225	167	
Davis	--	--	--	--	--	--	136	--	--	--	217	
Morgan	--	200	--	0	--	--	--	--	--	--	--	
Rich	--	--	--	667	200	--	267	--	--	--	--	
Summit	--	--	--	200	400	500	--	300	450	400	--	
Weber	--	--	--	150	--	380	220	--	--	700	467	
REGIONAL TOTALS	--	286	--	308	300	337	141	300	300	355	277	290
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	150	0	--	--	--	--	--	
Sanpete	476	475	--	8,700	--	--	--	--	--	300	400	
Tooele	300	--	--	--	--	--	--	--	--	--	--	
Utah	275	--	--	--	460	320	300	300	--	--	100	
Wasatch	--	300	--	--	--	--	--	--	280	--	--	
REGIONAL TOTALS	414	392	--	700	322	320	300	300	280	300	250	376
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	450	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	333	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	450	--	333	--	--	392
Northeastern Region												
Daggett	--	--	--	--	--	--	--	150	--	--	--	
Duchesne	--	--	--	--	--	--	--	400	600	--	--	
Uintah	--	--	--	--	--	400	--	267	600	--	--	
REGIONAL TOTALS	--	--	--	--	--	400	--	250	600	--	--	417
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	--	--	--	--	--	300	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	300	--	--	--	--	--	300
STATE TOTALS	404	353	--	336	312	306	160	277	356	350	273	317

Table 3. Trend of average brood size for ruffed grouse, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	3.00	--	--	2.00	3.00	3.00	--	3.00	5.00	4.00	
Cache	--	7.00	--	3.50	1.00	3.14	4.00	3.00	3.00	3.00	5.00	
Davis	--	--	--	--	--	--	4.00	--	--	--	4.33	
Morgan	--	5.00	--	--	--	--	--	--	--	3.33	--	
Rich	--	--	--	6.67	3.00	--	--	3.00	--	--	--	
Summit	--	--	--	3.33	4.00	5.00	--	3.00	4.50	4.00	--	
Weber	--	--	--	3.00	--	4.75	3.67	--	--	7.00	4.67	
REGIONAL TOTALS	--	5.00	--	4.44	2.60	3.93	3.64	3.00	3.75	4.13	4.50	3.81
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Saupete	5.47	4.75	--	7.00	--	--	--	--	--	3.00	4.00	
Tonele	4.00	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	4.60	3.20	3.00	3.00	--	--	1.00	
Wasatch	--	9.00	--	--	--	--	--	--	4.70	--	--	
REGIONAL TOTALS	5.13	5.22	--	7.00	4.60	3.20	3.00	3.00	4.70	3.00	2.50	4.32
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	4.50	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	5.00	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	4.50	--	5.00	--	--	4.75
Northeastern Region												
Daggett	--	--	--	--	--	--	--	3.00	--	--	--	
Duchesne	--	--	--	--	--	--	--	4.00	6.00	--	--	
Uintah	--	--	--	--	--	4.00	--	4.00	6.00	--	--	
REGIONAL TOTALS	--	--	--	--	--	4.00	--	3.75	6.00	--	--	4.58
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	--	--	--	--	--	3.00	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	3.00	--	--	--	--	--	3.00
STATE TOTALS	5.13	5.15	--	4.70	3.60	3.75	3.71	3.30	4.75	4.00	4.10	4.23

Table 4. Trend of ruffed grouse observed per 100 hours, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
Northern Region													
Box Elder	--	38	--	--	80	31	100	--	64	29	45		
Cache	3	6	--	17	20	58	17	46	5	76	40		
Davis	--	--	--	--	--	--	114	--	--	--	76		
Morgan	--	57	--	2	--	--	--	--	--	50	--		
Rich	--	--	--	1,150	53	--	50	--	--	--	--		
Summit	--	--	--	52	36	900	--	9	40	20	--		
Weber	--	--	--	21	--	267	178	--	--	26	170		
REGIONAL TOTALS	1	1	--	26	30	56	62	22	13	32	47	27	
Central Region													
Juniata	--	--	--	--	--	--	--	--	--	--	--		
Salt Lake	--	--	--	--	167	--	--	--	--	--	--		
Sanpete	293	271	--	160	--	--	--	--	--	12	38		
Tooele	880	--	--	--	--	--	--	--	--	--	--		
Utah	38	3	--	--	400	50	133	133	--	--	13		
Wasatch	--	--	86	--	--	25	--	--	46	--	--		
REGIONAL TOTALS	144	63	86	14	88	30	133	133	28	6	13	72	
Southern Region													
Beaver	--	--	--	--	--	--	--	--	--	--	--		
Garfield	--	--	--	--	--	--	--	--	--	--	--		
Iron	--	--	--	--	--	--	--	--	--	--	--		
Kane	--	--	--	--	--	--	--	--	--	--	--		
Millard	--	--	--	--	--	--	--	--	--	--	--		
Piute	--	--	--	--	--	--	--	--	--	--	--		
Sevier	--	--	--	--	--	--	138	--	--	--	--		
Washington	--	--	--	--	--	--	--	--	--	--	--		
Wayne	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	--	--	--	--	--	--	138	--	433	--	--	286	
Northeastern Region													
Daggett	--	--	--	--	--	--	--	109	--	--	--		
Duchesne	--	--	--	--	--	4	--	33	175	--	--		
Uintah	--	--	--	--	--	68	--	28	180	--	--		
REGIONAL TOTALS	--	--	--	--	--	28	--	28	105	--	--	54	
Southeastern Region													
Carbon	--	--	--	--	--	--	--	--	--	--	--		
Emery	--	--	--	--	0	400	--	--	--	--	--		
Grand	--	--	--	--	0	--	--	--	--	--	--		
Sun Juan	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	--	--	--	--	0	400	--	--	--	--	--	200	
STATE TOTALS	66	19	86	22	47	45	46	26	30	23	31	41	

Table 5. Blue grouse summer inventory, 1992.

Region and County	Distinct Broods		Mean		Mixed Young & Adults		Adults w/o Young		Total Young	Total Adults	Young/100 Adults	Hours of Effort			Birds/100 Hr		
	#	Adults	Brood	Young	Adults	Young	Young	Adults				Vehicle Miles	Horse	Walk		Total	
Northern Region																	
Box Elder	2	2	10	5.00	--	--	3	5	10	5	200	80	9	2	11	136	
Cache	1	1	4	4.00	--	--	4	5	4	5	80	158	20	--	20	45	
Davis	6	6	18	3.00	2	--	2	10	18	10	180	104	12	--	13	112	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	4	4	24	6.00	--	--	2	6	24	6	400	--	6	32	--	79	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	2	2	--	2	2	2	100	20	2	8	0	40	
REGIONAL TOTALS	13	13	56	4.31	4	2	11	28	58	28	207	362	49	40	15	104	83
Central Region																	
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sarapete	--	--	--	--	--	--	3	3	--	--	--	70	10	--	3	13	23
Tooele	1	1	3	3.00	--	--	--	1	3	3	300	20	2	--	--	2	200
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	1	1	1	1.00	--	--	--	1	1	1	100	12	2	20	--	22	9
REGIONAL TOTALS	2	2	4	2.00	--	--	3	5	4	5	80	102	14	20	3	37	24
Southern Region																	
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region																	
Daggett	2	2	12	6.00	--	--	--	2	12	2	600	10	1	--	--	1	1,400
Duchesne	1	1	8	8.00	--	--	--	1	8	1	800	--	--	4	--	4	225
Uintah	--	--	--	--	--	--	2	2	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	3	3	20	6.67	--	--	2	5	20	5	400	10	1	4	--	5	500
Southeastern Region																	
Carbon	2	2	10	5.00	--	--	--	2	10	2	500	25	4	--	1	5	240
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	8	8	35	4.38	2	5	4	14	40	14	286	52	6	2	2	10	540
San Juan	6	6	21	3.50	--	--	3	9	21	9	233	28	4	--	1	5	600
REGIONAL TOTALS	16	16	66	4.13	2	5	7	25	71	25	284	105	14	2	4	20	480
STATE TOTALS	34	34	146	4.29	6	7	23	63	153	63	243	579	78	66	22	166	130

Table 6. Trend of blue grouse young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	125	350	--	100	--	--	700	144	400	200	
Cache	--	467	--	167	--	300	363	257	300	600	80	
Davis	--	300	250	183	150	222	248	200	480	260	180	
Morgan	--	--	300	900	--	433	--	--	--	--	--	
Rich	--	--	--	--	350	--	--	--	--	600	400	
Summit	--	--	500	450	--	500	--	200	178	155	--	
Weber	400	--	--	400	--	380	400	--	--	186	100	
REGIONAL TOTALS	400	220	300	269	222	300	279	244	292	277	207	280
Central Region												
Juab	--	400	400	0	180	--	--	--	700	--	--	
Salt Lake	38	--	--	--	--	--	--	--	--	--	--	
Sanpete	471	--	--	--	--	600	--	80	--	--	--	
Tonele	--	138	--	168	167	218	650	650	276	231	300	
Utah	100	200	--	175	--	256	267	267	286	170	--	
Wasatch	200	250	--	--	--	--	--	--	--	--	100	
REGIONAL TOTALS	317	156	400	157	169	273	486	317	286	194	80	275
Southern Region												
Beaver	214	700	250	200	267	133	109	--	--	--	--	
Garfield	340	300	241	200	245	160	--	23	--	--	--	
Iron	--	--	--	--	--	300	--	--	--	--	--	
Kane	--	267	--	255	500	475	250	--	--	--	--	
Millard	235	--	100	300	200	425	60	--	--	--	--	
Piute	350	--	200	300	300	--	--	--	--	--	--	
Sevier	238	100	80	417	--	150	90	--	--	--	--	
Washington	--	367	--	--	233	533	--	--	--	--	--	
Wayne	--	400	--	600	--	350	375	--	--	246	--	
REGIONAL TOTALS	245	237	164	282	279	230	118	23	--	246	--	203
Northeastern Region												
Daggett	469	500	--	--	282	331	318	364	233	--	600	
Duchesne	382	340	--	--	228	129	190	--	600	--	800	
Uintah	238	311	--	--	140	500	233	138	60	--	--	
REGIONAL TOTALS	381	402	--	--	235	305	254	268	223	--	400	295
Southeastern Region												
Carbon	--	700	300	150	500	--	--	--	--	--	500	
Emery	--	--	--	--	--	400	100	--	--	--	--	
Grand	--	--	25	200	260	--	227	300	--	200	286	
San Juan	--	100	175	300	--	300	213	300	--	500	233	
REGIONAL TOTALS	--	200	140	206	300	140	200	75	--	350	284	201
STATE TOTALS	297	272	190	229	225	268	207	225	274	238	243	243

Table 7. Trend of average brood size for blue grouse, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
Northern Region													
Box Elder	--	5.00	7.00	--	2.00	--	--	7.00	3.20	4.00	5.00		
Cache	--	4.33	--	3.33	--	3.67	3.63	3.60	3.70	4.50	4.00		
Davis	--	3.00	5.50	3.67	3.00	2.83	4.00	4.50	6.50	4.33	3.00		
Morgan	--	--	3.00	9.00	--	4.33	--	--	--	--	--		
Rich	--	--	--	--	--	--	--	--	--	6.00	6.00		
Summit	--	--	5.00	4.50	--	5.00	--	3.00	4.00	3.40	--		
Weber	4.00	--	--	5.33	4.00	4.75	4.00	--	--	3.25	--		
REGIONAL TOTALS	4.00	4.20	4.83	4.73	3.25	3.88	3.84	3.86	4.30	4.05	4.31	4.09	
Central Region													
Juab	--	4.00	4.00	0.00	--	--	--	--	7.00	--	--		
Salt Lake	--	--	--	--	--	--	--	--	--	--	--		
Sanpete	5.44	--	--	--	--	6.00	--	2.00	--	--	--		
Tonele	--	3.83	--	3.38	3.20	3.43	6.00	6.00	3.13	3.60	3.00		
Utah	3.00	4.00	--	3.50	--	3.45	5.00	5.00	5.00	3.22	--		
Wasatch	3.00	5.00	--	--	--	--	--	--	--	--	1.00		
REGIONAL TOTALS	5.05	4.00	4.00	3.43	3.20	3.62	4.67	4.20	4.00	3.36	2.00	3.95	
Southern Region													
Beaver	2.60	7.00	3.33	2.00	2.67	4.00	4.00	--	--	--	--		
Garfield	3.40	3.00	3.22	--	4.50	3.29	--	--	--	--	--		
Iron	--	--	--	--	--	3.50	--	--	--	--	--		
Kane	--	4.00	--	--	1.00	4.75	4.00	--	--	--	--		
Millard	3.64	--	2.67	4.00	4.00	4.25	1.50	--	3.00	--	--		
Piute	3.50	--	4.00	3.00	3.00	--	--	--	--	--	--		
Sevier	4.04	2.50	2.00	4.16	--	4.57	2.33	--	--	--	--		
Washington	--	3.67	--	--	3.50	5.33	--	--	--	--	--		
Wayne	--	4.00	--	6.00	--	3.50	3.75	--	--	4.57	--		
REGIONAL TOTALS	3.70	3.58	2.95	3.21	3.53	4.12	2.71	--	3.00	4.57	--	3.49	
Northeastern Region													
Daggett	4.91	4.33	--	--	3.75	4.71	3.20	3.89	3.50	--	6.00		
Duchesne	3.88	3.40	--	--	3.25	2.50	2.50	--	6.00	--	8.00		
Uintah	2.71	5.60	--	--	4.00	5.00	3.50	2.20	--	--	--		
REGIONAL TOTALS	4.00	4.63	--	--	3.56	4.52	3.00	3.29	4.33	--	6.67	3.90	
Southeastern Region													
Carbon	--	7.00	3.00	3.00	5.00	--	--	--	--	--	5.00		
Emery	--	--	--	--	--	4.00	4.00	--	--	--	--		
Grand	--	--	--	3.00	3.25	--	2.78	3.00	--	2.00	4.38		
San Juan	--	4.00	1.75	3.00	--	3.00	3.00	3.00	--	5.00	3.50		
REGIONAL TOTALS	--	5.50	2.17	3.00	3.60	3.50	2.93	3.00	--	3.50	4.13	3.40	
STATE TOTALS	4.06	4.29	3.18	3.56	3.44	4.00	3.22	3.61	4.19	3.88	4.29	3.74	

Table 8. Trend of blue grouse observed per 100 hours, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	64	38	--	20	0	--	--	200	21	136	
Cacite	--	14	--	77	--	71	56	114	108	165	45	
Davis	--	33	110	94	50	232	300	120	426	86	112	
Morgan	--	4	200	23	4	59	--	17	--	--	--	
Rich	--	--	--	--	53	0	0	--	--	175	79	
Summit	--	--	12	38	--	900	--	21	100	55	--	
Weber	71	4	--	167	100	267	56	--	--	65	40	
REGIONAL TOTALS	20	15	28	58	27	109	90	79	133	63	83	62
Central Region												
Juab	--	29	125	30	156	0	--	--	800	--	--	
Salt Lake	48	14	--	--	--	400	--	--	--	--	--	
Sanpete	281	--	--	--	--	1,400	--	14	4	--	23	
Tonele	--	344	--	536	444	206	1,000	1,000	233	--	200	
Utah	36	32	--	165	--	229	367	367	113	318	--	
Wasatch	53	50	--	--	--	0	--	--	--	--	9	
REGIONAL TOTALS	127	94	17	183	254	194	683	72	75	180	24	188
Southern Region												
Beaver	220	133	233	33	137	175	164	--	--	--	--	
Garfield	--	--	--	122	141	195	--	--	100	--	--	
Iron	--	--	--	--	--	1,200	--	--	--	--	--	
Kane	--	122	--	213	257	383	127	--	--	--	--	
Millard	248	15	107	133	200	525	100	--	--	--	--	
Piute	225	--	200	67	266	--	--	--	--	--	--	
Sevier	48	50	72	155	--	275	738	--	--	--	--	
Washington	--	117	--	--	333	950	--	--	--	--	--	
Wayne	--	--	--	700	--	450	475	--	2,250	--	--	
REGIONAL TOTALS	74	80	122	140	178	309	247	--	200	2,250	--	400
Northeastern Region												
Daggett	389	632	--	--	300	1,255	230	265	286	--	1,400	
Duchesne	126	51	--	--	51	64	121	--	175	--	225	
Uintah	54	239	--	--	600	55	37	48	320	--	--	
REGIONAL TOTALS	138	232	--	--	126	286	120	95	46	--	500	149
Southeastern Region												
Carbon	--	80	53	33	60	--	--	--	--	--	240	
Emery	--	--	--	--	--	500	--	--	--	--	--	
Grand	--	--	50	360	120	300	--	89	--	300	540	
San Juan	--	100	73	53	--	400	--	400	--	600	600	
REGIONAL TOTALS	--	90	60	123	96	400	--	85	--	450	480	186
STATE TOTALS	91	83	55	101	110	197	166	81	93	112	130	109

Table 9. Summary of effort expended on forest grouse brood counts, 1992.

Region and County	Vehicle Miles	Hours of Effort			Total
		Vehicle	Horse	Walk	
Northern Region					
Box Elder	80	9	--	2	11
Cache	158	20	--	--	20
Davis	104	12	--	13	25
Morgan	--	--	--	--	--
Rich	--	6	32	--	38
Summit	--	--	--	--	--
Weber	20	2	8	0	10
REGIONAL TOTALS	362	49	40	15	104
Central Region					
Juab	--	--	--	--	--
Salt Lake	--	--	--	--	--
Sanpete	70	10	--	3	13
Tooele	20	2	--	--	2
Utah	--	--	--	--	--
Wasatch	12	2	20	--	22
REGIONAL TOTALS	102	14	20	3	37
Southern Region					
Beaver	--	--	--	--	--
Garfield	--	--	--	--	--
Iron	--	--	--	--	--
Kane	--	--	--	--	--
Millard	--	--	--	--	--
Piute	--	--	--	--	--
Sevier	--	--	--	--	--
Washington	--	--	--	--	--
Wayne	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--
Northeastern Region					
Daggett	10	1	--	--	1
Duchesne	--	--	4	--	4
Uintah	--	--	--	--	--
REGIONAL TOTALS	10	1	4	--	5
Southeastern Region					
Carbon	25	4	--	1	5
Emery	--	--	--	--	--
Grand	52	6	2	2	10
San Juan	28	4	--	1	5
REGIONAL TOTALS	105	14	2	4	20
STATE TOTALS	579	78	66	22	166

Table 10. Summary of blue grouse hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	25	1,155	1,794	1.55	4.00	6.16
CACHE	85	6,166	4,905	0.80	21.33	16.83
DAVIS	17	746	746	1.00	2.58	2.56
MORGAN	9	622	444	0.71	2.15	1.52
RICH	16	604	657	1.09	2.09	2.26
SUMMIT	14	959	639	0.67	3.32	2.20
WEBER	41	2,328	2,470	1.06	8.05	8.48
REGIONAL TOTALS	207	12,582	11,658	0.93	43.52	40.00
CENTRAL REGION						
JUAB	8	604	533	0.88	2.09	1.83
SALT LAKE	12	622	657	1.06	2.15	2.26
SANPETE	25	1,261	941	0.75	4.36	3.23
TOOELE	17	728	1,066	1.46	2.52	3.66
UTAH	53	3,536	2,719	0.77	12.23	9.33
WASATCH	16	870	959	1.10	3.01	3.29
REGIONAL TOTALS	131	7,624	6,877	0.90	26.37	23.60
SOUTHERN REGION						
BEAVER	14	533	853	1.60	1.84	2.93
GARFIELD	7	266	355	1.33	0.92	1.22
IRON	9	639	497	0.78	2.21	1.71
KANE	6	319	533	1.67	1.11	1.83
MILLARD	17	568	1,013	1.78	1.97	3.48
PIUTE	7	337	302	0.89	1.17	1.04
SEVIER	54	2,612	3,749	1.44	9.04	12.87
WASHINGTON	1	17	35	2.00	0.06	0.12
WAYNE	4	142	213	1.50	0.49	0.73
REGIONAL TOTALS	119	5,438	7,553	1.39	18.81	25.91
NORTHEASTERN REGION						
DAGGETT	9	337	373	1.11	1.17	1.28
DUCHESNE	12	408	337	0.83	1.41	1.16
UINTAH	23	1,528	1,457	0.95	5.29	5.00
REGIONAL TOTALS	44	2,274	2,168	0.95	7.87	7.44
SOUTHEASTERN REGION						
CARBON	3	88	88	1.00	0.31	0.30
EMERY	5	248	337	1.36	0.86	1.16
GRAND	4	497	177	0.36	1.72	0.61
SAN JUAN	2	106	195	1.83	0.37	0.67
REGIONAL TOTALS	14	941	799	0.85	3.26	2.74
UNKNOWN	1	53	88	1.67	0.18	0.30
STATE TOTALS	516	28,914	29,146	1.01	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 11. Summary of ruffed grouse hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	14	657	586	0.89	3.43	3.91
CACHE	67	5,153	3,145	0.61	26.90	20.95
DAVIS	10	479	390	0.81	2.50	2.60
MORGAN	13	817	764	0.93	4.27	5.09
RICH	18	924	746	0.81	4.82	4.97
SUMMIT	20	1,119	959	0.86	5.84	6.39
WEBER	30	1,883	1,794	0.95	9.83	11.95
REGIONAL TOTALS	172	11,036	8,388	0.76	57.61	55.86
CENTRAL REGION						
JUAB	3	142	124	0.88	0.74	0.83
SALT LAKE	5	373	319	0.86	1.95	2.13
SANPETE	12	639	444	0.69	3.34	2.96
TOOELE	2	142	53	0.38	0.74	0.36
UTAH	41	2,239	1,617	0.72	11.69	10.77
WASATCH	21	1,013	995	0.98	5.29	6.63
REGIONAL TOTALS	84	4,549	3,554	0.78	23.75	23.67
SOUTHERN REGION						
BEAVER	1	17	35	2.00	0.09	0.24
GARFIELD	1	35	17	0.50	0.19	0.12
IRON	1	53	88	1.67	0.28	0.59
KANE	1	53	35	0.67	0.28	0.24
MILLARD	6	195	302	1.55	1.02	2.01
PIUTE	1	88	71	0.80	0.46	0.47
SEVIER	24	1,332	1,119	0.84	6.96	7.46
WASHINGTON	1	88	177	2.00	0.46	1.18
WAYNE	3	124	106	0.86	0.65	0.71
REGIONAL TOTALS	39	1,990	1,954	0.98	10.39	13.02
NORTHEASTERN REGION						
DAGGETT	6	231	195	0.85	1.21	1.30
DUCHESNE	5	231	177	0.77	1.21	1.18
UINTAH	15	799	568	0.71	4.17	3.79
REGIONAL TOTALS	26	1,261	941	0.75	6.59	6.27
SOUTHEASTERN REGION						
CARBON	0	0	0	0.00	0.00	0.00
EMERY	4	213	88	0.42	1.11	0.59
GRAND	2	88	71	0.80	0.46	0.47
SAN JUAN	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	6	302	159	0.53	1.58	1.07
UNKNOWN	1	17	17	1.00	0.09	0.12
STATE TOTALS	328	19,158	15,017	0.78	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 12. Summary of blue and ruffed grouse hunter success and distribution of harvest and hunting pressure by region and county, 1992.

NORTHERN REGION						
BOX ELDER	47	1,866	2,150	1.15	4.04	4.83
CACHE	142	8,335	7,855	0.94	18.07	17.65
DAVIS	40	1,866	1,101	0.59	4.04	2.48
MORGAN	22	1,155	1,226	1.06	2.50	2.75
RICH	43	1,866	1,421	0.76	4.04	3.19
SUMMIT	45	2,203	1,706	0.77	4.78	3.83
WEBER	84	4,318	4,371	1.01	9.36	9.82
REGIONAL TOTALS	423	21,610	19,833	0.92	46.84	44.55
CENTRAL REGION						
JUAB	13	835	657	0.79	1.81	1.48
SALT LAKE	20	941	941	1.00	2.04	2.12
SANPETE	42	1,883	1,475	0.78	4.08	3.31
TOOELE	24	941	1,119	1.19	2.04	2.52
UTAH	107	5,527	4,620	0.84	11.98	10.38
WASATCH	44	1,635	2,043	1.25	3.54	4.59
REGIONAL TOTALS	250	11,765	10,858	0.92	25.50	24.39
SOUTHERN REGION						
BEAVER	19	639	924	1.44	1.39	2.08
GARFIELD	17	781	373	0.48	1.69	0.84
IRON	16	888	693	0.78	1.93	1.56
KANE	8	390	568	1.45	0.85	1.28
MILLARD	31	906	1,439	1.59	1.96	3.23
PIUTE	11	497	373	0.75	1.08	0.84
SEVIER	82	3,661	4,762	1.30	7.94	10.70
WASHINGTON	2	106	213	2.00	0.23	0.48
WAYNE	8	248	319	1.29	0.54	0.72
REGIONAL TOTALS	194	8,121	9,667	1.19	17.60	21.72
NORTHEASTERN REGION						
DAGGETT	16	550	568	1.03	1.19	1.28
DUCHESNE	22	781	533	0.68	1.69	1.20
UINTAH	38	2,061	2,079	1.01	4.47	4.67
REGIONAL TOTALS	76	3,394	3,181	0.94	7.36	7.15
SOUTHEASTERN REGION						
CARBON	4	106	88	0.83	0.23	0.20
EMERY	12	462	408	0.88	1.00	0.92
GRAND	7	550	284	0.52	1.19	0.64
SAN JUAN	3	124	195	1.57	0.27	0.44
REGIONAL TOTALS	26	1,244	977	0.79	2.70	2.20
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	969	46,136	44,518	0.96	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 13. Summary of forest grouse bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.45	0.60	0.68	1.03	0.99	0.97	0.69	1.15
Cache	0.90	0.96	1.07	1.24	0.84	0.75	0.92	0.94
Davis	0.50	0.50	0.71	0.98	0.78	1.02	0.84	0.59
Morgan	0.88	0.64	1.00	0.99	1.23	0.94	0.94	1.06
Rich	0.75	0.39	1.56	0.92	0.42	0.52	0.62	0.76
Summit	0.70	0.63	1.25	0.86	0.89	0.49	0.72	0.77
Weber	0.60	0.85	1.41	0.99	1.00	0.73	0.51	1.01
REGIONAL TOTALS	0.71	0.76	1.12	1.07	0.88	0.74	0.76	0.92
<u>Central Region</u>								
Juab	1.00	0.14	1.14	0.86	0.71	0.88	0.65	0.79
Salt Lake	0.65	0.75	1.05	0.87	0.77	0.81	0.55	1.00
Sanpete	0.72	0.67	1.12	0.84	0.65	0.82	0.98	0.78
Tooele	1.00	0.89	1.24	1.33	1.75	1.03	1.03	1.19
Utah	0.86	0.59	1.04	1.08	0.99	0.91	0.97	0.84
Wasatch	0.59	0.51	0.94	0.74	0.78	0.83	0.76	1.25
REGIONAL TOTALS	0.75	0.62	1.07	0.97	0.90	0.90	0.89	0.92
<u>Southern Region</u>								
Beaver	0.59	1.00	0.91	1.31	0.86	0.85	0.95	1.44
Garfield	0.79	0.27	0.57	1.00	1.27	0.74	0.83	0.48
Iron	0.94	1.21	0.74	1.08	0.79	0.69	0.57	0.78
Kane	0.78	0.14	2.33	1.50	1.25	0.81	0.61	1.45
Millard	0.50	1.14	0.75	1.36	1.26	1.49	0.98	1.59
Piute	0.94	1.42	1.19	1.34	1.00	1.25	1.00	0.75
Sevier	0.77	0.88	1.00	1.18	1.23	1.02	0.94	1.30
Washington	2.14	2.01	0.17	0.10	0.00	0.00	1.83	2.00
Wayne	1.09	0.33	0.90	0.25	0.76	0.86	0.59	1.29
REGIONAL TOTALS	0.82	0.98	0.93	1.16	1.13	0.99	0.87	1.19
<u>Northeastern Region</u>								
Daggett	0.94	1.19	1.10	0.65	0.42	0.81	0.97	1.03
Duchesne	0.60	1.07	1.29	0.98	0.92	0.69	0.78	0.68
Uintah	0.94	1.19	1.63	0.91	0.67	1.09	1.00	1.01
REGIONAL TOTALS	0.83	1.16	1.43	0.88	0.69	0.93	0.93	0.94
<u>Southeastern Region</u>								
Carbon	0.71	0.83	0.92	0.48	0.37	0.47	0.64	0.83
Emery	0.35	0.65	0.96	1.06	0.60	0.81	0.78	0.88
Grand	0.64	1.29	1.91	0.81	1.14	1.12	2.14	0.52
San Juan	0.20	0.67	1.00	0.67	1.00	0.83	0.45	1.57
REGIONAL TOTALS	0.52	0.81	1.14	0.79	0.57	0.69	0.77	0.79
Unknown Counties	1.00	0.00	0.55	0.70	0.76	0.00	0.00	0.00
STATE TOTALS	0.74	0.79	1.09	1.04	0.90	0.83	0.82	0.96

Table 14. Percentage distribution of forest grouse harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	2.23	2.59	1.62	3.83	5.02	6.51	5.53	4.83
Cache	17.35	21.23	14.98	21.10	15.18	15.47	17.45	17.65
Davis	5.66	2.50	1.83	3.14	1.96	3.28	2.89	2.48
Morgan	3.90	3.02	1.13	2.64	6.93	3.28	3.29	2.75
Rich	4.26	2.24	4.05	4.55	2.60	2.89	3.74	3.19
Summit	3.52	2.93	4.65	3.55	4.61	3.45	6.83	3.83
Weber	4.91	10.44	6.65	9.53	10.35	8.07	5.03	9.82
REGIONAL TOTALS	41.85	44.96	34.93	48.37	46.65	42.96	44.77	44.55
Central Region								
Juab	1.02	0.26	1.29	1.12	1.32	0.78	0.75	1.48
Salt Lake	2.41	1.81	1.18	1.40	1.50	0.72	0.80	2.12
Sanpete	5.84	4.57	6.43	4.70	4.56	5.40	4.34	3.31
Tooele	2.87	4.74	3.94	4.17	5.02	6.68	4.04	2.52
Utah	9.65	8.02	10.22	9.47	7.62	8.74	7.48	10.38
Wasatch	5.01	3.02	3.94	3.05	5.47	2.89	4.44	4.59
REGIONAL TOTALS	26.80	22.43	27.04	23.94	25.49	25.21	21.83	24.39
Southern Region								
Beaver	2.13	0.86	1.56	0.65	0.82	1.61	2.59	2.08
Garfield	1.39	0.26	0.64	0.74	1.73	1.45	1.00	0.84
Iron	2.87	3.53	1.40	1.77	1.41	1.39	1.94	1.56
Kane	0.65	0.08	0.37	0.18	0.23	0.72	0.95	1.28
Millard	0.65	3.45	1.13	1.77	3.51	2.89	2.24	3.23
Piute	1.48	2.33	2.05	2.80	0.96	3.34	2.04	0.84
Sevier	4.45	6.56	11.35	10.84	9.90	7.90	10.27	10.70
Washington	1.39	0.52	0.05	0.03	0.00	0.00	0.55	0.48
Wayne	1.11	0.17	0.48	0.09	0.73	1.00	0.65	0.72
REGIONAL TOTALS	16.14	17.77	19.09	18.92	19.92	20.31	22.23	21.72
Northeastern Region								
Daggett	1.48	3.19	1.73	0.93	0.46	1.39	1.65	1.28
Duchesne	2.50	2.67	4.75	1.55	1.60	1.39	2.24	1.20
Uintah	6.21	6.03	8.27	3.64	4.33	4.90	4.99	4.67
REGIONAL TOTALS	10.20	11.91	14.76	6.14	6.38	7.68	8.87	7.15
Southeastern Region								
Carbon	2.23	0.86	0.64	0.43	0.50	1.34	0.70	0.20
Emery	1.11	0.95	1.29	1.15	0.41	1.17	0.35	0.92
Grand	1.48	0.77	1.13	0.68	0.36	1.06	0.75	0.64
San Juan	0.18	0.34	0.43	0.12	0.18	0.28	0.50	0.44
REGIONAL TOTALS	5.01	2.93	3.51	2.40	1.46	3.84	2.29	2.20
Unknown Counties	0.00	0.00	0.64	0.21	0.73	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 15. Percentage distribution of forest grouse hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	3.63	4.65	2.60	3.84	4.55	5.60	6.59	4.04
Cache	14.18	14.69	15.26	17.65	16.22	17.22	15.55	18.07
Davis	8.29	3.90	2.84	3.32	2.25	2.69	2.82	4.04
Morgan	3.29	3.15	1.24	2.77	5.08	2.92	2.86	2.50
Rich	4.18	4.05	2.84	5.13	5.53	4.63	4.95	4.04
Summit	3.70	4.50	4.08	4.26	4.63	5.83	7.73	4.78
Weber	6.02	9.00	5.14	9.94	9.34	9.21	8.10	9.36
REGIONAL TOTALS	43.29	43.93	34.02	46.93	47.60	48.10	48.61	46.84
Central Region								
Juab	0.75	1.50	1.24	1.35	1.68	0.74	0.94	1.81
Salt Lake	2.74	2.40	1.24	1.67	1.76	0.74	1.19	2.04
Sanpete	5.96	4.65	6.27	5.77	6.31	5.51	3.64	4.08
Tooele	2.12	3.90	3.49	3.26	2.58	5.42	3.23	2.04
Utah	8.29	10.49	10.76	9.10	6.88	8.01	6.34	11.98
Wasatch	6.23	4.50	4.61	4.29	6.31	2.92	4.79	3.54
REGIONAL TOTALS	26.09	27.44	27.63	25.46	25.52	23.33	20.13	25.50
Southern Region								
Beaver	2.67	1.05	1.89	0.51	0.86	1.57	2.25	1.39
Garfield	1.30	1.05	1.24	0.77	1.23	1.62	0.98	1.69
Iron	2.26	2.25	2.07	1.71	1.60	1.67	2.82	1.93
Kane	0.61	0.75	0.17	0.12	0.16	0.74	1.27	0.85
Millard	0.96	1.35	1.65	1.35	2.50	1.62	1.88	1.96
Piute	1.16	1.20	1.89	2.16	0.86	2.22	1.68	1.08
Sevier	4.24	6.30	12.48	9.52	7.21	6.44	8.92	7.94
Washington	0.48	0.30	0.35	0.32	0.08	0.23	0.25	0.23
Wayne	0.75	0.75	0.59	0.38	0.86	0.97	0.90	0.54
REGIONAL TOTALS	14.45	15.00	22.36	16.88	15.36	17.08	20.95	17.60
Northeastern Region								
Daggett	1.16	2.10	1.71	1.48	0.98	1.44	1.39	1.19
Duchesne	3.08	3.45	4.02	1.64	1.56	1.67	2.37	1.69
Uintah	4.86	4.35	5.56	4.13	5.82	3.75	4.09	4.47
REGIONAL TOTALS	9.10	9.90	11.30	7.26	8.36	6.85	7.86	7.36
Southeastern Region								
Carbon	2.33	0.45	0.76	0.93	1.23	2.36	0.90	0.23
Emery	2.33	1.80	1.47	1.12	0.61	1.20	0.37	1.00
Grand	1.71	0.75	0.65	0.87	0.29	0.79	0.29	1.19
San Juan	0.68	0.75	0.47	0.19	0.16	0.28	0.90	0.27
REGIONAL TOTALS	7.05	3.75	3.37	3.12	2.29	4.63	2.45	2.70
Unknown Counties	0.00	0.00	1.30	0.32	0.86	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 16. Statewide summary of forest grouse harvest statistics, 1963-92.

Year	Total Harvest										Hunter-Days					Grouse/Hunter								
	Hunters		Ruffed		Percent		Blue		Percent		Unknown		Percent		Total		Afield		Ruffed		Blue		Total	
1963	7,425	5,470	40.20	7,372	54.17	766	5.63	13,608	12,313	0.44	0.66	1.11	0.74	0.99	1.83									
1964	6,487	5,354	42.19	6,685	52.68	652	5.14	12,691	10,566	0.51	0.63	1.20	0.82	1.03	1.96									
1965	6,905	3,225	37.20	4,924	56.80	520	6.00	8,669	10,504	0.31	0.47	0.83	0.54	0.82	1.44									
1966	6,683	6,966	56.54	4,659	37.81	696	5.65	12,321	12,387	0.56	0.38	0.99	1.04	0.68	1.84									
1967	9,420	8,476	48.36	6,773	38.65	2,277	12.99	17,526	17,773	0.48	0.38	0.99	0.87	0.69	1.86									
1968	13,061	17,048	52.59	12,604	38.88	2,762	8.52	32,414	26,537	0.64	0.47	1.22	1.30	0.96	2.48									
1969	12,523	9,490	44.14	10,419	48.46	1,589	7.39	21,498	24,572	0.38	0.42	0.87	0.76	0.83	1.72									
1970	12,775	15,590	48.87	13,515	42.37	2,793	8.76	31,898	26,619	0.59	0.51	1.20	1.22	1.06	2.50									
1971	13,363	15,759	49.40	13,749	43.10	2,393	7.50	31,901	29,100	0.54	0.47	1.10	1.18	1.03	2.39									
1972	16,640	20,648	48.56	19,221	45.21	2,649	6.23	42,518	38,940	0.53	0.49	1.09	1.24	1.16	2.56									
1973	17,588	7,153	15.81	36,846	81.46	1,233	2.73	45,232	44,738	0.16	0.82	1.01	0.41	2.09	2.57									
1974	21,920	24,561	39.34	32,236	51.63	5,642	9.04	62,439	55,258	0.44	0.58	1.13	1.12	1.47	2.85									
1975	20,102	15,750	37.09	23,138	54.49	3,573	8.41	42,461	50,579	0.31	0.45	0.84	0.78	1.15	2.11									
1976	21,186	23,551	37.13	35,660	56.21	4,225	6.66	63,436	56,422	0.42	0.63	1.12	1.11	1.68	2.99									
1977	19,188	15,766	37.12	23,455	55.22	3,256	7.67	42,477	48,746	0.37	0.48	0.87	0.82	1.22	2.21									
1978	25,318	30,340	37.20	46,651	57.20	4,567	5.60	81,558	72,732	0.42	0.64	1.12	1.20	1.84	3.22									
1979	21,993	23,156	38.69	33,070	55.25	3,625	6.06	59,851	57,404	0.40	0.58	1.04	1.05	1.50	2.61									
1980	19,511	15,457	33.96	27,588	60.60	2,477	5.44	45,522	49,899	0.31	0.55	0.91	0.79	1.41	2.33									
1981	14,329	8,557	30.68	17,852	64.00	1,485	5.32	27,894	34,305	0.25	0.52	0.81	0.60	1.25	1.95									
1982	12,384	7,509	34.48	12,138	55.74	2,131	9.79	21,778	28,767	0.26	0.42	0.76	0.60	0.98	1.76									
1983	13,414	11,366	37.78	16,955	56.35	1,767	5.87	30,088	34,530	0.33	0.49	0.87	0.84	1.26	2.24									
1984	11,511	6,780	33.24	12,647	62.01	969	4.75	20,396	27,244	0.25	0.46	0.75	0.59	1.10	1.77									
1985	12,646	8,701	37.67	13,416	58.09	894	4.24	23,097	31,290	0.28	0.43	0.74	0.69	1.06	1.83									
1986	12,117	8,819	36.95	14,156	59.31	894	3.75	23,869	30,312	0.29	0.47	0.79	0.73	1.17	1.97									
1987	14,831	15,811	34.88	28,068	61.92	1,447	3.19	45,326	41,428	0.38	0.68	1.09	1.07	1.89	3.06									
1988	16,947	19,100	35.66	31,556	58.91	2,906	5.43	53,562	51,726	0.37	0.61	1.04	1.13	1.86	3.16									
1989	16,987	16,323	35.88	27,794	61.10	1,370	3.01	45,487	50,631	0.32	0.55	0.90	0.96	1.64	2.68									
1990	14,591	11,010	28.29	26,115	67.10	1,797	4.62	38,922	44,452	0.25	0.59	0.83	0.75	1.79	2.53									
1991	14,421	12,073	34.60	21,310	61.07	1,514	4.34	34,897	42,517	0.35	0.50	0.82	0.84	1.48	2.42									
1992	15,000	15,017	33.73	29,146	65.47	355	0.80	44,518	46,136	0.33	0.63	0.96	1.00	1.94	2.97									
Totals	440,366	404,826	--	609,718	--	63,310	--	1,077,854	1,108,427	--	--	--	--	--	--									
Averages (1963-91)	14,668	13,442	38.78	20,020	55.03	2,171	6.20	35,632	36,631	0.38	0.53	0.97	0.89	1.28	2.30									

Table 17. Blue and ruffed grouse harvest statistics and hunt regulations, 1963-1992.

Year	Total		Total		Total Forest Grouse Harvest	Total		Total		Season Length		Aggregate		
	Ruffed	Blue	Blue	Forest		Hunter Days	Hunters	Afield	Total	Open	Close	Days	Daily	Possession
	Grouse	Grouse	Grouse	Grouse		Afield	Afield	Afield	Afield	Open	Close	Days	Daily	Possession
	Harvest	Harvest	Harvest	Harvest		Afield	Afield	Afield	Afield	Open	Close	Days	Daily	Possession
1963	5,470	7,372	13,608	7,425	12,313	?	?	?	?	?	??*	4	8	
1964	5,354	6,685	12,691	6,487	10,566	9/26	10/16	10/16	9/26	10/16	21	4	8	
1965	3,225	4,924	8,669	6,005	105,074	9/25	10/22	10/22	9/25	10/22	28	4	8	
1966	6,966	4,659	12,321	6,683	12,387	9/24	10/21	10/21	9/24	10/21	28	4	8	
1967	8,476	6,773	17,526	9,420	17,773	9/23	10/31	10/31	9/23	10/31	39	4	8	
1968	17,048	12,604	32,414	13,061	26,537	9/28	10/29	10/29	9/28	10/29	32	4	8	
1969	9,490	10,419	21,498	12,523	24,572	9/27	11/02	11/02	9/27	11/02	37	4	8	
1970	15,590	13,515	31,898	12,775	26,619	9/26	11/06	11/06	9/26	11/06	42	4	8	
1971	15,759	13,749	31,901	13,363	29,100	9/25	11/30	11/30	9/25	11/30	67	4	8	
1972	20,648	19,221	42,518	16,640	38,940	9/23	11/30	11/30	9/23	11/30	69	4	8	
1973	7,153	36,846	45,232	17,588	44,738	9/22	11/30	11/30	9/22	11/30	70	4	8	
1974	24,561	32,236	62,439	21,920	55,258	9/28	11/30	11/30	9/28	11/30	64	4	8	
1975	15,750	23,138	42,461	20,102	50,579	9/20	11/30	11/30	9/20	11/30	72	4	8	
1976	23,551	35,660	63,436	21,186	56,422	9/18	11/30	11/30	9/18	11/30	74	4	8	
1977	15,766	23,455	42,477	19,188	48,746	9/17	11/30	11/30	9/17	11/30	75	4	8	
1978	30,340	46,651	81,558	25,318	72,732	9/16	11/30	11/30	9/16	11/30	76	4	8	
1979	23,156	33,070	59,851	21,993	57,404	9/15	11/30	11/30	9/15	11/30	77	4	8	
1980	15,457	27,588	45,522	19,511	49,899	9/20	11/30	11/30	9/20	11/30	72	4	8	
1981	8,557	17,852	27,894	14,329	34,305	9/19	11/30	11/30	9/19	11/30	73	4	8	
1982	7,509	12,138	21,778	12,384	28,767	9/18	11/30	11/30	9/18	11/30	74	4	8	
1983	11,366	16,955	30,088	13,414	34,530	9/17	11/30	11/30	9/17	11/30	75	4	8	
1984	6,780	12,647	20,396	11,511	27,244	9/15	11/30	11/30	9/15	11/30	77	4	8	
1985	8,701	13,416	23,097	12,646	31,290	9/14*	11/30	11/30	9/14*	11/30	78	4	8	
1986	8,819	14,156	23,869	12,117	30,312	9/13	11/30	11/30	9/13	11/30	79	4	8	
1987	15,811	28,068	45,326	14,831	41,428	9/12	11/30	11/30	9/12	11/30	80	4	8	
1988	19,100	31,556	53,562	16,947	51,726	9/11	11/30	11/30	9/11	11/30	82	4	8	
1989	16,323	27,794	45,487	16,987	50,631	9/09	11/30	11/30	9/09	11/30	82	4	8	
1990	11,010	26,115	38,922	14,591	44,452	9/08	11/30	11/30	9/08	11/30	82	4	8	
1991	12,073	21,310	34,897	14,421	42,517	9/14	11/30	11/30	9/14	11/30	77	4	8	
1992	15,017	29,146	44,518	15,000	46,136	9/12	11/30	11/30	9/12	11/30	79	4	8	

* Season opener changed to the second Saturday in September from the third Saturday in September.

** From 1950 to 1963 a grouse stamp was required to hunt any grouse. In 1964, the entire state was opened to hunting without a stamp.

Table 18. Forest grouse field bag check summary, 1992.

Region and County	ALL HUNTS				COMPLETE HUNTS					
	Total Parties	Total Hunters	Total Hours	Total Birds	Complete Hunts	Total Hunters	Total Hours	Total Birds	Birds/Hunter	Birds/100 Hr
Northern Region										
Box Elder	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	44	95	--	55	0.58	--
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	177	--	136	0.77	--
Summit	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	272	--	--	191	0.70	--
Central Region										
Juab	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--
Tooele	6	31	90	5	6	--	--	--	--	--
Utah	--	61	272	50	18	61	272	50	0.82	18
Wasatch	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6	92	362	55	15	61	272	50	0.82	18
Southern Region										
Beaver	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
Northeastern Region										
Daggett	2	6	14	7	50	2	6	14	7	1.17
Duchesne	1	3	9	0	--	--	--	--	--	--
Uintah	2	2	3	7	233	2	2	3	3	1.50
REGIONAL TOTALS	5	11	26	0	0	4	8	17	10	1.25
Southeastern Region										
Caribou	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	11	103	388	55	14	4	341	289	251	0.74
STATE TOTALS										87

Table 19. Forest grouse hunter success trend as determined by field bag checks, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr
Northern Region												
Box Elder	3.50	39	2.83	50	2.60	42	2.00	300	1.43	30	--	--
Cache	0.74	17	1.15	28	0.63	8	--	--	0.23	--	0.58	--
Davis	0.56	16	0.50	16	0.50	40	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	0.44	10	0.52	14	0.32	7	--	--	--	--	0.77	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	0.93	29	0.56	20	0.53	19	1.33	33	0.32	--	--	--
REGIONAL TOTALS	0.71	16	0.88	23	0.62	14	1.60	57	0.47	55	0.70	--
Central Region												
Juab	--	--	3.25	108	2.30	56	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	0.86	33	--	--	--	--	--	--
Tooele	0.51	13	3.00	133	2.00	29	1.60	47	0.22	8	--	--
Utah	--	--	0.86	20	1.90	39	0.97	31	0.41	11	0.82	18
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.51	13	1.07	26	1.41	33	1.04	33	0.36	11	0.82	18
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	2.75	550	--	--	--	--	--	--
Iron	--	--	3.75	200	2.25	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	2.00	82	3.00	150	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	4.00	500	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	2.00	82	3.64	190	2.50	1000	--	--	--	--	--	--
Northeastern Region												
Daggett	1.20	46	1.50	38	0.85	32	0.60	9	2.22	43	1.17	50
Duchesne	1.00	33	--	--	--	--	--	--	--	--	--	--
Uintah	1.46	53	0.47	24	0.32	7	1.95	60	3.33	111	1.50	100
REGIONAL TOTALS	1.37	50	0.52	26	0.40	9	1.34	30	2.50	55	1.25	59
Southeastern Region												
Carbon	--	--	--	--	1.20	32	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	1.20	32	--	--	--	--	--	--
STATE TOTALS	0.75	18	0.94	25	0.68	16	1.14	33	0.50	32	0.74	87

Table 20. Sex and age composition of harvested blue grouse, 1992.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS**	242	--	--	--	--	--	--	74	148
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	45	19	17	36	3	6	9	25	53
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	51	9	14	23	5	23	28	122	200
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	96	28	31	59	8	29	37	63	119
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Northeastern Region									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southeastern Region									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	338	28	31	59	8	29	37	63	119

** Includes portions of Box Elder, Cache, Rich and Weber Counties.

Table 21. Sex and age composition of harvested ruffed grouse, 1992.

Region and County	Sample Size	Adults			Young			Young/ 100 Adults	Young/ 100 Hens
		M	F	Total	M	F	Total		
Northern Region									
Box Elder	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS**	60	--	--	--	--	--	--	161	--
Central Region									
Juab	--	--	--	--	--	--	--	--	--
Salt Lake	21	--	--	18	--	--	3	17	--
Sanpete	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	21	--	--	18	--	--	3	17	--
Southern Region									
Beaver	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Northeastern Region									
Daggett	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
Southeastern Region									
Carbon	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--
STATE TOTALS	81	--	--	18	--	--	3	17	--

** Includes portions of Box Elder, Cache, Rich and Weber Counties.

QUAIL

SUMMARY

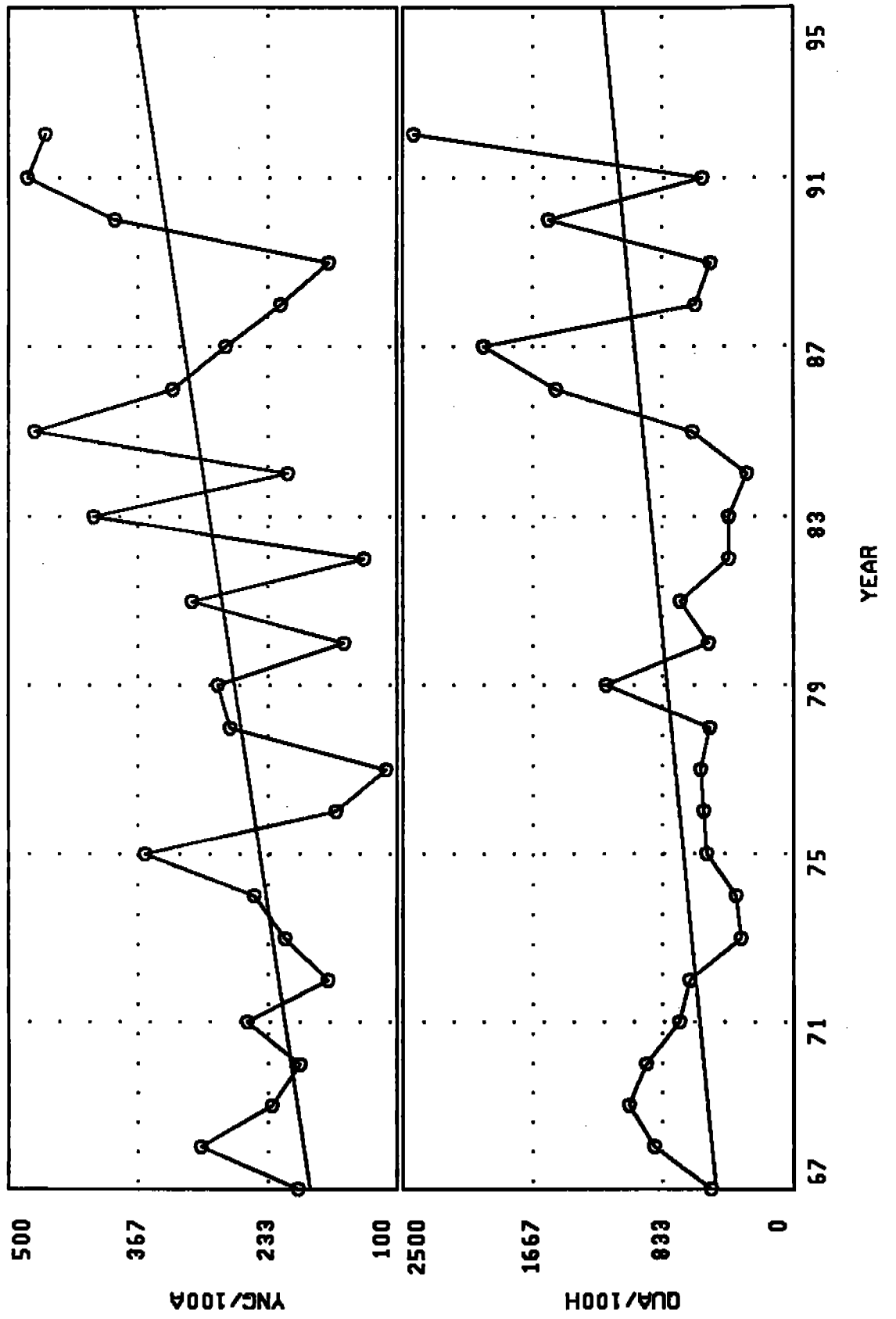
Production of Gambel's quail decreased slightly from 1991. Production statewide decreased in 1992, but remained above average.

Statewide harvest statistics, when compared to 1991, showed an increase in total hunters and in total harvest. Hunter success (birds per hunter-day) increased 8 percent and remained below average statewide. Hunter-days afield increased 9 percent from 1991. Total harvest of Gambel's quail reported in Washington County decreased significantly.

There has been a long-term decline in hunter success and total harvest in Washington County; however, there has been an increase in production trend indices. Given the extensive urban development in the St. George-Hurricane areas since 1962, the decline in total harvest and hunter success is only partly attributable to habitat loss. There are areas that sustain quail populations that cannot be hunted because of urban expansion (i.e. Bloomington, Bloomington East, Santa Clara River below Santa Clara, north of St. George). These were popular hunting areas in the early 1960's (D. Nish personal communication).



FIGURE 1. QUAIL PRODUCTION INDICES, 1967-92.



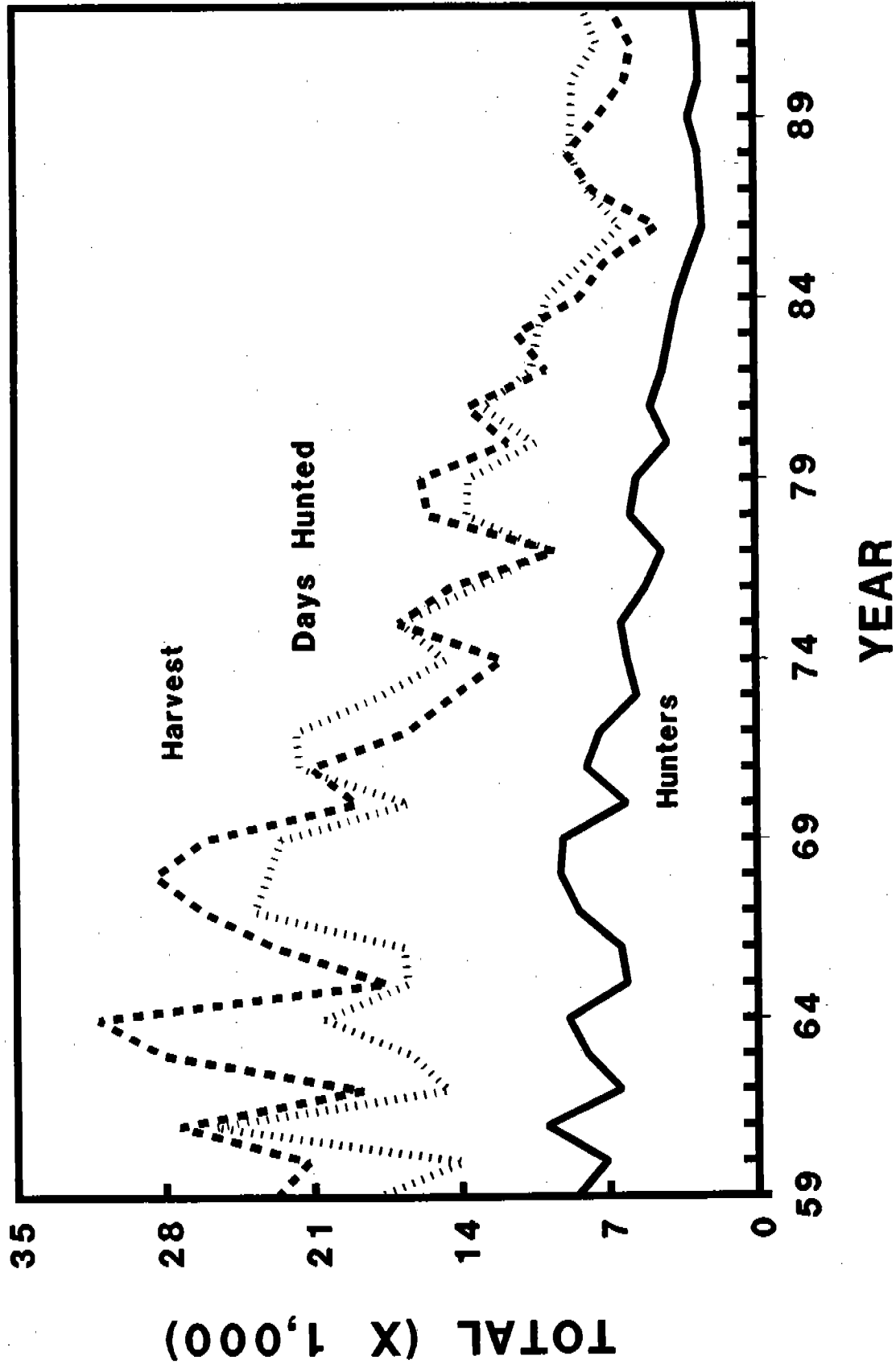


Figure 2. Statewide trends of quail harvest statistics, 1959-92.

Brood Counts

Results of the annual random brood counts for California quail for 1992 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and quail observed per 100 hours are shown in Tables 2-4 and Figure 1. Gambel's quail long period waterhole count trends are in Table 10. Survey results for 1992 compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total quail observed	73	+152	-76
Young per 100 adults	462	-4	+49
Mean brood size	7.50	-17	+1
Quail observed per 100 hours	2,433	+319	+184
Total hours effort	3	-40	-93

Harvest statistics for 1991 indicated an increased breeding population of quail statewide.

Brood count effort decreased in 1992 due to Division specialization of conservation officer and biologist duties and no staffing of additional biologists under reorganization. Only 73 quail were observed in 1992 which was 76 percent below average. Total hours of effort on California quail brood counts was 3 which is 93 percent below average for the last 10 years. The production index of young per 100 adults for Gambel's quail was 45 percent lower than what it was the previous year. Production statewide remained above average.

Harvest

Results of the annual hunter questionnaire for 1992 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 1992 season to 1991 and the previous 33-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Quail hunters	2,861	+8	-48
Quail harvested	6,788	+18	-55
Hunter-days afield	8,068	+9	-41
Quail per hunter-day	0.84	+8	-21
Quail per hunter	2.37	+9	-10

Harvest for 1992 increased 18 percent from 1991 and was 55 percent below average.

In Washington County (Gambel's quail), hunter success increased 24 percent and hunter days afield increased 62 percent from 1991. Total harvest decreased 53 percent. Fourteen percent of the statewide harvest of quail was taken in Washington County during 1992 compared to 35 percent in 1991, 18 percent in 1990.

Long-term quail harvest statistics are shown in Figures 2 and 3.

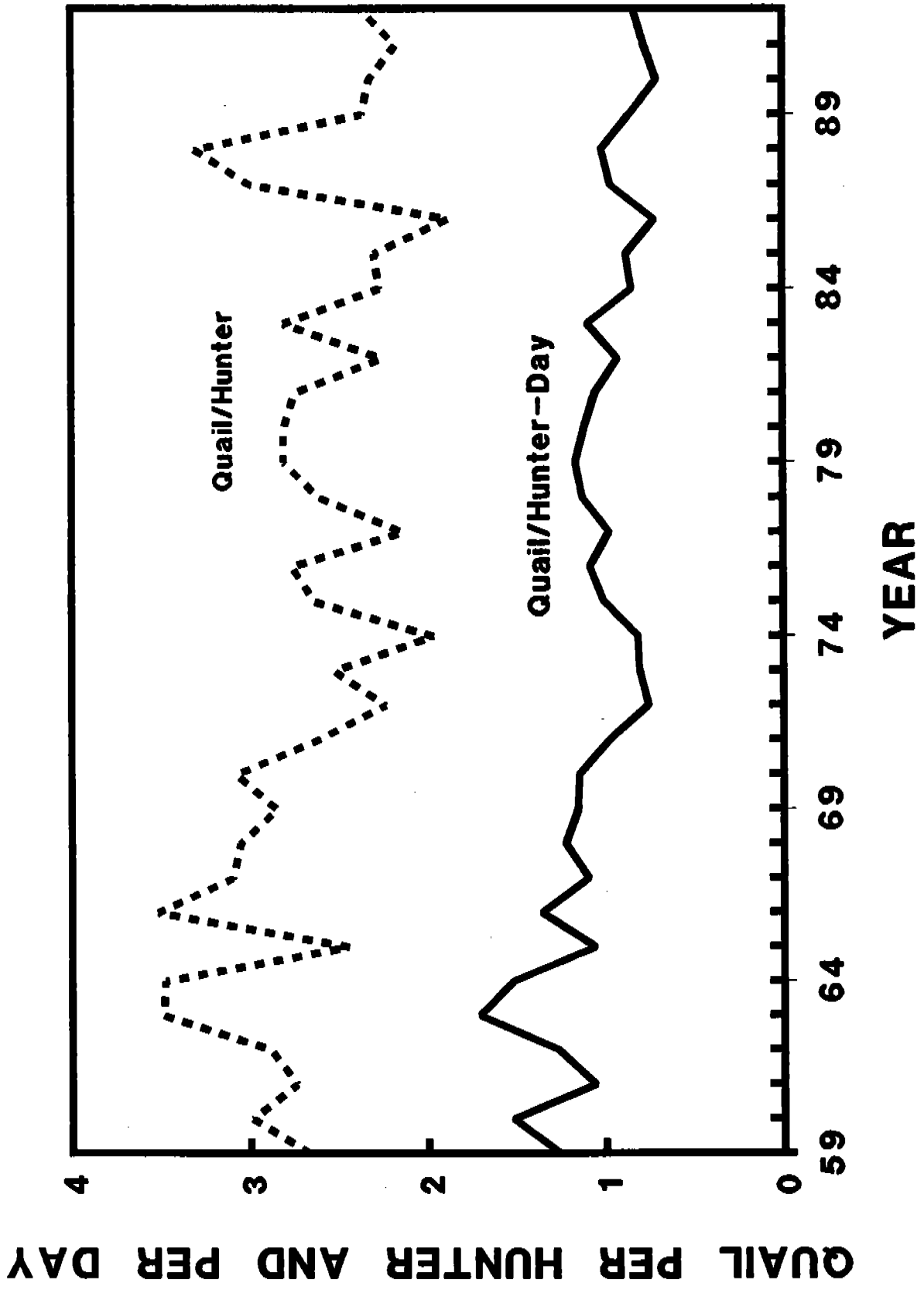


Figure 3. Statewide trends of quail hunter success rates, 1959-92.

Table 1. Quail summer inventory, 1992.

Region and County	Distinct Broods		Mean Brood	Mixed Young & Adults		Total Adults	Total Young	Young/100 Adults	Vehicle Miles		Hours of Effort		Birds/100 Hr
	#	Adults		Young	Adults				Young	Adults	Young	Horse	
Northern Region													
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS													
Central Region													
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS													
Southern Region													
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane*	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--
Plute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington*	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS													
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	5	10	37	7.40	--	10	37	370	--	1	1	4,700	--
REGIONAL TOTALS													
	5	10	37	7.40	--	10	37	370	--	1	1	4,700	--
Southeastern Region													
Carbon	3	3	23	7.67	--	3	23	767	20	2	--	2	1,300
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS													
	3	3	23	7.67	--	3	23	767	20	2	--	2	1,300
STATE TOTALS													
	8	13	60	7.50	--	13	60	462	20	2	1	3	2,433

*Washington, Kane and Wayne Counties, Gaubel's quail; all others, California quail.

Table 2. Trend of quail young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	550	--	1,050	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	125	125	--	--	1,400	--	--	--	--	--	--
REGIONAL TOTALS	--	130	125	1,050	--	1,400	224	--	656	--	--	598
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	40	40	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tiwole	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	700	700	220	--	--	--	900	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	40	40	--	700	700	220	--	--	900	--	--	433
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane*	--	--	--	--	--	--	--	--	--	--	--	--
Millard	300	133	133	138	44	545	790	--	179	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	250	--	--	--	--	--	--	--	--	--	--	--
Washington*	152	624	224	571	412	250	126	194	367	--	--	--
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	162	544	213	434	456	272	242	194	252	--	--	308
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	600	--	--	--	--	--	300	--	--	375	--	--
Uintah	411	--	--	--	--	--	126	420	667	--	370	--
REGIONAL TOTALS	286	--	--	--	--	--	177	420	667	375	370	385
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	767
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	767
STATE TOTALS	311	134	412	213	473	331	276	220	391	480	462	324

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

Table 3. Trend of average brood size for quail, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	6.33	--	11.80	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	11.00	--	10.50	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	3.75	--	--	14.00	14.00	5.33	11.80	--	--	9.37
REGIONAL TOTALS	--	5.20	--	10.50	--	14.00	5.33	--	11.80	--	--	9.37
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	3.00	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	9.00	--	--
Utah	--	--	--	7.00	7.50	11.00	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	3.00	--	7.00	7.50	11.00	--	--	--	9.00	--	7.50
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane*	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	3.00	4.00	9.00	1.80	12.00	11.28	--	12.50	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington*	6.00	13.50	5.09	8.43	7.85	5.59	4.64	--	11.00	--	--	--
Wayne*	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	6.00	11.17	5.06	8.56	6.64	6.16	7.22	--	11.00	--	--	7.73
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	9.00	--	--	--	--	--
Uintah	6.17	--	--	--	--	--	8.50	4.50	6.70	--	7.40	--
REGIONAL TOTALS	6.17	--	--	--	--	--	8.15	4.50	6.70	--	7.40	6.38
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	7.67	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	7.67	--
STATE TOTALS	6.05	9.71	5.06	8.62	6.70	6.62	7.25	4.50	10.45	9.00	7.50	7.40

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

Table 4. Trend of quail observed per 100 hours, 1982-92.

Region and County	Year											Average	
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-9	1982-9
Northern Region													
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	1,100	--	--	--	--	--	--
Morgan	--	222	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	825	--	--	1,500	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	511	--	--	1,500	1,100	--	--	--	--	--	--	778
Central Region													
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	527	1,400	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	320	2,000	1,600	--	--	--	1,000	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	414	247	--	320	2,000	1,600	--	--	--	1,000	--	--	930
Southern Region													
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane*	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	800	350	177	344	867	1,303	1,271	--	975	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	1,400	--	--	--	--	--	--	--	--	--	--	--	--
Washington*	771	605	380	783	1,604	2,029	530	53	1,050	--	--	--	--
Wayne*	650	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	691	590	357	663	1,484	1,958	527	53	1,013	--	--	--	814
Northeastern Region													
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	27	42	--	--	--	--	356	--	--	475	--	--	--
Uintah	328	100	--	--	--	--	1,800	371	767	--	4,700	--	--
REGIONAL TOTALS	123	58	--	--	--	--	717	371	767	475	4,700	419	--
Southeastern Region													
Carbon	--	--	--	--	--	--	--	--	--	--	--	1,300	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	1,300	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	1,300	--
STATE TOTALS	408	411	297	645	1,519	1,984	622	524	1,564	580	2,433	855	--

*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, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	7	248	302	1.21	3.08	4.45
CACHE**	3	88	88	1.00	1.10	1.31
DAVIS	7	266	159	0.60	3.30	2.36
MORGAN**	2	213	0	0.00	2.64	0.00
RICH**	0	0	0	0.00	0.00	0.00
SUMMIT**	0	0	0	0.00	0.00	0.00
WEBER	10	444	248	0.56	5.51	3.67
REGIONAL TOTALS	29	1,261	799	0.63	15.64	11.78
CENTRAL REGION						
JUAB	1	17	0	0.00	0.22	0.00
SALT LAKE	5	159	302	1.89	1.98	4.45
SANPETE**	0	0	0	0.00	0.00	0.00
TOOELE**	3	124	0	0.00	1.54	0.00
UTAH	38	1,546	835	0.54	19.16	12.31
WASATCH**	1	17	0	0.00	0.22	0.00
REGIONAL TOTALS	48	1,866	1,137	0.61	23.13	16.76
SOUTHERN REGION						
BEAVER	0	0	0	0.00	0.00	0.00
GARFIELD	0	0	0	0.00	0.00	0.00
IRON	1	17	0	0.00	0.22	0.00
KANE	0	0	0	0.00	0.00	0.00
MILLARD	7	284	426	1.50	3.52	6.28
PIUTE	0	0	0	0.00	0.00	0.00
SEVIER	4	266	124	0.47	3.30	1.83
WASHINGTON	22	906	941	1.04	11.23	13.88
WAYNE	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	34	1,475	1,492	1.01	18.28	21.99
NORTHEASTERN REGION						
DAGGETT	0	0	0	0.00	0.00	0.00
DUCHESNE	18	1,226	1,244	1.01	15.20	18.33
UINTAH	24	1,421	1,279	0.90	17.62	18.85
REGIONAL TOTALS	42	2,648	2,523	0.95	32.82	37.18
SOUTHEASTERN REGION						
CARBON	6	302	337	1.12	3.74	4.97
EMERY	9	515	497	0.97	6.39	7.33
GRAND	0	0	0	0.00	0.00	0.00
SAN JUAN	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	15	817	835	1.02	10.13	12.31
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	168	8,068	6,788	0.84	100.00	100.00

*Total hunter-trips from questionnaire returns.

**Closed to quail hunting in 1992.

Table 6. Summary of quail bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.50	0.00	0.23	0.80	0.90	0.71	0.38	1.21
Cache	0.00	1.00	0.43	0.22*	0.20*	0.10*	0.00*	1.00*
Davis	0.45	0.44	0.43	0.74	0.67	0.15	0.83	0.60
Morgan	1.00	1.00	2.00	1.00*	0.00*	2.00*	0.00*	0.00*
Rich	0.00	0.00	0.00	1.00*	0.00*	0.00*	0.00*	0.00*
Summit	0.00	0.40	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Weber	0.71	0.69	0.11	0.35	0.21	0.50*	0.54	0.56
REGIONAL TOTALS	0.54	0.50	0.35	0.60	0.38	0.39	0.41	0.63
<u>Central Region</u>								
Juab	0.00	2.00	0.00	1.38	0.00	0.19	7.25	0.00
Salt Lake	1.88	0.43	0.83	1.18	0.50	0.42	2.17	1.89
Sanpete	1.50	1.00	0.86	0.80*	0.25*	0.00*	0.00*	0.00*
Tooele	1.50	0.33	1.00	1.24*	3.25*	0.60*	0.29*	0.00*
Utah	0.60	0.72	0.59	0.46	0.84	0.75	0.61	0.54
Wasatch	0.00	0.00	0.50	1.13*	0.00	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.85	0.69	0.63	0.80	0.87	0.55	0.88	0.61
<u>Southern Region</u>								
Beaver	1.83	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	0.63	1.55	0.96	0.00	0.90	1.06	0.08	1.50
Piute	0.00	1.00	2.25	0.00	0.00	0.00	0.00	0.00
Sevier	1.80	0.00	0.00	1.50	0.00	0.00	1.80	0.47
Washington	1.23	1.27	2.33	2.30	1.26	0.60	0.84	1.04
Wayne	0.00	0.00	0.00	2.00	0.80	0.00	0.00	0.00
REGIONAL TOTALS	1.21	1.15	1.93	2.08	1.19	0.66	0.71	1.01
<u>Northeastern Region</u>								
Daggett	0.00	0.00	0.50	0.00	0.00	0.00	1.00	0.00
Duchesne	0.70	0.44	1.86	0.89	0.62	0.91	1.16	1.01
Uintah	1.00	0.70	0.52	0.87	0.73	0.98	0.47	0.90
REGIONAL TOTALS	0.86	0.63	0.81	0.88	0.68	0.95	0.65	0.95
<u>Southeastern Region</u>								
Carbon	1.00	0.00	1.00	0.38	5.00	1.11	4.50	1.12
Emery	0.31	1.14	1.06	1.11	0.50	1.86	2.11	0.97
Grand	0.00	0.00	0.50	0.80	0.00	2.00	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00
REGIONAL TOTALS	0.62	0.29	0.85	0.77	2.00	1.68	2.85	1.02
Unknown counties	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00
STATE TOTALS	0.88	0.72	0.97	1.02	0.86	0.71	0.78	0.84

*Closed Season

Table 7. Percentage distribution of quail harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.30	0.00	0.96	1.50	2.53	4.05	1.51	4.45
Cache	0.00	0.44	1.92	0.37*	0.28*	0.34*	0.00*	1.31*
Davis	15.16	3.59	1.92	6.98	1.69	1.35	1.51	2.36
Morgan	0.60	0.90	0.64	0.18*	0.00*	0.68*	0.00*	0.00*
Rich	0.00	0.00	0.00	0.18*	0.00*	0.00*	0.00*	0.00*
Summit	0.00	0.90	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Weber	6.07	4.94	0.32	1.32	1.97	5.41	2.11	3.67
REGIONAL TOTALS	12.15	10.80	5.76	10.56	6.46	11.83	5.12	11.78
<u>Central Region</u>								
Juab	0.00	0.90	0.00	4.15	0.00	1.69	8.74	0.00
Salt Lake	9.11	2.69	1.60	3.77	0.84	2.70	3.92	4.45
Sanpete	0.91	0.44	3.84	0.75*	0.56*	0.00*	0.00*	0.00*
Tooele	0.91	0.90	0.64	6.79*	3.65*	1.01*	0.60*	0.00*
Utah	12.45	34.24	18.58	9.43	21.35	16.89	17.17	12.31
Wasatch	0.00	0.00	0.64	5.09*	0.00*	0.00*	0.00	0.00*
REGIONAL TOTALS	23.40	3.18	25.32	30.00	26.41	22.30	30.43	16.76
<u>Southern Region</u>								
Beaver	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	2.83	0.00	0.00	0.00	0.00
Iron	0.00	0.00	0.00	1.88	1.40	0.00	0.00	0.00
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	1.52	7.65	7.69	0.00	5.34	5.74	0.90	6.28
Piute	0.00	0.44	2.88	0.00	0.00	0.00	0.00	0.00
Sevier	2.72	0.00	0.00	0.56	0.00	0.00	2.71	1.83
Washington	35.56	29.27	42.62	27.73	32.30	17.57	34.64	13.88
Wayne	0.00	0.00	0.00	0.75	1.12	0.00	0.00	0.00
REGIONAL TOTALS	43.16	37.39	53.20	33.77	40.17	23.31	38.26	21.99
<u>Northeastern Region</u>								
Daggett	0.00	0.00	0.32	0.00	0.00	0.00	0.30	0.00
Duchesne	5.77	1.79	4.16	6.41	9.55	7.10	6.63	18.33
Uintah	9.11	7.19	3.84	11.32	2.92	13.85	8.13	18.85
REGIONAL TOTALS	14.89	9.00	8.33	17.73	22.47	20.95	15.06	37.18
<u>Southeastern Region</u>								
Carbon	4.85	0.00	0.32	0.56	1.40	3.38	5.42	4.97
Emery	1.52	3.59	5.44	1.88	0.84	17.57	5.72	7.33
Grand	0.00	0.00	1.60	0.75	0.00	0.68	0.00	0.00
San Juan	0.00	0.00	0.00	0.00	2.25	0.00	0.00	0.00
REGIONAL TOTALS	6.38	3.59	7.37	3.20	4.49	21.62	11.15	12.31
Unknown counties	0.00	0.00	0.00	4.71	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed Season

Table 8. Percentage distribution of quail hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	0.53	1.94	4.02	1.92	2.41	4.09	3.06	3.08
Cache	1.06	0.32	4.33	1.73*	1.20*	2.40*	1.41*	1.10*
Davis	10.18	5.85	4.33	9.61	2.17	6.25	1.41	3.30
Morgan	0.53	0.65	0.30	0.19*	0.96*	.24*	0.00*	2.64*
Rich	0.00	0.00	0.00	0.19*	0.00*	0.00*	0.00*	0.00*
Summit	0.00	1.63	0.30	0.57*	0.00*	0.72*	0.71*	0.00*
Weber	7.51	5.20	2.78	3.84	7.95	7.69	3.06	5.51
REGIONAL TOTALS	19.83	15.63	16.08	8.07	14.70	21.39	9.65	15.64
Central Region								
Juab	0.26	0.30	0.30	3.07	0.00	6.49	0.94	0.22
Salt Lake	4.28	4.55	1.85	3.26	1.45	4.57	1.41	1.98
Sanpete	0.53	0.32	4.33	0.96*	1.93*	0.24*	0.94*	0.00*
Tooele	0.53	1.94	0.61	5.57*	0.96*	1.20	1.65*	1.54*
Utah	18.23	34.19	30.65	20.76	21.69	16.11	22.12	19.16
Wasatch	0.53	0.00	1.23	4.61*	0.00*	0.24*	0.00*	0.22*
REGIONAL TOTALS	24.39	41.37	38.99	38.26	26.03	28.85	27.06	23.13
Southern Region								
Beaver	1.60	1.63	0.00	0.00	0.00	0.00	0.00	0.00
Garfield	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00
Iron	0.80	0.65	0.00	0.38	0.72	0.00	0.00	0.22
Kane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Millard	2.14	3.57	7.73	2.50	5.06	3.85	8.47	3.52
Piute	0.00	0.32	1.23	0.00	0.00	0.24	0.00	0.00
Sevier	1.34	0.65	0.00	0.38	0.00	0.00	1.18	3.30
Washington	25.47	16.60	17.64	12.30	21.93	20.91	34.24	11.23
Wayne	0.00	0.00	0.00	0.38	1.20	0.00	0.00	0.00
REGIONAL TOTALS	31.36	23.44	26.62	16.52	28.92	25.00	41.89	18.28
Northeastern Region								
Daggett	0.00	0.00	0.61	0.00	0.00	0.00	0.24	0.00
Duchesne	7.23	2.92	2.16	7.30	13.25	5.53	4.47	15.20
Uintah	8.03	7.48	7.12	13.26	15.18	10.10	13.41	17.62
REGIONAL TOTALS	15.27	10.42	9.90	20.57	28.44	15.63	18.12	32.82
Southeastern Region								
Carbon	4.28	6.83	0.30	1.53	0.24	2.16	0.94	3.74
Emery	4.28	2.28	4.95	1.73	1.45	6.73	2.12	6.39
Grand	0.26	0.00	3.09	0.96	0.00	0.24	0.00	0.00
San Juan	0.26	0.00	0.00	0.00	0.24	0.00	0.00	0.00
REGIONAL TOTALS	9.11	9.11	8.34	4.22	1.93	9.13	3.06	10.13
Unknown counties	0.00	0.00	0.00	2.30	0.00	0.00	0.24	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed Season

Table 9. Statewide summary of quail harvest statistics, 1951-92.

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
1987	2,549	7,648	7,918	0.97	3.00
1988	2,671	8,849	8,682	1.02	3.31
1989	3,111	7,384	8,607	0.86	2.37
1990	2,614	6,091	8,561	0.71	2.33
1991	2,644	5,775	7,393	0.78	2.18
1992	2,861	6,788	8,068	0.84	2.37
Totals					
(1951-92)	205,757	560,085	514,538	--	--
Averages					
(1951-91)	5,484	14,954	13,688	1.06	2.62

Table 10. Gambel's quail long period waterhole count trend on the west slope of the Beaver Dam Mountains, Washington County, 1975-92. These counts have been conducted since 1962.

Index	Year																	Average	
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1975-91
Total Young	145	61	--	67	253	72	37	85	114	166	47	163	348	59	35	33	208	415	118
Total Adults	20	53	--	29	77	52	25	33	14	86	11	48	139	47	18	9	35	128	44
Total Quail	165	114	17	86	330	124	62	118	128	252	58	211	487	106	53	42	243	543	153
Young per 100 Adults	725	115	--	353	329	138	148	258	814	193	427	340	250	126	194	367	594	324	336

HUNGARIAN PARTRIDGE

SUMMARY

Harvest data for 1991 indicated above average breeding populations for 1992. Limited brood data was collected in Box Elder and Juab counties and indicated a slight decrease in Hun production.

The 1992 hunt data indicated decreased hunting pressure on Huns when compared to 1991. The number of Huns harvested increased 2 percent in 1992. Hunters afield increased 20 percent. Total hunters, days afield and harvest remain just below the long-term average.

We expected continued improvement in Hungarian partridge populations in Box Elder County due to the large quantity of agricultural land set aside in the Conservation Reserve Program. We believe that increases in hunter success since 1985 reflect increased partridge populations as a direct result of CRP. Exceptions (declines) in 1988 and 1989 were probably due to drought. The decline in production and harvest in 1989 was possibly due to the hot, dry summer.



Brood Counts

Results of the annual random brood counts for 1992 are shown in Table 1 of this section. Long-term trends of young per adult ratios, mean brood size and Huns observed per 100 hours are shown in Tables 2-4. Results of the survey for 1992 compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total Huns observed	100	-25	+17
Young per 100 adults	567	-28	+21
Mean brood size	8.83	-29	-14
Huns observed per 100 hours	118	-64	-54
Total hours effort	85	+107	+108

Harvest data for 1991 indicated an above average breeding population for 1992. Young per 100 adults decreased 28 percent from the previous year, but was 21 percent above average. Hours of effort increased 107 percent from 1991, but only 6 broods were observed.

Harvest

Hunter Questionnaire

Results of the annual hunter questionnaire for 1992 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 1992 season compared to 1991 and the previous 33-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Hungarian partridge hunters	3,198	+20	-10
Hungarian partridge harvest	7,553	+2	-1
Hunter-days afield	8,192	-2	-8
Huns per hunter-day	0.92	+5	+12
Huns per hunter	2.36	-15	+15

Hungarian partridge hunters and hunting pressure increased. Success increased 5 percent from 1991. Harvest was 1 percent below the 33-year average.

Long-term Hun harvest statistics are shown in Figures 1 and 2.

Field Bag Checks

Results of the survey for 1992 are shown in Table 10. Hunter success trends determined via this method are shown in Table 11. Indices obtained for 1992 compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	13	+18	-91
Total hours hunted	13	+18	-98
Huns per hunter (complete hunts)	0.69	+25	-61
Huns bagged per 100 hours	69	+25	+50
Average hours per hunter-day (complete hunts)	1.00	0	-78
Hours hunted per Hun bagged (complete hunts)	1.44	-21	-90

Field bag check data submitted in 1992 was for Box Elder and Rich counties only. Many of these hunters are hunting sagegrouse, but Huns are often found in the same areas. Sample sizes were too small to derive meaningful conclusions.

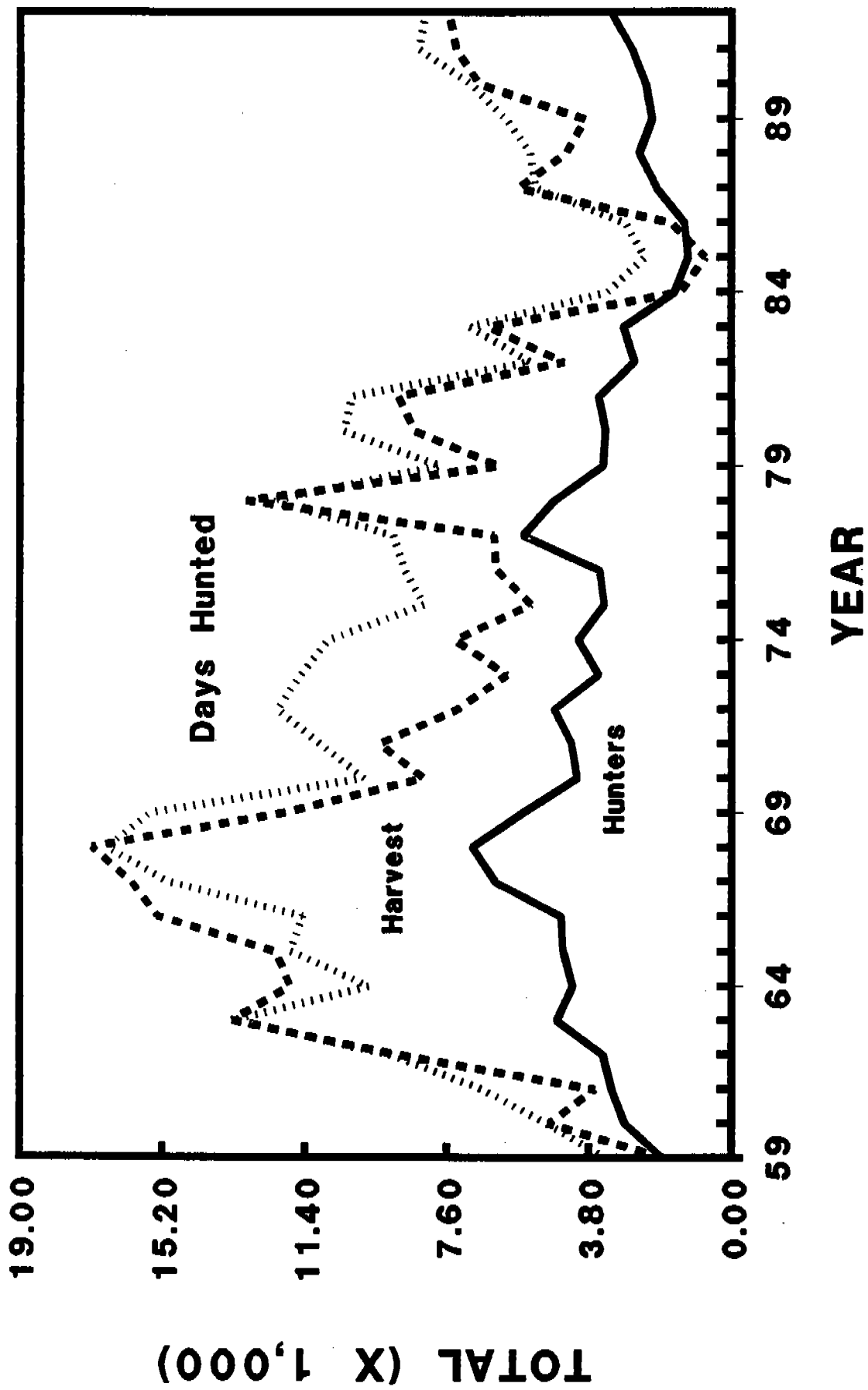


Figure 1. Statewide trends of Hungarian partridge harvest statistics, 1959-92.

HUNGARIAN PARTRIDGE PER HUNTER & PER DAY

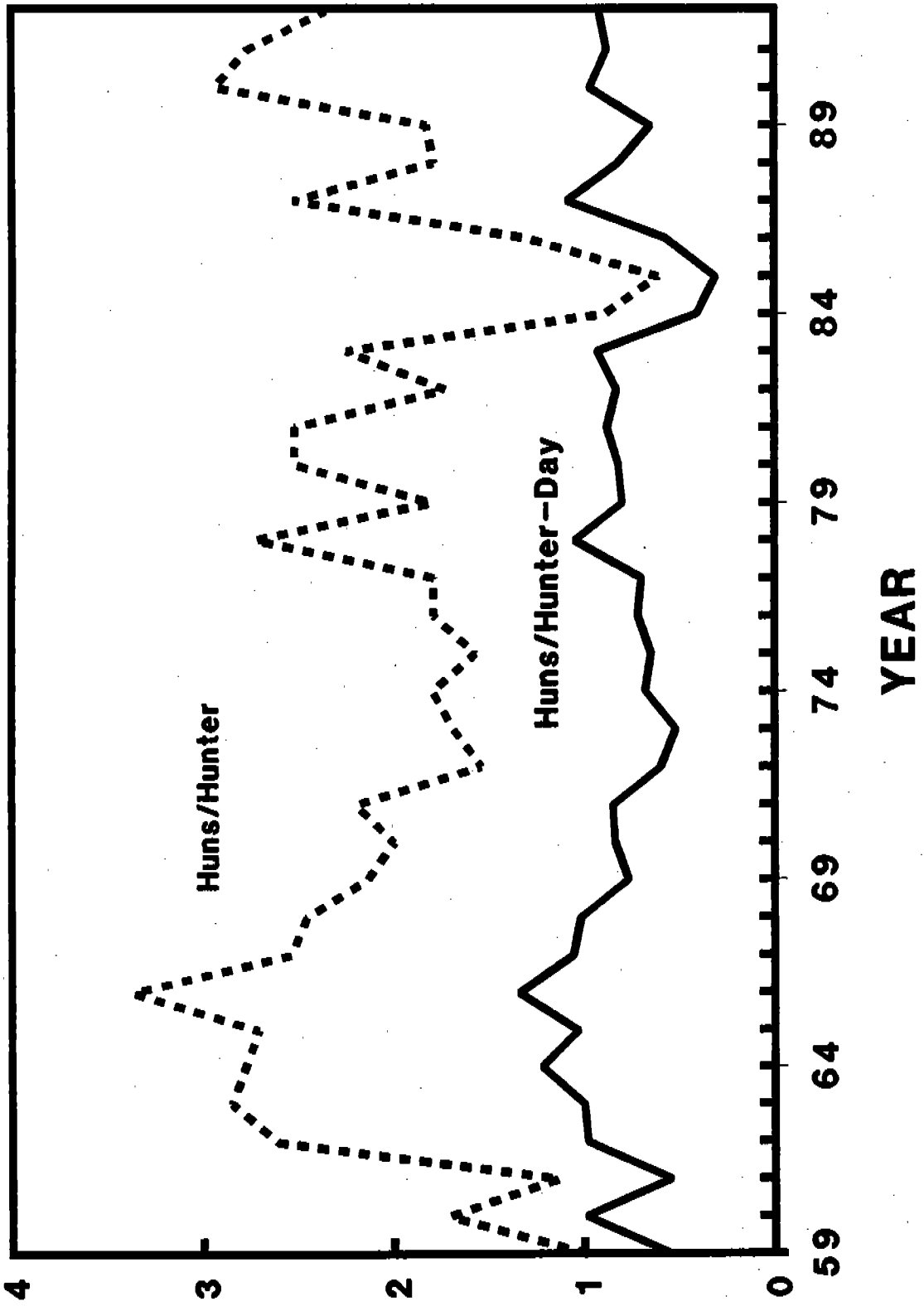


Figure 2. Statewide trends of Hungarian partridge hunter success rates, 1959-92.

Table 1. Hungarian partridge summer inventory, 1992.

Region and County	Distinct Broods		Mean Brood	Mixed Young & Adults		Total Young	Total Adults	Young/100 Adults	Hours of Effort		Birds/100 Hr
	# Adults	Young		Adults	Young				Vehicle Miles	Horse Walk	
Northern Region											
Box Elder	5	5	9.00	2	19	2	9	711	3	47	96
Cache	-	-	-	5	13	-	5	260	-	7	257
Davis	-	-	-	-	-	-	-	-	-	-	-
Morgan	-	-	-	-	-	-	-	-	-	-	-
Rich	-	-	-	-	-	-	-	-	-	-	-
Summit	-	-	-	-	-	-	-	-	-	-	-
Weber	-	-	-	-	-	-	-	-	-	-	-
REGIONAL TOTALS	5	5	9.00	7	32	2	14	550	3	47	110
Central Region											
Juab	1	1	8.00	-	-	-	1	800	2	-	450
Salt Lake	-	-	-	-	-	-	-	-	-	-	-
Sanpete	-	-	-	-	-	-	-	-	-	-	-
Tonele	-	-	-	-	-	-	-	-	-	-	-
Utah	-	-	-	-	-	-	-	-	-	-	-
Wasatch	-	-	-	-	-	-	-	-	-	-	-
REGIONAL TOTALS	1	1	8.00	-	-	-	1	800	2	-	450
Southern Region											
Beaver	-	-	-	-	-	-	-	-	-	-	-
Garfield	-	-	-	-	-	-	-	-	-	-	-
Iron	-	-	-	-	-	-	-	-	-	-	-
Kane	-	-	-	-	-	-	-	-	-	-	-
Millard	-	-	-	-	-	-	-	-	-	-	-
Plute	-	-	-	-	-	-	-	-	-	-	-
Sevier	-	-	-	-	-	-	-	-	-	-	-
Washington	-	-	-	-	-	-	-	-	-	-	-
Wayne	-	-	-	-	-	-	-	-	-	-	-
REGIONAL TOTALS	-	-	-	-	-	-	-	-	-	-	-
Northeastern Region											
Daggett	-	-	-	-	-	-	-	-	-	-	-
Duchesne	-	-	-	-	-	-	-	-	-	-	-
Uintah	-	-	-	-	-	-	-	-	-	-	-
REGIONAL TOTALS	-	-	-	-	-	-	-	-	-	-	-
Southeastern Region											
Carbon	-	-	-	-	-	-	-	-	-	-	-
Emery	-	-	-	-	-	-	-	-	-	-	-
Grand	-	-	-	-	-	-	-	-	-	-	-
San Juan	-	-	-	-	-	-	-	-	-	-	-
REGIONAL TOTALS	-	-	-	-	-	-	-	-	-	-	-
STATE TOTALS	6	6	8.83	7	32	2	15	567	5	47	118

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

Table 2. Trend of Hungarian partridge young per 100 adults, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	409	400	--	--	450	569	307	--	396	793	711	
Cache	--	--	--	--	--	--	400	--	433	--	260	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	300	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	409	400	--	--	450	569	324	425	400	793	550	471
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	800	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tonele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	400	--	400	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	400	--	400	--	--	--	800	400
Southern Region												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett												
Duchesne												
Uintah												
REGIONAL TOTALS												
Southeastern Region												
Carbon												
Emery												
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	409	400	--	--	440	569	328	425	400	793	567	471

Table 3. Trend of average brood size for Hungarian partridge, 1982-92.

Region and County	Year											Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
Northern Region												
Box Elder	11.25	10.67	--	--	18.00	11.88	8.60	8.50	8.25	12.50	9.00	
Cache	--	--	--	--	--	--	--	--	6.00	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	11.25	10.67	--	--	18.00	11.88	8.60	8.50	8.90	12.50	9.00	11.29
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	8.00	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	4.00	--	4.00	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	4.00	--	4.00	--	--	--	8.00	4.00
Southern Region												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett												
Duchesne												
Uintah												
REGIONAL TOTALS												
Southwestern Region												
Carbon												
Emery												
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	11.25	10.67	--	--	11.00	11.88	7.83	8.50	8.90	12.50	8.83	10.32

Table 4. Trend of Hungarian partridge observed per 100 hours, 1982-92.

Region and County	Year										Average 1982-91	
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991		1992
Northern Region												
Box Elder	144	67	--	0	96	561	438	--	529	327	96	
Cache	--	--	--	--	--	--	--	88	538	--	257	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	144	67	--	0	50	435	240	88	517	327	110	208
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	450	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	--	--	--	--	--	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	500	--	500	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	500	--	500	--	--	--	450	500
Southern Region												
Beaver												
Garfield												
Iron												
Kane												
Millard												
Piute												
Sevier												
Washington												
Wayne												
REGIONAL TOTALS												
Northeastern Region												
Daggett												
Duchesne												
Uintah												
REGIONAL TOTALS												
Southeastern Region												
Carbon												
Emery												
Grand												
San Juan												
REGIONAL TOTALS												
STATE TOTALS	144	67	--	0	60	435	248	88	517	327	118	225

Table 5. Summary of Hungarian partridge hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	BIRDS BAGGED	BIRDS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	103	4,620	4,638	1.00	56.41	61.41
CACHE	48	2,150	2,310	1.07	26.25	30.59
DAVIS	1	71	0	0.00	0.87	0.00
MORGAN	4	426	17	0.04	5.21	0.24
RICH	14	373	284	0.76	4.56	3.76
SUMMIT	0	0	0	0.00	0.00	0.00
WEBER	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	170	7,641	7,250	0.95	93.29	96.00
CENTRAL REGION						
JUAB	1	17	35	2.00	0.22	0.47
SALT LAKE**	1	17	17	1.00	0.22	0.24
SANPETE**	0	0	0	0.00	0.00	0.00
TOOELE	6	355	88	0.25	4.34	1.18
UTAH**	3	53	35	0.67	0.65	0.47
WASATCH**	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	11	444	177	0.40	5.42	2.35
SOUTHERN REGION						
BEAVER**	1	17	35	2.00	0.22	0.47
GARFIELD**	0	0	0	0.00	0.00	0.00
IRON**	1	17	0	0.00	0.22	0.00
KANE**	0	0	0	0.00	0.00	0.00
MILLARD**	0	0	0	0.00	0.00	0.00
PIUTE**	0	0	0	0.00	0.00	0.00
SEVIER**	2	53	88	1.67	0.65	1.18
WASHINGTON**	0	0	0	0.00	0.00	0.00
WAYNE**	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	4	88	124	1.40	1.08	1.65
NORTHEASTERN REGION						
DAGGETT**	0	0	0	0.00	0.00	0.00
DUCHESNE**	0	0	0	0.00	0.00	0.00
UINTAH**	1	17	0	0.00	0.22	0.00
REGIONAL TOTALS	1	17	0	0.00	0.22	0.00
SOUTHEASTERN REGION						
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 JUAN**	0	0	0	0.00	0.00	0.00
REGIONAL TOTALS	0	0	0	0.00	0.00	0.00
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	186	8,192	7,553	0.92	100.00	100.00

* Total hunter-trips from questionnaire returns.

** Closed to Hungarian partridge hunting in 1992.

Table 6. Summary of Hungarian partridge bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	0.25	0.60	1.28	0.95	0.62	1.11	1.02	1.00
Cache	2.00	0.00	1.05	0.50	0.94	0.86	0.86	1.07
Davis	0.00	0.00	0.00	0.00	2.67	0.00	0.00	0.00
Morgan	0.00	0.00	0.67	0.00	1.33	0.00	0.00	0.04
Rich	0.00	0.00	1.50	0.00	0.00	2.13	1.35	0.76
Summit	0.00	0.00	2.00	3.00	0.00	0.00	0.00	0.00
Weber	0.00	0.00	1.25	1.17	1.00	1.00	0.40	0.00
REGIONAL TOTALS	0.26	0.59	1.23	0.89	0.67	1.02	0.97	0.95
Central Region								
Juab	0.00	0.00	0.30	0.00*	0.00*	0.00*	0.00*	2.00
Salt Lake	0.50	0.00	0.00	0.09*	0.67*	0.00*	0.00*	1.00*
Sanpete	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Tooele	0.46	0.00	0.00	0.33	0.47	0.46	0.02	0.25
Utah	0.00	0.00	0.33	0.31*	0.00*	0.00*	0.00*	0.67*
Wasatch	1.50	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.48	0.00	0.20	0.24	0.41	0.40	0.02	0.40
Southern Region								
Beaver	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	2.00*
Garfield	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Iron	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Kane	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Millard	0.00	2.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Piute	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Sevier	0.00	0.20	2.00	0.00*	0.00*	3.00*	0.00*	1.67*
Washington	0.00	0.00	0.00	2.14*	0.00*	0.00*	0.00*	0.00*
Wasatch	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.00	0.78	1.33	2.14	0.00	0.60	0.00	1.40
Northeastern Region								
Daggett	1.00	0.00	0.00	0.00*	0.00*	0.00*	1.25*	0.00*
Duchesne	0.00	0.00	0.00	0.00	0.00*	0.00*	1.00*	0.00*
Uintah	0.00	0.00	0.00	0.00	1.00*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.00	0.50	0.00	0.00	0.00	0.00	1.20	0.00
Southeastern Region								
Carbon	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Emery	0.00	0.00	0.00	1.00*	0.00*	0.00*	0.00*	0.00*
Grand	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
San Juan	0.00	0.00	0.00	0.00*	1.50*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.00	0.00	0.00	1.00	1.50	0.00	0.00	0.00
Unknown Counties	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	0.31	0.57	1.09	0.82	0.65	0.97	0.88	0.92

*Closed Season

Table 7. Percentage distribution of Hungarian partridge harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	60.34	91.14	80.25	78.86	76.20	60.80	73.82	61.41
Cache	5.94	0.00	9.87	6.03	8.47	31.01	16.75	30.59
Davis	0.00	0.00	0.00	0.00	4.23	0.00	0.00	0.00
Morgan	0.00	0.00	0.85	0.00	2.12	0.00	0.00	0.24
Rich	0.00	0.00	1.28	0.00	0.00	5.17	6.37	3.76
Summit	0.00	0.00	0.85	2.26	0.00	0.00	0.00	0.00
Weber	0.00	0.00	2.14	2.64	2.12	0.30	1.42	0.00
REGIONAL TOTALS	66.62	91.14	95.27	89.81	93.13	97.28	98.35	96.00
Central Region								
Juab	0.00	0.00	1.28	0.00*	0.00*	0.00*	0.00*	0.47
Salt Lake	2.97	0.00	0.00	0.37*	1.06*	0.00*	0.00*	0.24*
Sanpete	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Tooele	18.10	0.00	0.00	1.88	3.70	1.82	0.24	1.18
Utah	0.00	0.00	0.42	1.88*	0.00*	0.00*	0.00*	0.47*
Wasatch	9.05	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
REGIONAL TOTALS	30.27	0.00	1.71	4.15	4.76	1.82	0.24	2.35
Southern Region								
Beaver	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.47*
Garfield	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Iron	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Kane	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Millard	0.00	7.59	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Piute	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Sevier	0.00	1.27	1.71	0.00*	0.00*	0.91*	0.00*	1.18*
Washington	0.00	0.00	0.00	5.66*	0.00*	0.00*	0.00*	0.00*
Wayne	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00
REGIONAL TOTALS	0.00	8.86	1.71	5.66	0.00*	0.91	0.00*	1.65*
Northeastern Region								
Daggett	2.97	0.00	0.00	0.00*	0.00*	0.00*	1.18*	0.00*
Duchesne	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.24*	0.00*
Uintah	0.00	0.00	0.00	0.00	0.53*	0.00*	0.00*	0.00*
REGIONAL TOTALS	2.97	0.00	0.00	0.00	0.53	0.00	0.00*	0.00*
Southeastern Region								
Carbon	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
Emery	0.00	0.00	0.00	0.37	0.00*	0.00*	0.00*	0.00*
Grand	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*
San Juan	0.00	0.00	0.00	0.00	1.59*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.00	0.00	0.00	0.37	1.59	0.00	0.00*	0.00
Unknown counties	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed Season

Table 8. Percentage distribution of Hungarian partridge hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	74.98	87.68	68.22	68.42	80.42	53.10	64.04	56.41
Cache	0.91	0.72	10.28	9.90	5.84	34.81	17.26	26.25
Davis	0.00	0.00	1.40	1.23	1.03	0.00	0.42	0.87
Morgan	1.82	0.00	1.40	0.30	1.03	2.36	0.42	5.21
Rich	0.00	0.72	0.93	0.00	0.69	2.36	4.16	4.56
Summit	0.00	0.00	0.46	0.61	0.00	0.00	0.00	0.00
Weber	0.00	0.00	1.86	1.85	1.37	0.30	3.12	0.00
REGIONAL TOTALS	77.79	89.13	84.57	82.36	90.39	92.93	89.40	93.29
Central Region								
Juab	0.00	0.72	4.67	0.00*	0.00*	0.59*	0.00*	0.22
Salt Lake	1.82	0.00	0.00	3.40*	1.03*	0.00*	0.00*	0.22*
Sanpete	0.91	0.72	0.46	0.00*	0.00*	0.00*	0.00*	0.00*
Tooele	12.01	0.72	2.80	4.64	5.16	3.84	9.15*	4.34
Utah	2.77	1.44	1.40	4.95*	0.34*	0.00*	0.21*	0.65*
Wasatch	1.82	0.00	0.00	1.23*	1.03*	0.00*	0.00*	0.00*
REGIONAL TOTALS	19.45	3.62	9.34	14.24	7.56	4.43	9.36	5.42
Southern Region								
Beaver	0.00	0.72	0.00	0.00*	0.00*	1.18*	0.21*	0.22*
Garfield	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Iron	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.22*
Kane	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Millard	0.00	2.17	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Piute	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
Sevier	0.00	3.62	0.93	0.00*	0.69*	0.30*	0.00*	0.65*
Washington	0.00	0.00	0.46	2.16*	0.00*	0.00*	0.00*	0.00*
Wayne	0.00	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
REGIONAL TOTALS	0.00	6.52	1.39	2.15	0.69	1.48	0.21	1.08
Northeastern Region								
Daggett	0.91	0.00	0.00	0.00*	0.00*	0.00*	0.83*	0.00*
Duchesne	0.00	0.00	0.00	0.30*	0.00*	0.00*	0.21*	0.00*
Uintah	0.91	0.72	0.00	0.00*	0.34*	0.00*	0.00*	0.22*
REGIONAL TOTALS	1.82	0.72	0.00	0.29	0.34	0.00*	1.04	0.22
Southeastern Region								
Carbon	0.00	0.00	0.00	0.61*	0.34*	0.00*	0.00*	0.00*
Emery	0.00	0.00	0.00	0.30*	0.00*	1.18*	0.00*	0.00*
Grand	0.91	0.00	0.00	0.00*	0.00*	0.00*	0.00*	0.00*
San Juan	0.00	0.00	0.00	0.00*	0.69*	0.00	0.00*	0.00*
REGIONAL TOTALS	0.91	0.00	0.00	0.92	1.03	1.18	0.00	0.00
Unknown counties	0.00	0.00	4.67	0.00	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*Closed Season

Table 9. Statewide summary of Hungarian partridge harvest statistics, 1955-92.

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
1987	2,010	5,711	5,246	1.09	2.53
1988	2,471	4,424	5,392	0.82	1.79
1989	2,136	3,920	6,035	0.65	1.83
1990	2,305	6,770	6,976	0.97	2.94
1991	2,662	7,376	8,367	0.88	2.77
1992	3,198	7,553	8,192	0.92	2.36
Totals					
(1959-92)	120,747	260,471	300,600	--	--
Averages					
(1959-91)	3,562	7,664	8,861	0.82	2.06

Table 10. Hungarian partridge field bag check summary, 1992.

Region and County	All Hunts				Complete Hunts				Birds/ Hunter	Birds/ 100 Hr
	Total Parties	Total Hunters	Total Hours	Total Birds	Complete Hunts	Total Hunters	Total Hours	Total Birds		
Northern Region										
Box Elder	1	2	6	3	1	2	6	3	1.50	50
Cache	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--
Rich	3	11	7	6	3	11	7	6	0.55	86
Summit	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	4	13	13	9	4	13	13	9	0.69	69
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	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
Southeastern Region										
Carbon	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	4	13	13	9	4	13	13	9	0.69	69

Table 11. Hungarian partridge hunter success trend as determined by field bag check, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr	Birds/ Hunter	Birds/ 100 Hr
Northern Region												
Dix Elder	1.69	31	1.04	24	181	9.50	--	--	55	0.55	1.50	50
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	0.55	86
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	1.69	31	1.04	24	181	9.50	--	--	55	0.55	0.69	69
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Snapete	--	--	--	--	--	--	--	--	--	--	--	--
Tonele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Milliard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region												
Daggett	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	1.69	31	1.04	24	181	9.50	--	--	55	0.55	0.69	69

WILD TURKEY

SUMMARY

Merriam's Turkeys

Turkey populations remain fairly stable and well above the 23-year average. However, hunter success rates decreased slightly from 1991. The percent of hunters observing turkeys declined in 1992, but remains 9 percent above average. Merriam's populations appear to be down somewhat since 1984.

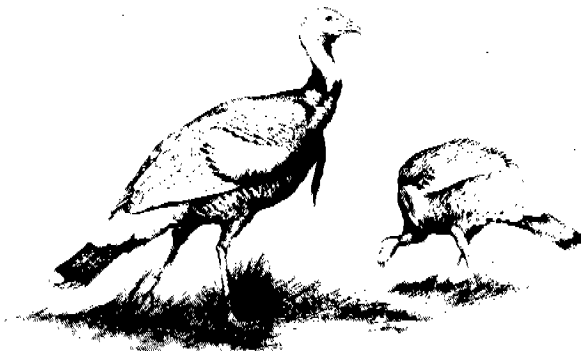
Hunter success and turkey observation data for the 1992 spring season indicated that the East Zion area had a slightly slower year than 1991. Total harvest and percent success decreased 11 and 16 percent respectively. Thirty-four birds were reported harvested for this unit. Harvest statistics indicate that the Boulder population decreased slightly while the LaSal population increased slightly. The remaining units of the state were closed to hunting. A fall turkey hunting season was not held anywhere in 1992.

Spring hunting pressure was down in 1992, but was well above average. Complaints about hunters interfering with each other due to over-crowding were made by 12 of 481 voluntary responses. Twenty-eight hunters complained about "no birds" or that the hunt was "poor." Twelve hunters suggested that the hunt is held "too late" in the spring. To reduce opening weekend pressure, the season opened Friday, May 1, rather than the Saturday nearest May 1.

Hunter success remained the same as the previous year, except 9 percent fewer hunters were afield. A total of 53 turkeys were harvested in the spring hunt of 1992 compared to 59 taken in 1991, 52 in 1990 and 59 in 1989. Observations of turkeys remained higher than average in 1992.

Rio Grande Turkeys

In 1992, Utah sportsmen were again given a limited entry opportunity to harvest Rio Grande turkeys. Four units were designated as limited entry for Rio Grande turkeys: 1) Marysvale, 2) New Harmony, 3) Pine Valley and 4) Tropic. Five permits were available for each unit with a \$25.00 permit fee required to participate in the hunt. Hunters were allowed to harvest 1 male bird. Three hundred twenty-three sportsmen applied for the 20 available permits. A random drawing was held to determine successful applicants. Odds for drawing in each area were as follows: 1) Marysvale 1:15, 2) New Harmony 1:26, 3) Pine Valley 1:13 and 4) Tropic 1:11.



For the first time in history, a Rio Grande wild turkey-bid permit was available. Minimum bid on the permit was \$350 January 15th through 8:00 p.m. March 7th, 1992. No one submitted the sealed minimum bid through March 7th so the permit was auctioned off to the highest bidder at the National Wild Turkey Federation Utah Chapter fund-raising banquet the night of March 7th. The permit sold for \$360. The successful bidder had his choice of the limited entry units to hunt and chose to hunt the New Harmony Unit.

Limited brood count data is exhibited in Table 5. Harvest statistics for the limited entry hunts are found in Table 6. Eighteen hunters averaged 3.20 days-afield each to harvest a total of 15 turkeys. Six of the harvested birds were yearlings and 9 were adults. Seventy-five percent of the hunters afield harvested a bird.

As other Rio Grande populations continue to grow throughout the state, more limited entry opportunities will be provided.

Harvest

Spring Merriam's Gobbler Season

Results of the 1992 spring season are shown in Table 1 of this section. The trend of these data since 1968 is shown in Table 2 and Figures 1 and 2. Specific harvest information is listed in Table 3. Statewide summary of fall hunt statistics is in Table 4. The 1992 spring season compared to 1991 and the previous 23-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Permits sold	538	-8	+120
Hunters afield	484	-9	+119
Turkeys harvested	53	-10	+101
Hunter-days afield	1,599	-11	+148
Percent hunter success	11	0	-2
Turkeys bagged per hunter-day	0.03	0	-30
Percent of hunters who observed turkeys	45	-8	+9

Permit sales and hunters afield decreased slightly from 1991 but were well above average. Total harvest decreased (from 59 in 1991 to 53 in 1992), which is ten percent below the previous year. Hunter success rates remained the same from 1991 and were 2 percent below the 23-year average. The proportion of hunters who reported having observed turkeys was 9 percent above average. In 1992, the Boulder Unit accounted for 42% of the hunting pressure based on hunter-days afield. The East Zion unit accounted for 44% of the hunting pressure. However, the East Zion Unit accounted for 65% of the statewide harvest.

The trend of spring Merriam's turkey harvest statistics is shown in Figures 1 and 2. Six percent of the hunters used archery equipment, one hunter used a rifle and the remainder reported using shotguns. Four turkeys were reported crippled and not recovered. Six of 48 known kills were suspected of being females and another seven are suspected of being jakes.

Eighteen percent of the harvest (8 of 48) occurred on opening day (Friday), 23 percent the following day, 30 percent the first weekend and 11 percent the last weekend of the hunt. Forty-eight percent of the harvest occurred on weekends compared with 14 percent last year (1991), 25 percent in 1990 and 33 percent in 1989. It appears that opening the season on May 1 instead of Saturday nearest May 1, is doing what was intended by spreading harvest and pressure out over the season.

Twelve of 481 hunters commented that the spring hunting season should be opened 1-3 weeks earlier. Twelve commented that the hunt was too crowded. Turkey hunters were again questioned about interference from bear hunters using hounds during the 1992 hunt. Two of 481 hunters complained of interference. One hunter from the Boulder Mountain unit complained of interferences that occurred once. One hunter from the East Zion unit complained of a total of 5 interferences. Overall, interferences from bear hunters seems to be very insignificant.

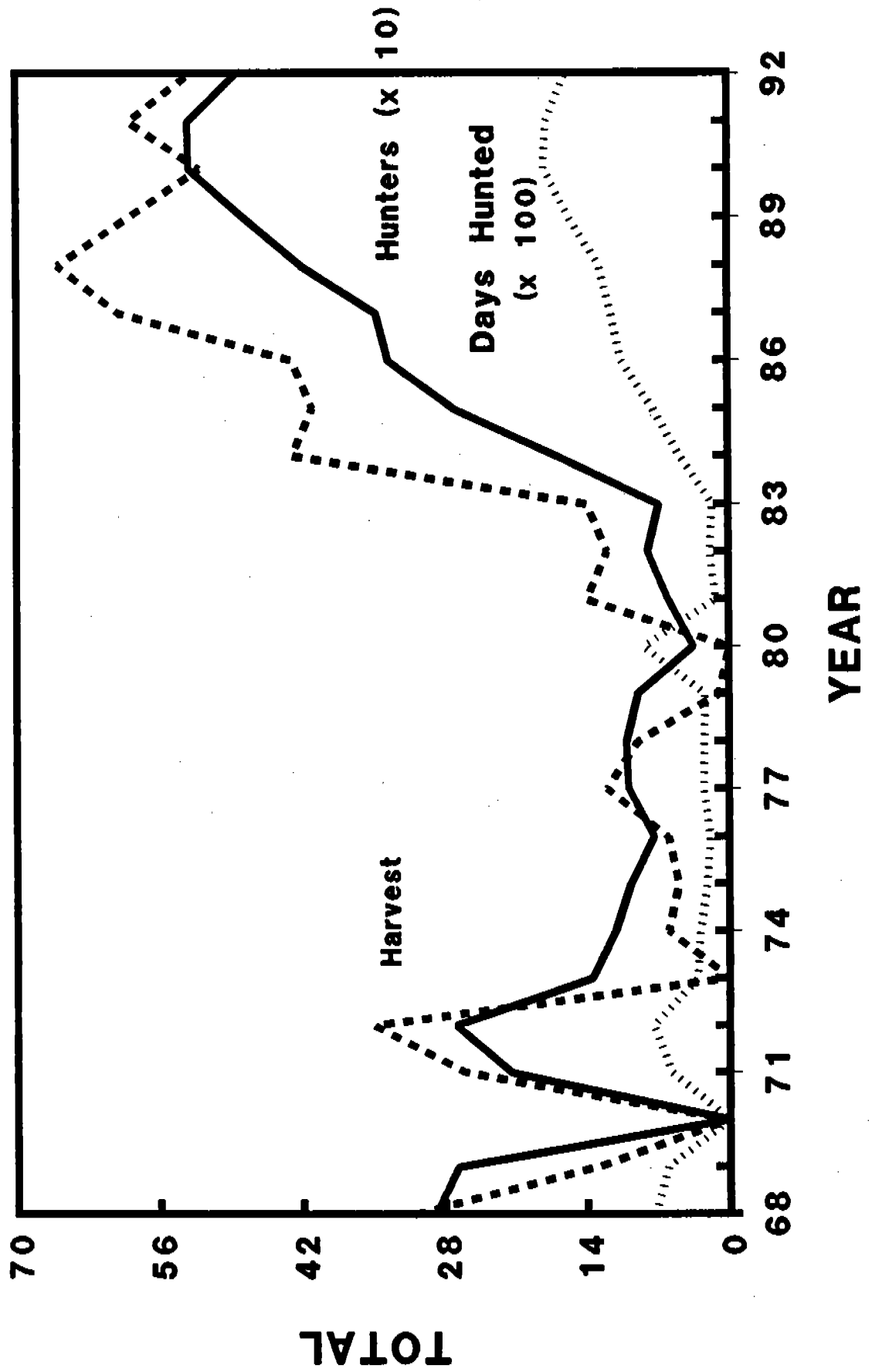


Figure 1. Spring Merriam's wild turkey hunters, harvest, and days hunted, 1968-92.

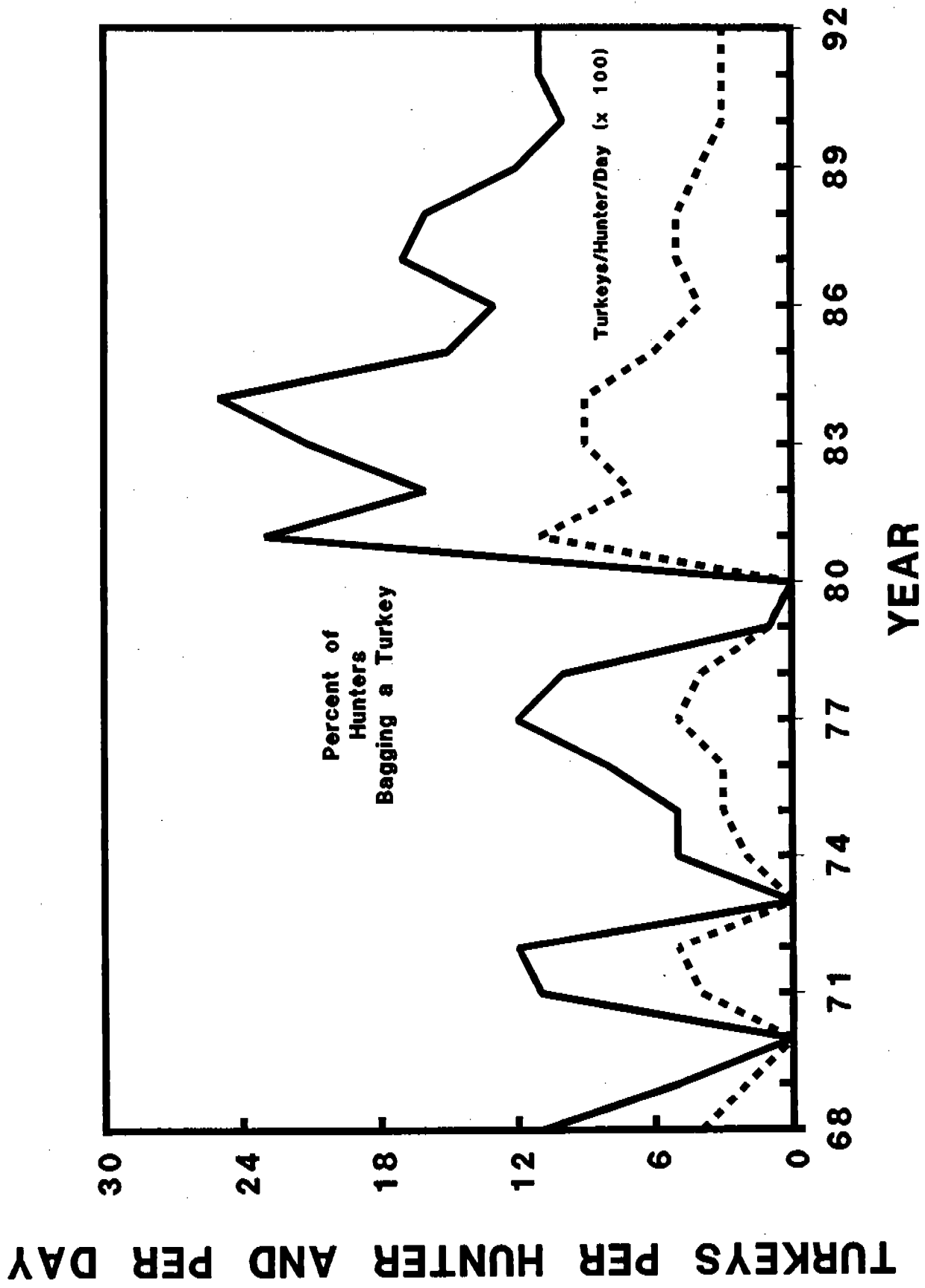


Figure 2. Spring Merriam's wild turkey hunting success, 1968-92.

Table 1. Summary of the 1992 spring Merriam's turkey season.

Data	Elk Ridge		East Zion		Boulder		LaSal		Beaver		Pine Valley		Mixed Units		STATE TOTALS	
	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't	Calc	Rep't ^a	Calc ^a	Rep't	Calc
Permits Sold															538	
No Hunts															40	
Hunters Afield	C	194	214	184	203	60	66	C	L	12	13	438	484			
Hunter-Days	L	616	681	617	682	214	236	L	I	32	35	1,447	1,599			
Turkeys Bagged	O	31	34	12	13	5	6	O	M	2	2	48	53			
Percent Success	S	16	--	7	--	8	--	S	I	17	--	11	--			
Turkeys Bagged Per Hunter-Day	E	0.05	--	0.02	--	0.02	--	E	T	0.06	--	0.03	--			
Reported Crippling Loss (Loss/100 Bagged)	D	3	--	0	--	1	--	D	E	0	--	4	--			
Turkeys Observed	S	10	--	0	--	20	--	S	S	0	--	8	--			
Gobblers	E	536	--	293	--	154	--	E	E	21	--	983	--			
Hens	A	149	--	85	--	80	--	A	N	5	--	314	--			
Unidentified	S	305	--	150	--	61	--	S	T	14	--	516	--			
Number of Hunters	O	82	--	58	--	13	--	O	R	2	--	153	--			
Who Saw Turkeys	N	106	--	63	--	30	--	N	Y	6	--	199	--			
Percent of Hunters																
Who Saw Turkeys															50	
Projection Factor = 538 Permits Sold/487 Questionnaires Returned = 1.1047228.																

* Hunters Hunted More than One Area; Data Included In Specific Area Hunted.

^a Figures Do Not Sum Because These Hunters Hunted Another Unit As Their Primary Hunting Area And Were Not Counted Twice. Hunters Afield and Days By Unit Were As Follows: Boulder (10-28), Six of These Were From East Zion and Four Were From LaSal As Their Primary Units; East Zion (1-4), From Boulder; LaSal (1-2), From East Zion.

Table 2. Summary of Merriam's turkey harvest statistics for spring gobbler seasons, 1967-92.

Hunting Unit	Year	Hunters		Total Harvest		Hunter-Days		Percent Success*	Turkeys Per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield		Harvest	Afield	Success*	Hunter-Day		Hunter-Day			
EAST ZION	1967	24	9	59	38	0.15	58					
	1968	130	16	364	11	0.04	48					
	1969	77	4	210	6	0.02	35					
	1970							NO SEASON				
	1971	106	14	272	12	0.05	38					
	1972	113	20	321	14	0.06	47					
	1973	43	0	96	0	0.00	14					
	1974	34	2	73	7	0.03	23					
	1975	29	3	42	8	0.06	33					
	1976	31	5	74	16	0.05	38					
	1977	47	6	117	13	0.05	48					
	1978	36	4	80	13	0.06	56					
	1979	35	1	95	4	0.01	11					
	1980	35	0	84	0	0.00	17					
	1981	39	13	94	32	0.14	68					
	1982	62	11	134	18	0.08	70					
	1983	48	12	122	25	0.10	68					
	1984	108	30	313	27	0.09	70					
	1985	129	24	368	19	0.07	60					
	1986	173	31	508	18	0.06	68					
	1987	153	40	500	26	0.08	74					
	1988	221	44	680	20	0.06	45					
	1989	235	35	799	15	0.04	66					
	1990	250	29	850	12	0.03	60					
	1991	204	38	682	19	0.06	54					
	1992	214	34	681	16	0.05	55					

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	Observer		
BOULDER	1967	17	2	43	12	0.05	75				
	1968	134	15	330	10	0.05	33				
MOUNTAINS	1969	141	6	300	4	0.02	16				
	1970				NO SEASON						
	1971	27	1	64	4	0.02	13				
	1972	42	3	107	8	0.03	28				
	1973	22	0	52	0	0.00	6				
	1974	23	0	56	0	0.00	25				
	1975	16	1	34	7	0.04	8				
	1976	12	0	25	0	0.00	10				
	1977	6	0	13	0	0.00	40				
	1978	16	1	31	0	0.00	14				
	1979	5	0	10	0	0.00	0				
	1980				NO SEASON						
	1981				NO SEASON						
	1982				NO SEASON						
	1983	6	1	7	20	0.17	40				
	1984	33	9	85	27	0.11	73				
	1985	73	7	187	10	0.04	46				
	1986	123	8	354	7	0.02	44				
	1987	105	11	363	7	0.03	40				
	1988	134	11	383	8	0.03	50				
	1989	138	13	417	10	0.03	60				
	1990	185	11	585	6	0.02	42				
	1991	231	18	799	8	0.02	49				
	1992	203	13	682	7	0.02	34				

Table 2. (Continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-Days		Percent Success*	Turkeys Per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-Day			
LASAL MOUNTAINS	1967	6	0	16	0	0.00	33				
	1968	17	0	44	0	0.00	62				
	1969	39	3	102	9	0.03	24				
	1970				NO SEASON						
	1971	17	1	34	6	0.03	20				
	1972	50	3	129	7	0.03	29				
	1973	23	0	53	0	0.00	16				
	1974	20	0	66	0	0.00	11				
	1975	11	0	30	0	0.00	33				
	1976	8	0	25	0	0.00	14				
	1977	24	4	53	15	0.07	45				
	1978	32	2	78	7	0.03	38				
	1979	34	0	74	0	0.00	7				
	1980				NO SEASON						
	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				
	1987	74	6	218	9	0.03	50				
	1988	65	11	199	16	0.06	70				
	1989	104	11	352	8	0.03	41				
	1990	95	12	340	13	0.03	48				
	1991	97	2	311	3	0.01	35				
	1992	66	6	236	8	0.02	50				

Table 2. (Continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-Days		Percent Success*	Turkeys Per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-Day			
BEAVER MOUNTAINS	1971	27	2	54	8	0.04	39				
	1972	17	2	53	13	0.04	20				
	1973	17	0	34	0	0.00	7				
	1974	1	0	1	0	0.00	0				
	1975	5	0	7	0	0.00	0				
	1976	2	0	8	0	0.00	0				
	1977	4	0	14	0	0.00	0				
	1978	2	0	7	0	0.00	50				
	1979						NO SEASON				
	1980						NO SEASON				
	1981						NO SEASON				
	1982						NO SEASON				
	1983						NO SEASON				
	1984						NO SEASON				
	1985						NO SEASON				
	1986						NO SEASON				
	1987						NO SEASON				
	1988						NO SEASON				
	1989						NO SEASON				
	1990						NO SEASON				
	1991						NO SEASON				
	1992						NO SEASON				

Table 2. (Continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-Days		Percent Success*	Turkeys Per		Percent of Hunters Observing Turkeys	Total Permits**
		Afield			Afield			Hunter-Day			
PINE VALLEY	1971	23	4	92	15	0.04	70				
	1972	22	1	52	5	0.02	42				
MOUNTAINS	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	3	0	5	0	0.00	0				
	1983	0	0	0	0	0.00	0				
	1984***				NO SEASON						
	1985***				NO SEASON						
	1986***				NO SEASON						
	1987	8	2	68	13	0.02	50				
	1988***				NO SEASON						
	1989***				NO SEASON						
	1990***				NO SEASON						
	1991***				NO SEASON						
	1992***				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			Hunter-Day	Observer		
BLUE MOUNTAINS	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										NO SEASON
	1981										NO SEASON
	1982										NO SEASON
	1983										NO SEASON
	1984										NO SEASON
	1985										NO SEASON
	1986										NO SEASON
	1987										NO SEASON
	1988										NO SEASON
	1989										NO SEASON
	1990										NO SEASON
	1991										NO SEASON
	1992										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			Hunter-Day			
MIXED UNITS	1971	15	4	15			15			61	
	1972	25	5	18	89		18	0.05		50	
	1973	12	0	0	38		0	0.00		0	
	1974	9	0	0	36		0	0.00		12	
	1975	11	0	0	32		0	0.00		22	
	1976	4	1	25	17		25	0.07		100	
	1977	9	1	13	29		13	0.04		50	
	1978	3	0	0	11		0	0.00		67	
	1979	6	0	0	27		0	0.00		20	
	1980	0	0	0	0		0	0.00		0	
	1981	1	0	0	2		0	0.00		100	
	1982	0	0	0	0		0	0.00		0	
	1983	0	0	0	0		0	0.00		0	
	1984	4	0	0	15		0	0.00		33	
	1985	4	0	0	6		0	0.00		67	
	1986	12	0	0	36		0	0.00		60	
	1987	11	0	0	28		0	0.00		0	
	1988	12	0	0	31		0	0.00		75	
	1989	6	1	23	12		23	0.13		50	
	1990	15	0	0	36		0	0.00		54	
	1991	16	4	23	57		23	0.06		69	
	1992	13	2	17	35		17	0.06		50	

Table 2. (Continued)

Hunting Unit	Year	Hunters		Total Harvest	Hunter-Days Afield	Percent Success*	Turkeys Per Hunter-Day	Percent of Hunters Observing Turkeys	Total Permits**
		Afield							
STATE TOTALS	1968	290	31	738	11	0.04	41	310	
	1969	267	13	612	5	0.02	22	276	
	1970				NO SEASON				
	1971	215	26	576	11	0.04	38	223	
	1972	269	35	751	12	0.05	39	285	
	1973	135	0	311	0	0.00	10	150	
	1974	112	6	289	5	0.02	22	121	
	1975	97	5	219	5	0.03	29	103	
	1976	74	6	185	8	0.03	32	81	
	1977	99	12	248	12	0.05	39	108	
	1978	101	9	246	10	0.04	42	116	
	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	
	1987	347	60	1,150	17	0.05	57	384	
	1988	421	66	1,267	16	0.05	50	490	
	1989	477	59	1,568	12	0.04	55	527	
	1990	531	52	1,812	10	0.03	51	579	
	1991	532	59	1,792	11	0.03	49	587	
	1992	484	53	1,599	11	0.03	45	538	
STATE TOTALS (1968-92)		5,559	660	16,441	-	-	997	6,163	
STATE AVERAGES (1968-91)		221	26	645	11	0.04	41	245	

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

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

***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. It was opened in 1987 and closed in 1988 through 1992 by proclamation.

Table 3. Date of kill, beard and spur length of Merriam's turkeys harvested during spring 1992.

Hunting Unit	Date of Kill	Beard Length (Inches)	Spur Length (1/8 Inches)
EAST ZION	*--	--	--
	*--	--	--
	--	9	7
	*--	--	--
	*--	8	4
	5/01	8	1
	5/01	3	1
	5/01	9	3
	*5/01	2	--
	5/01	10	7
	5/02	8	8
	5/02	6	4
	5/02	8	2
	*5/02	0	--
	*5/02	1	1
	5/03	8	1
	*5/03	1	--
	5/03	9	6
	5/04	3	--
	5/04	8	5
	5/05	3	4
	5/06	8	3
	5/06	4	1
	5/07	6	6
	5/08	8	8
	5/09	8	8
	5/09	8	8
5/14	6	4	
5/15	8	--	
5/15	6	3	
5/22	9	4	
5/23	10	6	
5/24	8	5	
68X			
LA SAL	*--	--	--
	5/02	10	4
	5/02	7	--
	5/11	9	7
*5/16	1	--	
BOULDER	5/01	8	3
	5/01	7	8
	5/01	5	4
	5/02	4	1
	5/02	4	1
	5/02	4	1
	5/05	6	3
	5/07	7	5
	5/12	9	3
	5/23	5	2
	5/24	3	--
	*5/24	2	--

*Possible violation of season date, sex or weapon. All successful turkey hunters reported using shotguns.

Table 4. Statewide summary of fall Merriam's wild turkey harvest statistics, 1964-92.

Year	Permits		Hunters		Hunter-Days		Turkeys		Percent Success**	Turkeys per Hunter-Day	Crippling Loss/100 Bagged	Turkeys Observed	Percent of Hunters Observing Turkeys
	Sold	Unsold	Afield	Home	Afield	Home	Bagged	Released					
1964	229		211		362		81		38	0.22	15	1,158	60
1965	214		207		406		50		24	0.12	8	730	29
1966*	192		187		471		43		23	0.09	7	756	36
1967	146		135		405		40		30	0.10	16	748	48
1968*	368		344		883		183		38	0.21	15	2,321	54
1969	223		210		549		36		11	0.06	19	466	17
1970	197		174		418		58		24	0.14	6	564	31
1971	184		174		444		60		21	0.14	8	451	28
1972	124		118		303		12		7	0.04	10	173	21
1973***	--		--		--		--		--	--	--	--	--
1974	29		26		79		3		12	0.04	33	83	38
1975	58		46		115		7		15	0.06	0	57	26
1976	68		56		136		15		27	0.11	7	182	32
1977	60		53		133		7		15	0.06	0	48	18
1978*	102		88		223		7		9	0.03	33	335	38
1979	46		36		71		3		9	0.05	0	61	19
1980	43		35		69		11		32	0.16	38	127	44
1981	63		55		114		12		22	0.11	56	141	32
1982	56		50		136		11		23	0.08	10	185	47
1983	61		49		112		15		28	0.13	0	303	49
1984	97		86		193		28		32	0.14	14	380	49
1985***	--		--		--		--		--	--	--	--	--
1986***	--		--		--		--		--	--	--	--	--
1987***	--		--		--		--		--	--	--	--	--
1988***	--		--		--		--		--	--	--	--	--
1989***	--		--		--		--		--	--	--	--	--
1990***	--		--		--		--		--	--	--	--	--
1991***	--		--		--		--		--	--	--	--	--
1992***	--		--		--		--		--	--	--	--	--
TOTALS													
(1964-84)	2,560		2,340		5,622		682					9,269	
AVERAGES													
(1964-84)	122		111		268		32		21	0.10	14	441	34

*Some hunter 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.

*** No fall season.

Table 5. Rio Grande turkey summer inventory summary, 1992.

Region and County	Distinct Broods		Mean Brood	Mixed Observations		Adults w/o Young		Total Adults	Total Young	Young/100 Ad	Vehicle Miles		Hours of Effort		Birds/100 Hr		
	#	Adults		Young	Adult	Young	Young				Adults	Young	Vehicle	Walk		Vehicle	Walk
Northern Region																	
Box Elder	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS																	
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Central Region																	
Juab	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Utah	5	5	32	6.40	22	137	0	27	169	62.6	100	8	1	7	16	1,225	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS																	
	5	5	32	6.40	22	137	0	27	169	62.6	100	8	1	7	16	1,225	
Southern Region																	
Beaver	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS																	
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northeastern Region																	
Daggett	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Duchesne	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS																	
	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region																	
Carbon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Emery	0	0	0	--	6	44	25	31	44	142	35	3	--	3	6	1,250	
Grand	1	1	3	3.00	5	22	4	10	25	250	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS																	
	1	1	3	3.00	11	66	29	41	69	168	35	3	--	3	6	1,833	
STATE TOTALS																	
	6	6	35	5.83	33	203	29	68	238	350	135	11	1	10	22	1,391	

Table 6. Summary of the 1992 spring limited entry Rio Grande turkey season.

Data	Marysvale	New Harmony	Pine Valley	Tropic	STATE TOTALS
Permits Sold*	5	6	5	5	21
Applicants For Permits	75	128	65	55	323
No Hunts	1	0	0	0	1
Hunters Afield	4	6	5	5	20
Average Hunter-Days	4.20	2.00	3.20	3.40	3.20
Turkeys Bagged	2	6	5	2	15
Percent Success	50	100	100	40	75
Turkeys Bagged Per Hunter-Day	0.48	3.00	1.56	0.59	4.69
Age of Harvested Turkeys					
Yearling	0	4	0	2	6
Adult	2	2	5	0	9
Reported Crippling Loss (Loss/100 Bagged)	0	0	0	0	0
Illegal Kills	0	0	0	0	0

*The bid permit hunted the New Harmony Unit.

SHARP-TAILED GROUSE

SUMMARY

The Columbian sharp-tailed grouse is one of four species of grouse native to Utah. Sharp-tails 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.

There was no legal harvest of sharp-tailed grouse from 1980 through 1992. Since 1988, the number of birds present on active dancing grounds has been substantially greater than in recent years (Table 1.). In the last four years several "new" grounds have been located. It appears sharp-tailed grouse have made a moderate recovery in core areas. Numbers on the fringe of their range appear to be low. Concurrent with the upswing in sharp-tailed populations has been a succession of mild winters. Since the catastrophic winter of 1983-84, all winters have been normal or milder than normal except 1988-89.

In Box Elder County, habitat associated with existing populations of sharp-tailed grouse has been relatively unchanged since 1983 except that about 100,000 acres in Box Elder County have been entered into the Conservation Reserve Program (CRP). This may be benefitting sharp-tailed grouse populations by providing undisturbed nesting and brood-rearing cover. The value of CRP to wildlife in Utah is being studied.

We have minimal recent data on sharp-tailed grouse populations in the Cache, Weber, and Morgan County areas. By 1984, populations in these areas were at or below minimum viable population levels. Efforts have increased over the past three years to locate "new" dancing grounds in these counties (Table 1.). New "core" sharp-tailed grouse habitat areas are being attributed to CRP lands in these counties.

Sharp-tailed grouse brood count information for Box Elder County is shown in Table 2.



Table 1. Summary of sharp-tailed grouse dancing ground counts, 1977-92.

County	No.	Dancing Ground Name	Year																	
			1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
Box Elder		West Hills Complex (Located 1977)	41	--	15	4	12	0	14	0	18	46	40	33	40**	75	53**	55**		
		Hunsaker's Field (Located 1977)	13	16	3	0	0	0	0	0	0	18	0	3	0	--	3	32		
		South White's Valley (Located 1977)	12	--	0	0	0	6	0	0	0	2	6	7	3	--	10	13		
		North White's Valley (Located 1977)	10	15	0	0	0	0	0	0	0	0	18	11	9**	--	14	5		
		Middle Canyon (Located 1991)															9**	14**		
		Pocatello Valley Complex (Located 1978)		42	7	7	19	19	14	5	9	20	20	19	16**	11	4	N/C		
		Blue Creek (Located 1991)															6**	5**		
		Howell Valley #1 (Located 1991)															13**	6**		
		Microwave Tower (Located 1987)										6	6	7	9	--	--	N/A		
		Sunset Pass (Located 1991)															8**	2**		
		Nucor (Located 1991)															11**	6**		
		Wellsville-Cottonwood (Located 1991)															8**	8		
		Snowville-Radio Tower (Located 1991)															8**	A		
	Cache		Bankhead Well (Relocated 1975)	8	7	2	2	0	0	--	--	--	--	--	--	--	--	N/A	N/C	
		Baxter Ridge (Relocated 1975)	0	--	--	3	5	3	--	--	--	--	--	--	--	--	N/A	N/C		
		Crow Mountain Complex (Located 1979)		0	13	4	11	3	--	--	--	--	0	0	--	--	27**	18**		
		High Creek (Located 1981)															22**	N/C		
		Clarkston (Located 1991)															20**	5**		
		Four Mile #1 (Located 1991)															4**	27**		
		Four Mile #2 (Located 1991)																3		
		McKenzie Flat (Located 1992)																		
Morgan		Cottonwood (Located 1975)	20	22	28	--	--	--	--	--	--	--	--	--	--	--	N/A	N/C		
		Deep Creek				4	--	--	--	--	--	--	--	--	--	--	N/A	N/C		
		Bobman Hollow (Located 1991)															11**	N/C		
Weber		Monastery (Located 1969)	A	A	3	0	0	0	--	--	--	--	--	--	--	--	--	N/C		
		Total Grounds Counted	10	9	15	16	17	15	11	2	11	6	8	12	11	2	18	16		
		Total Grouse Counted	104	102	71	24	57	31	28	5	29	84	90	80	77	86	236	210		
	Average Number of Grouse/Ground	10.40	11.30	4.70	1.50	3.40	2.10	2.50	2.50	2.60	14.00	11.30	6.70	7.00	43.00	13.00	13			

**High sagebrush precluded an accurate count--birds were counted when flushed.
 Since visitation by females at any given time is low, an estimated 90% of the grouse seen on the ground are males.
 Therefore, this figure is an estimate of the males on the ground.

A = ACTIVE
 N/A = NOT ACTIVE

Table 2. Sharp-tailed grouse summer inventory, 1992.

Region and County	Distinct		Mixed Young		Mean Brood	Young/100 Adults	Vehicle Miles	Hours of Effort		Birds/100 Hr	
	#	Broods	Adults	& Adults				Young	Horse		Walk
Northern Region											
Box Elder	20	20	84	4	7	31	55	91	165	26	562
Cache	3	3	10			10	13	10	77	4	575
Davis	--	--	--	--	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	23	23	94	4	7	41	68	101	149	30	563
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	--	--	--	--	--	--	--	--	--	--	--
Uintah	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
Southeastern Region											
Carbon	--	--	--	--	--	--	--	--	--	--	--
Emery	--	--	--	--	--	--	--	--	--	--	--
Grand	--	--	--	--	--	--	--	--	--	--	--
San Juan	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--
STATE TOTALS	23	23	94	4	7	41	68	101	149	30	563

NOT APPLICABLE

NOT APPLICABLE

NOT APPLICABLE

PTARMIGAN

SUMMARY

The white-tailed ptarmigan (Lagopus leucurus) was introduced into the Uinta Mountains of northeastern 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.

Breeding Territory and Brood Surveys

Surveys on the ptarmigan population continue, as time and manpower constraints allow. Two survey techniques are used. A breeding territory survey is conducted from mid- to late June. A brood survey is conducted from mid- to late August. Results of the last 10 and 11 years of survey data are found in Tables 1 and 2.

No spring survey of breeding territories and no summer brood survey was made in 1992.

Harvest

Seventeen hunters bought \$3.00 permits to hunt ptarmigan in Utah in 1992 (Table 3). An estimated 11 hunters actually pursued ptarmigan and no birds were killed. However, thirty-six percent of the hunters afield reported observing ptarmigan.

Many permits are obtained by sportsmen who think they might hunt during a fishing or big game hunting trip, but don't seriously plan on the ptarmigan hunt.



Table 1. Summary of white-tailed ptarmigan breeding territories (pairs), 1982-92.

County	Location	(6/16-17)		(6/18-19)		1987	1988	1989(2)	1990	1991	1992
		1982	1983	1984	1985						
Duchesne	Painter Basin										
Duchesne	Gilbert Basin		C(1)	C(1)	C(1)		N	N	N	N	N
Duchesne	Atwood Basin		A	A	A		O	O	O	O	O
Duchesne	Yellowstone River		N	N	N		S	S	S	S	S
Summit	Henry's Fork		C	C	C		U	U	U	U	U
Summit	Flat Top Mountain		E	E	E		R	R	R	R	R
Summit	Lake Blanchard		L	L	L		V	V	V	V	V
Summit	Beaver Creek		L	L	L		E	E	E	E	E
Summit	Smith's Fork		E	E	E	3	Y	Y	Y	Y	Y
Uintah	Leidy Peak		D	D	D						
				1							

(1) Excessive snow cover precluded access to trail-heads during the June breeding period.

(2) Investigator was incapacitated.

Table 2. White-tailed ptarmigan brood inventory, 1983-92.

Area:	DATE									
	8/23-30/83	8/26-28-84	8/14-22/85	8/86	8/87	8/25-31/88	8/89	8/90	8/91	8/92
Painter Basin	(c)									
n	2	-	3	-	-	-	-	-	-	-
Mean Brood	4.50	-	-	-	-	-	-	-	-	-
Young/100 Adult Hens	450	-	-	-	-	-	-	-	-	-
Hens w/o Broods	0	-	-	-	-	-	-	-	-	-
Adult Males	0	-	-	-	-	-	-	-	-	-
Henry's Fork					(e)					
n	0	0	-	4	3	3	-	-	-	-
Mean Brood				3.75	4.00	2.33				
Young/100 Adult Hens				375	217	233				
Hens w/o Broods				0	3	6				
Adult Males				-	-	-				
Yellowstone										
n	-	-	-	-	-	-	2	1	-	-
Mean Brood	-	-	-	-	-	-	4.00	4.00	-	-
Young/100 Adult Hens	-	-	-	-	-	-	366	400	-	-
Hens w/o Broods	-	-	-	-	-	-	4	0	-	-
Adult Males	-	-	-	-	-	-	18	0	-	-
Smith's Fork	(d)									
n	1	-	-	1	-	-	-	-	-	-
Mean Brood	3.50	6.00	-	-	6.00	-	-	-	-	-
Young/100 Adult Hens	350	300	-	-	120	-	-	-	-	-
Hens w/o Broods	0	1	-	-	4	-	-	-	-	-
Adult Males	0	-	-	-	-	-	-	-	-	-
Atwood Basin										
n	-	-	-	-	-	-	-	-	1	-
Mean Brood	-	-	-	-	-	-	-	-	2.00	-
Young/100 Adult Hens	-	-	-	-	-	-	-	-	200	-
Hens w/o Broods	-	-	-	-	-	-	-	-	0	-
Adult Males	-	-	-	-	-	-	-	-	0	-

Table 2. (continued)

Area:	DATE									
	8/23-30/83	8/26-28-84	8/14-22/85	8/86	8/87	8/25-31/88	8/89	8/90	8/91	8/92
Flat Top Mountain						(e)				
n	1				1	3				
Mean Brood	6.00				6.00	4.33				
Young/100 Adult Hens					900	433				
Hens w/o Broods	1				0	9				
Adult Males					0	0				
Little E. Fork - Black's Fork										
n										
Mean Brood										
Young/100 Adult Hens										
Hens w/o Broods										
Adult Males										
Rainbow Basin										
n										
Mean Brood										
Young/100 Adult Hens										
Hens w/o Broods										
Adult Males										
Gilbert Basin										
n										
Mean Brood										
Young/100 Adult Hens										
Hens w/o Broods										
Adult Males										
Sawtooth's Draw										
n										
Mean Brood										
Young/100 Adult Hens										
Hens w/o Broods										
Adult Males										
Lady Peak										
n					1					
Mean Brood					2.00					
Young/100 Adult Hens					200					
Hens w/o Broods					0					
Adult Males					0					

Table 2. (continued)

Area:	DATE									
	8/23-30/83	8/26-28-84	8/14-22/85	8/86	8/87	8/25-31/88	8/89	8/90	8/91	8/92
East F. Black's Fork										
n										
Mean Brood										
Young/100 Adult Hens										
Hens w/o Broods										
Adult Males										
Jolious Creek						(e)				
n					1	0				
Mean Brood					1.00	0.00				
Young/100 Adult Hens					300	0				
Hens w/o Broods					0	4				
Adult Males					0	0				
TOTALS						(e)				
n	3	1	3	5	6	6	2	1	1	--
Mean Brood	4.00	6.00	3.50	3.75	3.86	3.33	4.00	4.00	2.00	--
Young/100 Adult Hens	400	300	350	375	236	333	366	400	200	--
Hens w/o Broods	0	2	0	0	7	19	4	0	0	--
Adult Males	0	0	0	0	0	0	0	0	0	--
Total Birds Observed	20	--	18	19	47	45	18	5	3	--

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

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

e Mixed Adults

n Number of Broods

Table 3. Summary of white-tailed ptarmigan harvest statistics, 1982-92. Estimates are calculated based upon 100 percent samples or projection factors.

Year	Permits Sold		Hunters		Hunter-Days		Ptarmigan		Birds/		Ptarmigan/		Crippling Loss/		Ptarmigan		% Hunters	
			Afield		Afield		Bagged	Hunter	Hunter	Hunter-Day	100 Bagged	Observed	Observed	Observed	Ptarmigan	Immatures per 100 Adults		
1982	48	21	33	0	0.00	0	0.00	0	0	0	0	0	0	0	0	0	0	0
1983	31	13	21	14	0.67	14	1.08	0	0.67	0	25	30	30	30	30	30	30	30
1984	28	20	25	36	1.44	36	1.80	0	1.44	0	0	0	0	0	0	0	0	0
1985	55	10	13	7	0.54	7	0.70	14	0.54	14	9	14	14	14	14	14	14	14
1986	49	14	21	8	0.36	8	0.57	0	0.36	0	8	22	22	22	22	22	22	22
1987	45	9	9	8	0.89	8	0.89	0	0.89	0	0	0	0	0	0	0	0	0
1988**	28	15	15	22	1.47	22	1.47	0	1.47	0	59	59	59	59	59	59	59	4.50(11)
1989	20	3	18	13	0.72	13	4.33	0	0.72	0	35	35	35	35	35	35	35	35
1990	17	11	27	17	0.63	17	1.55	0	0.63	0	28	28	28	28	28	28	28	28
1991	15	13	16	26	1.63	26	2.00	0	1.63	0	95	95	95	95	95	95	95	95
1992	17	11	17	0	0.00	0	0.00	0	0.00	0	56	56	56	56	56	56	56	56

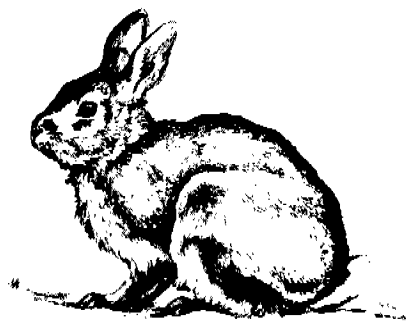
**For the first time a handling fee of \$2.00 per permit was charged.

Projection Factor = 1.33 (17 permits issued/15 questionnaires returned).

RABBITS AND HARES

SUMMARY

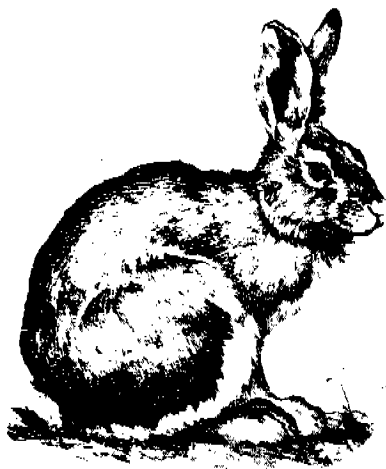
Cottontail Rabbits



Cottontail populations remain below a short term high in 1988.

Summer roadside counts indicated an increased population density statewide. Harvest statistics indicated increased hunter success and is still 6 percent below average. Many hunters expressed seeing numerous cottontail while afield.

Snowshoe Hares



The 1992 snowshoe hare hunting season indicated an increase in populations.

Hunter numbers increased 9 percent from the previous year and remained below average. 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.

It appears that in 1992 there was an increased interest in snowshoe hare hunting opportunity.

COTTONTAIL RABBIT

Roadside Counts

Results of the annual roadside counts for 1992 are shown in Table 1 and Figure 1. The long-term trend of cottontails observed per mile and young per 100 adults is shown in Figure 4 and Tables 2 and 3. Indices for 1992 compared to 1991 and the previous 10-year (1982-91) average follow:

	<u>1992</u>	<u>Percent change from 1991</u>	<u>Average</u>
Total miles driven	857	+54	-37
Total cottontails counted	207	+120	-56
Cottontails observed per mile	0.24	+41	-28
Young observed per 100 adults	71	+11	-7

Production data from roadside counts indicated an increase in the population. The cottontail per mile index increased 41 percent and was 28 percent below average.

Harvest

Hunter Questionnaire

Results of the 1992 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 are found in Tables 5-7. Trends of statewide harvest statistics are found in Table 8 and Figures 2 and 3. Results of the 1991 season compared to 1991 and the 25-year average follow:

	<u>1992</u>	<u>Percent change from 1991</u>	<u>Average</u>
Cottontail hunters	20,509	-3	-17
Cottontail harvest	117,454	+5	-26
Hunter-days afield	83,154	0	-18
Cottontails per hunter-day	1.41	+4	-6
Cottontails per hunter	5.73	+9	-7

Total hunters decreased 3 percent from 1991. However, effort remained the same. Total harvest decreased 5 percent. Total harvest was 26 percent below average. Hunter success was 6 percent below average. Harvest data indicate a year of below average populations of cottontails. The drought may be negatively affecting rabbit populations statewide. A population crash was apparent in the spring of 1984, and has been confirmed by the 1984 and 1985 harvest data. Populations recovered rapidly in 1986, 1987, and 1988. Populations may be headed downward again. The last seven winters have not been harsh.

Field Bag Checks

Results of field bag checks for 1992 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 1992 field bag check data to 1991 and the previous 10-year (1982-91) average.

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Total hunters checked	4	-98	-97
Total hours hunted	10	-99	-97
Cottontails per hunter (complete hunts)	1.25	-1	-42
Cottontails bagged per 100 hours	50	+72	-31
Hours per hunter-day (complete hunts)	2.50	-42	-20
Hours per cottontail bagged (complete hunts)	0.05	-99	-98

Sample sizes were so small that no meaningful conclusions can be drawn.

COTTONTAILS/MILE AND JUVENILES/ADULT

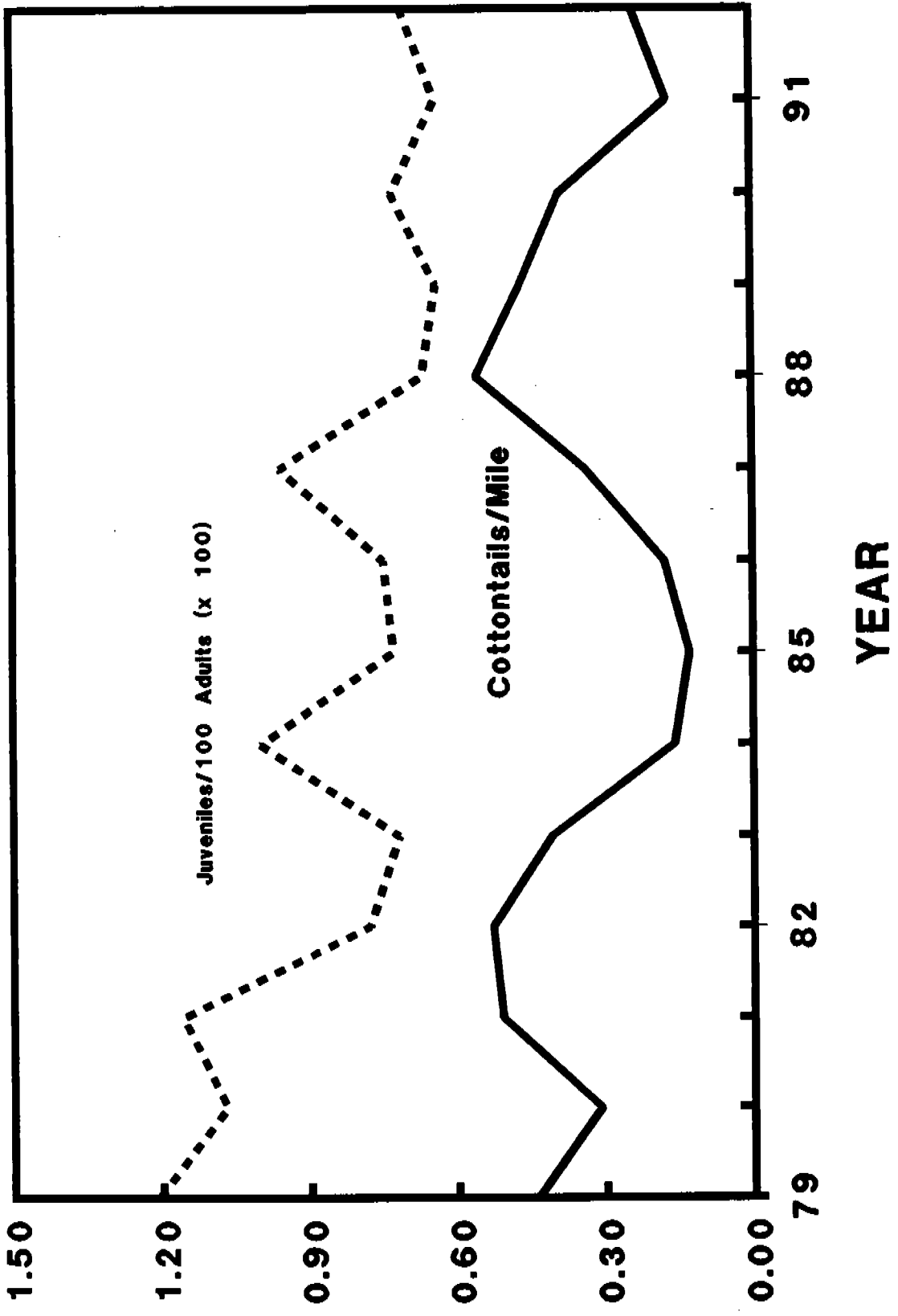


Figure 1. Cottontail rabbit population indices trends, 1979-92.

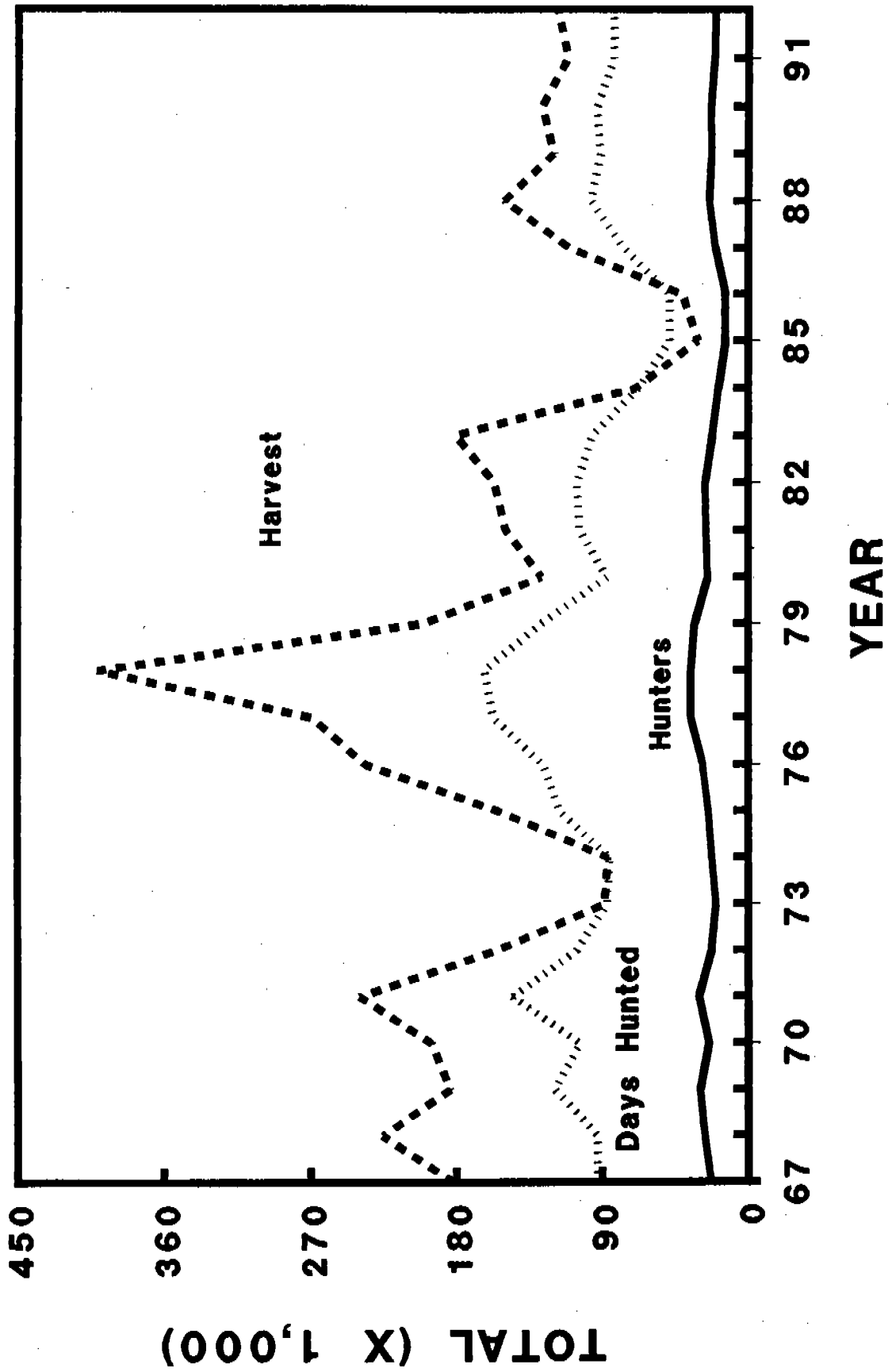


Figure 2. Statewide trends of cottontail rabbit harvest statistics, 1967-92.

COTTONTAILS PER HUNTER AND PER DAY

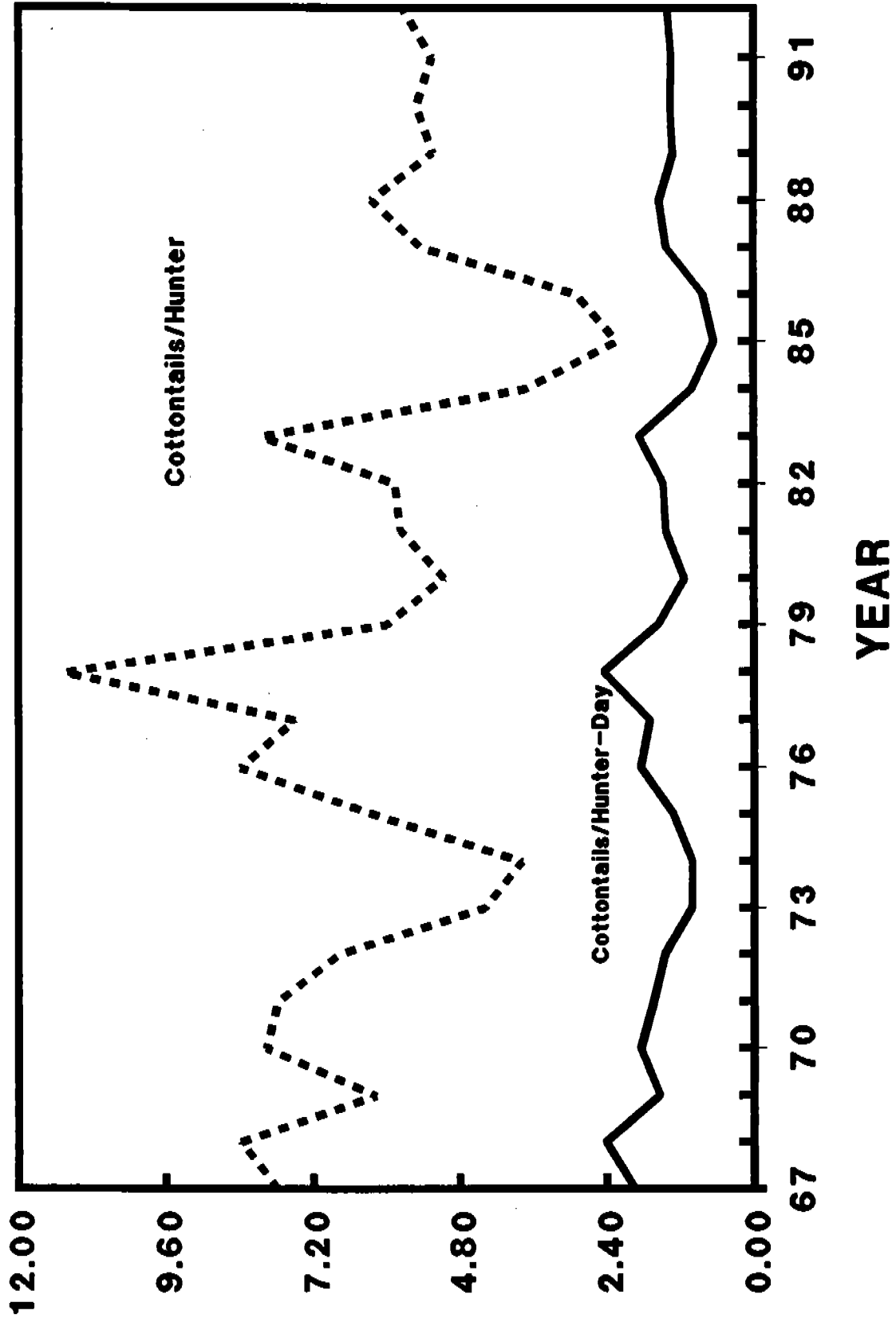


Figure 3. Statewide trends of cottontail rabbit hunter success rates, 1967-92.

FIGURE 4. COTTONTAIL RABBIT
 PRODUCTION INDICES, 1967-92.

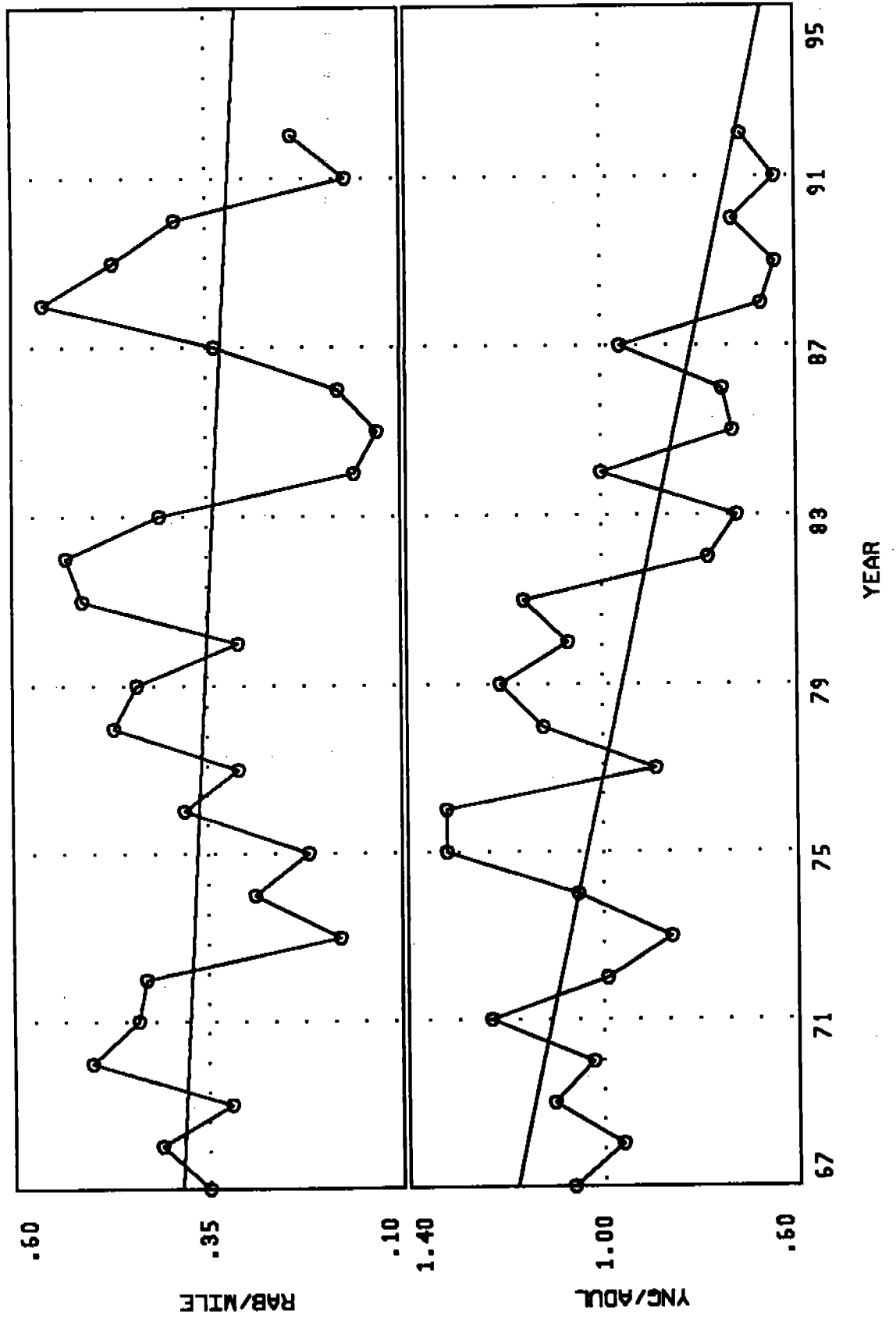


Table 1. Cottontail rabbit summer inventory summary, 1992.

Region and County	Miles Driven	Rabbits Observed			Total	Young/ 100 Adults	Rabbits/ Mile
		Adults	Young	Unclassified			
Northern Region							
Box Elder	60	3	2	--	5	67	0.08
Cache	--	--	--	--	--	--	--
Davis	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--
Rich	--	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--
REGIONAL TOTALS	60	3	2	--	5	67	0.08
Central Region							
Juab	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--
Sanpete	65	6	3	1	10	50	0.15
Tooele	78	1	1	--	2	100	0.03
Utah	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--
REGIONAL TOTALS	143	7	4	1	12	57	0.08
Southern Region							
Beaver	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Wayne	90	8	11	--	19	138	0.21
REGIONAL TOTALS	90	8	11	--	19	138	0.21
Northeastern Region							
Daggett	60	9	8	--	17	89	0.28
Duchesne	84	21	29	--	50	138	0.60
Uintah	60	10	1	--	11	10	0.18
REGIONAL TOTALS	204	40	38	--	78	95	0.38
Southeastern Region							
Carbon	90	12	3	4	19	25	0.21
Emery	90	--	--	31	31	--	0.34
Grand	90	5	2	5	12	40	0.13
San Juan	90	19	7	5	31	37	0.34
REGIONAL TOTALS	360	36	12	45	93	33	0.26
STATE TOTALS	857	94	67	46	207	71	0.24

Table 2. Summary of cottontail rabbits observed per mile during summer inventory, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
Northern Region													
Box Elder	0.01	--	--	--	0.02	0.03	--	0.03	0.39	0.10	0.08	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	--	
Rich	0.16	--	--	--	0.02	--	--	--	--	--	--	--	
Summit	--	0.18	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.06	0.18	--	--	0.02	0.03	--	0.03	0.39	0.10	0.08	0.12	
Central Region													
Juab	0.38	--	0.00	0.00	0.02	0.00	0.54	0.30	0.23	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	0.78	0.57	--	--	--	--	0.47	0.22	0.65	0.09	0.15	--	
Tonele	0.10	--	0.02	0.00	0.01	0.02	0.18	--	--	--	0.03	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	0.43	0.57	0.01	0.00	0.01	0.02	0.36	0.26	0.45	0.09	0.08	0.22	
Southern Region													
Beaver	0.12	0.04	0.01	0.03	0.10	0.04	0.06	--	--	--	--	--	
Garfield	0.27	0.25	--	0.06	0.13	--	--	--	--	--	--	--	
Iron	0.18	0.38	0.27	0.33	0.53	0.26	--	--	--	--	--	--	
Kane	--	--	--	0.52	0.47	0.97	1.09	--	--	--	--	--	
Millard	0.28	0.16	0.04	0.02	0.08	0.09	0.09	--	0.08	--	--	--	
Piute	0.13	0.03	--	--	0.06	0.05	--	--	--	--	--	--	
Sevier	0.27	0.23	--	--	--	--	--	--	--	--	--	--	
Washington	0.32	0.38	--	0.23	0.12	0.12	0.36	0.33	--	--	--	--	
Wayne	0.69	--	0.80	--	0.20	0.24	0.34	--	--	0.83	0.21	--	
REGIONAL TOTALS	0.29	0.19	0.18	0.19	0.24	0.27	0.33	0.33	0.08	0.83	0.21	0.29	
Northeastern Region													
Daggett	0.45	0.58	0.22	0.12	0.22	0.66	0.85	0.50	0.55	--	0.28	--	
Duchesne	2.28	0.58	0.28	0.13	0.44	0.86	1.49	1.04	0.23	0.03	0.60	--	
Uintah	1.97	2.97	0.11	0.00	0.02	0.36	1.26	1.40	1.00	--	0.18	--	
REGIONAL TOTALS	1.46	1.21	0.21	0.09	0.25	0.65	1.18	0.91	0.57	0.03	0.38	0.66	
Southeastern Region													
Carbon	0.10	0.11	--	0.05	0.08	0.33	0.41	0.34	0.02	0.20	0.21	--	
Emery	0.18	0.23	0.18	0.20	--	0.40	0.34	0.33	0.40	0.37	0.34	--	
Grand	0.67	0.15	0.13	0.67	0.80	--	0.10	0.06	0.01	0.05	0.13	--	
San Juan	1.26	0.40	--	0.14	0.37	0.29	0.59	0.55	0.80	0.28	0.34	--	
REGIONAL TOTALS	0.58	0.25	0.17	0.13	0.17	0.38	0.36	0.32	0.36	0.24	0.26	0.30	
STATE TOTALS	0.53	0.41	0.16	0.13	0.18	0.34	0.56	0.47	0.39	0.17	0.24	0.33	

Table 3. Summary of cottontail rabbit young per 100 adults, 1982-92.

Region and County	Year												Average 1982-91
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1982-91	
Northern Region													
Box Elder	--	--	--	--	0	25	--	200	200	13	67		
Cache	--	--	--	--	--	--	--	--	--	--	--		
Davis	--	--	--	--	--	--	--	--	--	--	--		
Morgan	--	--	--	--	--	--	--	--	--	--	--		
Rich	63	67	--	--	50	--	--	--	--	--	--		
Summit	--	--	--	--	--	--	--	--	--	--	--		
Weber	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	63	67	--	--	20	25	--	200	200	13	67	84	
Central Region													
Juab	53	--	0	0	0	0	20	13	--	--	--		
Salt Lake	--	--	--	--	--	--	--	--	--	--	--		
Sanpete	209	225	--	--	--	--	88	40	40	50	50		
Tooele	80	--	--	--	--	100	120	--	--	--	100		
Utah	--	--	--	--	--	--	--	--	--	--	--		
Wasatch	--	--	--	--	--	--	--	--	--	--	--		
REGIONAL TOTALS	140	225	0	0	0	100	57	23	27	50	57	62	
Southern Region													
Beaver	83	33	--	--	22	--	--	--	--	--	--		
Garfield	38	120	--	33	38	--	--	--	--	--	--		
Iron	57	35	40	82	75	--	--	--	--	--	--		
Kane	--	--	--	100	71	111	149	--	--	--	--		
Millard	94	125	75	200	170	114	110	--	100	--	--		
Piute	--	200	--	--	--	--	--	--	--	--	--		
Sevier	33	61	--	--	--	--	--	--	--	--	--		
Washington	150	81	--	73	133	175	100	131	--	--	--		
Wayne	343	--	380	--	360	2100	244	--	--	369	138		
REGIONAL TOTALS	145	82	215	85	100	137	136	131	100	369	138	150	
Northeastern Region													
Daggett	140	66	33	46	136	116	30	59	55	--	89		
Duchesne	37	16	22	15	26	24	39	29	--	50	138		
Uintah	44	76	233	0	100	264	170	239	95	--	10		
REGIONAL TOTALS	48	63	42	31	58	74	46	82	58	50	95	55	
Southeastern Region													
Carbon	66	40	--	--	150	567	500	400	400	--	25		
Emery	43	75	217	216	--	54	50	--	--	--	--		
Grand	148	150	33	300	300	--	--	--	--	--	40		
San Juan	72	43	--	43	61	47	49	80	60	54	37		
REGIONAL TOTALS	82	54	156	88	69	100	64	110	67	100	33	89	
STATE TOTALS	78	72	100	73	75	96	67	64	73	64	71	76	

Table 4. Summary of cottontail rabbit hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	COTTONTAILS BAGGED	COTTONTAILS PER HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	191	10,698	15,621	1.46	12.87	13.30
CACHE	27	1,172	1,759	1.50	1.41	1.50
DAVIS	0	0	0	0.00	0.00	0.00
MORGAN	8	710	764	1.08	0.85	0.65
RICH	33	2,026	5,065	2.50	2.44	4.31
SUMMIT	21	1,137	924	0.81	1.37	0.79
WEBER	10	781	693	0.89	0.94	0.59
REGIONAL TOTALS	290	16,527	24,827	1.50	19.88	21.14
CENTRAL REGION						
JUAB	96	5,722	8,814	1.54	6.88	7.50
SALT LAKE	20	1,315	1,279	0.97	1.58	1.09
SANPETE	50	4,620	3,980	0.86	5.56	3.39
TOOELE	237	14,679	18,465	1.26	17.65	15.72
UTAH	124	7,535	7,535	1.00	9.06	6.42
WASATCH	13	764	1,297	1.70	0.92	1.10
REGIONAL TOTALS	540	34,637	41,373	1.19	41.65	35.22
SOUTHERN REGION						
BEAVER	16	728	1,777	2.44	0.88	1.51
GARFIELD	5	373	195	0.52	0.45	0.17
IRON	14	1,279	1,208	0.94	1.54	1.03
KANE	7	604	586	0.97	0.73	0.50
MILLARD	65	4,336	5,864	1.35	5.21	4.99
PIUTE	1	35	0	0.00	0.04	0.00
SEVIER	34	1,652	2,097	1.27	1.99	1.79
WASHINGTON	14	1,066	1,101	1.03	1.28	0.94
WAYNE	9	479	1,084	2.26	0.58	0.92
REGIONAL TOTALS	165	10,556	13,915	1.32	12.70	11.85
NORTHEASTERN REGION						
DAGGETT	14	959	1,919	2.00	1.15	1.63
DUCHESNE	83	5,171	10,183	1.97	6.22	8.67
UINTAH	77	4,887	8,512	1.74	5.88	7.25
REGIONAL TOTALS	174	11,018	20,615	1.87	13.25	17.55
SOUTHEASTERN REGION						
CARBON	47	4,709	7,108	1.51	5.66	6.05
EMERY	43	3,394	4,851	1.43	4.08	4.13
GRAND	8	515	853	1.66	0.62	0.73
SAN JUAN	15	1,670	3,909	2.34	2.01	3.33
REGIONAL TOTALS	113	10,289	16,723	1.63	12.37	14.24
UNKNOWN	1	124	0	0.00	0.15	0.00
STATE TOTALS	1,283	83,154	117,454	1.41	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 5. Summary of cottontail rabbits bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.46	0.73	2.25	1.78	1.29	1.49	1.31	1.46
Cache	0.93	0.18	1.78	0.37	0.66	0.87	1.41	1.50
Davis	0.00	4.00	0.67	0.50	1.00	0.25	1.50	0.00
Morgan	0.55	0.05	1.17	1.50	0.17	0.43	1.53	1.08
Rich	0.52	0.74	1.33	1.86	1.37	2.52	2.62	2.50
Summit	0.35	0.29	1.44	0.92	0.58	0.72	1.24	0.81
Weber	0.13	0.69	2.83	0.61	0.27	1.06	0.88	0.89
REGIONAL TOTALS	0.40	0.57	2.14	1.49	1.09	1.55	1.47	1.50
<u>Central Region</u>								
Juab	0.56	0.78	1.74	1.52	1.52	1.55	1.68	1.54
Salt Lake	0.21	1.06	1.26	0.53	1.35	0.79	0.72	0.97
Sanpete	0.35	0.60	1.25	1.62	1.10	0.85	1.26	0.86
Tooele	0.53	0.71	1.32	1.37	1.20	1.08	1.23	1.26
Utah	0.65	0.94	1.21	1.04	0.90	0.84	0.99	1.00
Wasatch	0.48	0.84	1.28	0.99	1.50	0.69	1.06	1.70
REGIONAL TOTALS	0.53	0.78	1.32	1.27	1.18	1.03	1.24	1.19
<u>Southern Region</u>								
Beaver	0.50	0.61	1.00	1.44	0.41	1.17	0.69	2.44
Garfield	1.00	1.25	0.71	1.41	1.97	1.03	0.46	0.52
Iron	0.60	0.87	0.44	1.58	0.85	1.21	1.06	0.94
Kane	2.07	1.12	0.58	1.41	1.00	0.90	0.93	0.97
Millard	0.86	0.70	0.82	1.09	1.27	1.84	1.15	1.35
Piute	1.00	1.00	1.00	1.25	0.28	1.36	0.57	0.00
Sevier	0.56	0.56	1.04	1.45	0.97	1.45	0.65	1.27
Washington	1.08	0.94	0.95	2.10	0.91	0.89	0.68	1.03
Wayne	1.45	1.53	1.22	1.49	1.05	1.34	1.20	2.26
REGIONAL TOTALS	0.94	0.89	0.85	1.41	1.05	1.30	0.89	1.32
<u>Northeastern Region</u>								
Daggett	1.00	1.96	3.16	3.02	1.65	1.79	1.83	2.00
Duchesne	0.63	1.01	1.63	2.38	1.49	1.83	2.15	1.97
Uintah	0.49	0.49	1.89	2.32	3.16	2.41	1.61	1.74
REGIONAL TOTALS	0.59	0.96	1.95	2.40	2.13	2.10	1.86	1.87
<u>Southeastern Region</u>								
Carbon	0.69	0.49	1.34	1.29	0.97	1.43	1.75	1.51
Emery	0.64	1.05	1.00	1.78	0.80	1.06	1.03	1.43
Grand	1.74	1.28	2.00	2.03	1.00	1.58	1.75	1.66
San Juan	0.89	1.27	2.57	1.67	1.28	1.37	1.87	2.34
REGIONAL TOTALS	0.77	0.93	1.37	1.55	0.93	1.28	1.50	1.63
Unknown counties	1.11	2.50	1.04	1.49	2.00	0.00	0.00	0.00
STATE TOTALS	0.65	0.83	1.43	1.55	1.32	1.36	1.35	1.41

Table 6. Percentage distribution of cottontail rabbit harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	3.82	5.68	12.83	12.11	7.20	9.84	9.06	13.30
Cache	0.96	0.25	0.91	0.27	0.47	1.07	1.61	1.50
Davis	0.00	0.41	0.04	0.12	0.07	0.02	0.14	0.00
Morgan	1.16	0.10	0.15	0.19	0.03	0.05	0.41	0.65
Rich	0.89	1.98	0.53	1.05	1.92	6.07	4.14	4.31
Summit	1.16	0.56	0.57	0.77	0.73	0.63	2.00	0.79
Weber	0.27	0.56	1.44	0.42	0.14	0.27	0.45	0.59
REGIONAL TOTALS	8.26	9.53	16.49	14.96	10.55	17.95	17.80	21.14
<u>Central Region</u>								
Juab	2.04	2.84	5.17	6.05	6.32	5.86	7.68	7.50
Salt Lake	0.48	0.91	1.19	0.49	0.40	0.68	0.36	1.09
Sanpete	1.23	2.38	5.61	3.74	3.70	3.34	2.80	3.39
Tooele	10.51	9.99	11.67	13.72	14.73	11.60	16.76	15.72
Utah	8.26	7.66	11.07	8.61	5.20	6.51	6.20	6.42
Wasatch	1.57	1.83	1.73	0.92	0.47	0.44	1.09	1.10
REGIONAL TOTALS	24.09	25.61	36.47	33.55	30.82	28.43	34.88	35.22
<u>Southern Region</u>								
Beaver	1.30	1.12	0.95	0.68	0.40	0.44	0.92	1.51
Garfield	0.61	3.04	0.26	0.42	2.66	1.16	0.09	0.17
Iron	1.23	2.94	0.26	1.54	0.92	2.02	1.03	1.03
Kane	1.98	2.43	0.33	0.84	1.23	0.90	1.33	0.50
Millard	5.66	4.26	3.48	2.99	2.80	5.02	4.18	4.99
Piute	0.20	0.30	0.08	0.22	0.09	0.61	0.06	0.00
Sevier	1.23	0.91	1.22	2.28	1.66	3.07	1.75	1.79
Washington	10.99	6.09	0.77	1.90	2.69	2.02	1.34	0.94
Wayne	2.18	1.17	0.48	0.77	1.02	1.08	1.12	0.92
REGIONAL TOTALS	25.35	22.26	7.88	11.69	13.46	16.33	11.84	11.85
<u>Northeastern Region</u>								
Daggett	1.84	5.58	4.41	2.82	3.21	2.37	3.28	1.63
Duchesne	9.21	7.05	7.68	9.43	12.37	8.55	10.98	8.67
Uintah	5.87	3.35	7.03	13.20	19.31	13.44	9.10	7.25
REGIONAL TOTALS	16.93	15.97	19.13	25.45	34.89	24.27	23.36	17.55
<u>Southeastern Region</u>								
Carbon	7.30	4.87	6.26	4.65	4.56	5.83	5.04	6.05
Emery	9.76	9.53	5.63	5.91	3.78	4.20	3.26	4.13
Grand	4.16	5.07	2.53	0.74	0.26	0.66	0.66	0.73
San Juan	3.41	6.90	2.90	0.77	1.43	2.33	3.15	3.33
REGIONAL TOTALS	24.64	26.37	17.34	12.09	10.04	13.02	12.12	14.24
Unknown counties	0.68	0.25	2.66	2.24	0.24	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 7. Percentage distribution of cottontail rabbit hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
Northern Region								
Box Elder	5.40	6.52	8.17	10.53	7.34	9.00	9.33	12.87
Cache	0.66	1.18	0.73	1.15	0.93	1.67	1.53	1.41
Davis	1.42	0.08	0.09	0.37	0.09	0.09	0.13	0.00
Morgan	1.37	1.65	0.19	0.20	0.27	0.15	0.36	0.85
Rich	1.11	2.24	0.57	0.87	1.84	3.28	2.12	2.44
Summit	2.13	1.61	0.57	1.30	1.64	1.19	2.16	1.37
Weber	1.33	0.68	0.73	1.06	0.68	0.35	0.69	0.94
REGIONAL TOTALS	13.42	13.97	11.07	15.51	2.80	15.74	16.33	19.88
Central Region								
Juab	2.39	3.05	4.26	6.15	5.48	5.15	6.16	6.88
Salt Lake	1.46	0.72	1.36	1.46	0.39	1.17	0.67	1.58
Sanpete	2.26	3.30	6.45	3.57	4.41	5.35	2.98	5.56
Tooele	12.98	11.68	12.63	15.44	16.16	14.61	18.35	17.65
Utah	8.24	6.81	13.07	12.83	7.61	10.50	8.43	9.06
Wasatch	2.13	1.82	1.94	1.44	0.41	0.86	1.39	0.92
REGIONAL TOTALS	29.46	27.38	39.73	40.90	34.45	37.63	37.98	41.65
Southern Region								
Beaver	1.68	1.52	1.36	0.73	1.27	0.51	1.79	0.88
Garfield	0.40	2.03	0.54	0.46	1.77	1.54	0.27	0.45
Iron	1.33	2.84	0.85	1.51	1.41	2.27	1.30	1.54
Kane	0.62	1.82	0.82	0.92	1.61	1.36	1.91	0.73
Millard	4.30	5.08	6.07	4.24	2.91	3.72	4.92	5.21
Piute	0.13	0.25	0.12	0.27	0.41	0.62	0.15	0.04
Sevier	1.42	1.35	1.68	2.43	2.25	2.88	3.61	1.99
Washington	6.60	5.42	1.17	1.40	3.91	3.10	2.67	1.28
Wayne	0.97	0.63	0.57	0.80	1.27	1.10	1.26	0.58
REGIONAL TOTALS	17.46	20.95	13.23	12.81	16.82	17.10	17.89	12.70
Northeastern Region								
Daggett	1.19	2.37	2.00	1.44	2.57	1.80	2.42	1.15
Duchesne	9.44	5.80	6.74	6.13	10.91	6.36	6.87	6.22
Uintah	7.84	5.71	5.34	8.81	8.05	7.55	7.61	5.88
REGIONAL TOTALS	18.48	13.88	14.09	16.38	21.52	15.71	16.90	13.25
Southeastern Region								
Carbon	6.82	8.34	6.68	5.60	6.20	5.55	3.89	5.66
Emery	9.92	7.58	8.08	5.15	6.23	5.39	4.25	4.08
Grand	1.55	3.30	1.81	0.56	0.34	0.57	0.50	0.62
San Juan	2.48	4.53	1.62	0.72	1.48	2.31	2.27	2.01
REGIONAL TOTALS	20.78	23.74	18.19	12.04	14.25	13.82	10.91	12.37
Unknown counties	0.40	0.08	3.65	2.33	0.16	0.00	0.00	0.15
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 8. Statewide summary of cottontail rabbit harvest statistics, 1967-92.

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
1987	20,322	110,411	77,047	1.43	5.43
1988	24,076	150,386	97,190	1.55	6.25
1989	22,878	120,075	91,264	1.32	5.25
1990	23,070	127,389	93,515	1.36	5.52
1991	21,137	111,407	82,772	1.35	5.27
1992	20,509	117,454	83,154	1.41	5.73
Totals					
(1967-92)	637,639	4,110,178	2,606,787	--	--
Averages					
(1967-91)	24,685	159,709	100,945	1.50	6.15

Table 9. Cottontail rabbit field bag check summary, 1992.

Region and County	All Hunts						Complete Hunts					
	Total Parties	Total Hunters	Total Hours	Total Rabbits	Rabbits/100 Hr	Complete Hunts	Total Hunters	Total Hours	Total Rabbits	Rabbits/Hunter	Rabbits/100 Hr	
Northern Region												
Box Elder	--	--	--	--	--	--	--	--	--	--	--	
Cache	--	--	--	--	--	--	--	--	--	--	--	
Davis	--	--	--	--	--	--	--	--	--	--	--	
Morgan	--	--	--	--	--	--	--	--	--	--	--	
Rich	--	--	--	--	--	--	--	--	--	--	--	
Summit	--	--	--	--	--	--	--	--	--	--	--	
Weber	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	
Sanpete	--	--	--	--	--	--	--	--	--	--	--	
Tooele	6	31	90	3	3	--	--	--	--	--	--	
Utah	--	--	--	--	--	--	--	--	--	--	--	
Wasatch	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	6	31	90	3	3	--	--	--	--	--	--	
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	
Garfield	--	--	--	--	--	--	--	--	--	--	--	
Iron	--	--	--	--	--	--	--	--	--	--	--	
Kane	--	--	--	--	--	--	--	--	--	--	--	
Millard	--	--	--	--	--	--	--	--	--	--	--	
Piute	--	--	--	--	--	--	--	--	--	--	--	
Sevier	--	--	--	--	--	--	--	--	--	--	--	
Washington	--	--	--	--	--	--	--	--	--	--	--	
Wayne	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	
Northeastern Region												
Daggett	5	6	13	8	62	4	4	10	5	1.25	50	
Duchesne	--	--	--	--	--	--	--	--	--	--	--	
Uintah	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	5	6	13	8	62	4	4	10	5	1.25	50	
Southeastern Region												
Carbon	--	--	--	--	--	--	--	--	--	--	--	
Emery	--	--	--	--	--	--	--	--	--	--	--	
Grand	--	--	--	--	--	--	--	--	--	--	--	
San Juan	--	--	--	--	--	--	--	--	--	--	--	
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	
STATE TOTALS	11	37	103	11	11	4	4	10	5	1.25	50	

Table 10. Cottontail rabbit hunter success trend as determined by field bag check, 1987-92.

Region and County	1987		1988		1989		1990		1991		1992	
	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter	Rabbits/ Hunter 100 Hr	Rabbits/ Hunter	Rabbits/ Hunter 100 Hr
Northern Region												
Box Elder	1.43	28	1.84	44	3.14	314	3.14	25	1.50	313	3.57	--
Cache	--	--	--	--	--	--	--	--	--	--	--	--
Davis	--	--	--	100	1.25	--	--	--	--	--	--	--
Morgan	--	--	--	--	--	--	--	--	--	--	--	--
Rich	--	--	1.50	43	1.86	42	--	--	--	--	--	--
Summit	--	--	--	--	--	--	--	--	--	--	--	--
Weber	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	0.20	28	1.77	44	2.22	93	2.22	25	0.21	313	3.57	--
Central Region												
Juab	--	--	--	--	--	--	--	--	--	--	--	--
Salt Lake	--	--	--	--	--	--	--	--	--	--	--	--
Sanpete	--	--	--	--	--	--	--	--	--	--	--	--
Tooele	--	--	--	--	--	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--	--	--	--	--	--
Wasatch	--	--	--	--	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	--	--	--	--	--	--	--	--	--	--
Southern Region												
Beaver	--	--	--	--	--	--	--	--	--	--	--	--
Garfield	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Kane	--	--	--	--	--	--	--	--	--	--	--	--
Millard	--	--	--	--	--	--	--	--	--	--	--	--
Piute	--	--	--	--	--	--	--	--	--	--	--	--
Sevier	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	1.50	150	--	--	--	--	--	--
Wayne	--	--	--	--	--	--	--	--	--	21	1.02	--
REGIONAL TOTALS	--	--	--	--	0.17	150	0.17	--	--	21	1.02	--
Northeastern Region												
Daggett	3.33	0	8.00	379	--	--	--	--	--	--	1.25	50
Duchesne	3.33	63	2.94	104	--	--	450	9.00	48	1.38	--	--
Uintah	1.76	70	4.00	147	93	2.20	179	8.10	66	1.91	--	--
REGIONAL TOTALS	1.93	68	4.01	149	93	0.73	187	5.10	61	1.77	1.25	50
Southeastern Region												
Carbon	--	--	0.00	0	--	--	--	--	--	--	--	--
Emery	--	--	1.00	33	--	--	--	--	--	--	--	--
Grand	--	--	0.83	42	--	--	--	--	--	--	--	--
San Juan	--	--	0.33	20	--	--	--	--	--	--	--	--
REGIONAL TOTALS	--	--	0.67	32	--	--	--	--	--	--	--	--
STATE TOTALS	1.68	43	2.69	83	95	2.15	143	5.19	29	1.26	1.25	50

SNOWSHOE HARE

Harvest

Results of the 1992 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. Trend in statewide harvest statistics by year are shown in Table 15 and Figures 1 and 2. The 1992 season compared to 1991 and the 17-year average follow:

	<u>1992</u>	<u>Percent change from</u>	
		<u>1991</u>	<u>Average</u>
Snowshoe hare hunters	3,732	+9	-26
Snowshoe hares harvested	7,144	+51	-31
Hunter-days afield	11,836	+1	-20
Snowshoes per hunter-day	0.60	+50	-7
Snowshoes per hunter	1.91	+38	0

Significant misidentification of white-tailed 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. Several attempts were made in the 1970's to reduce misidentification through pictures and descriptions in leaflets and questionnaires.

Beginning in 1988, harvest questionnaires, and in 1989 the Upland Game Proclamation had drawings and descriptions of the various rabbits in an attempt to reduce misidentification. We believe this has been successful.

Results of the 1992 harvest questionnaire indicates a 50 percent increase in hunter success compared to 1991. Success was below the 17-year average, even though hunters spent slightly more time afield in 1992.

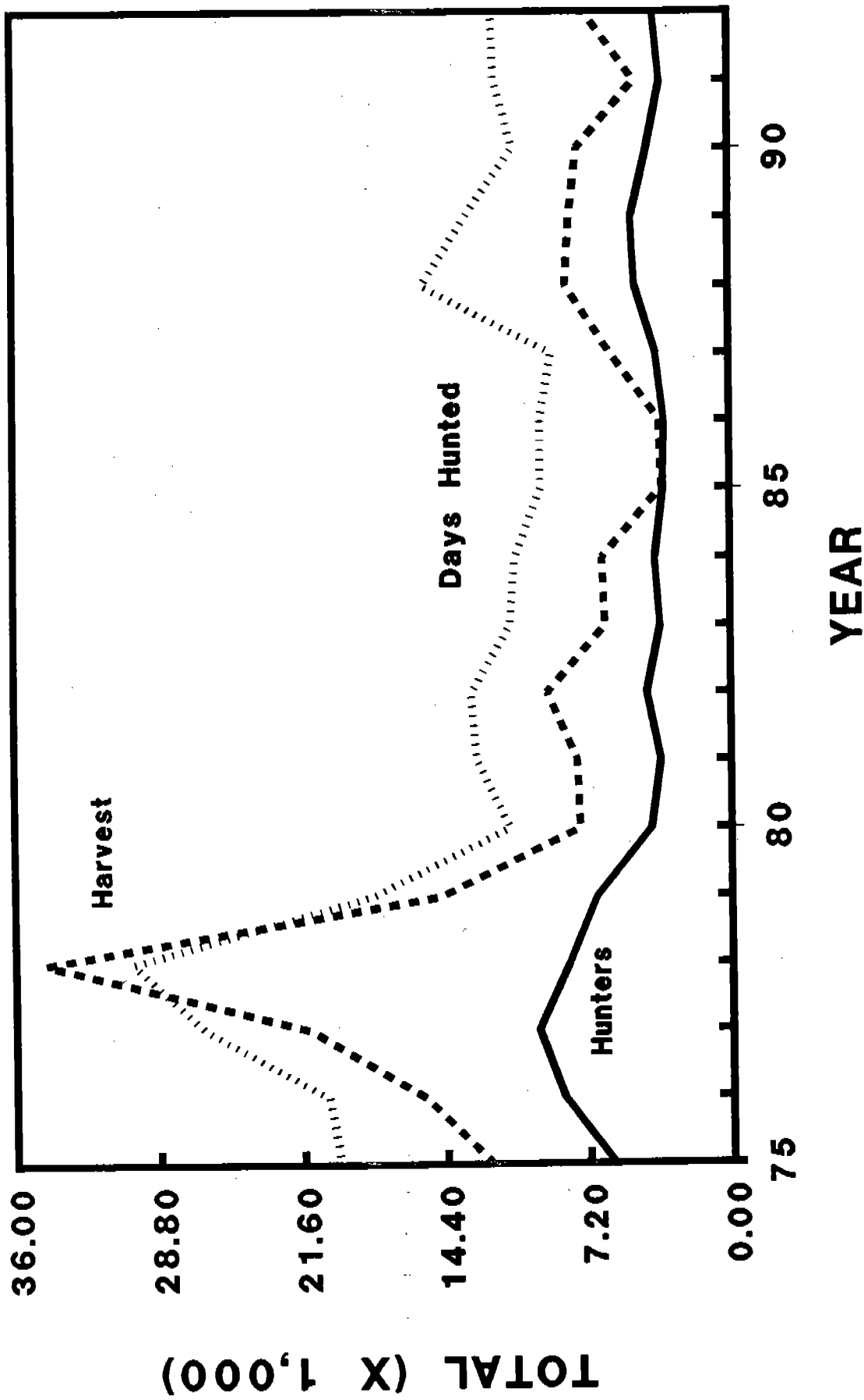


Figure 1. Statewide trends of snowshoe hare harvest statistics, 1975-92.

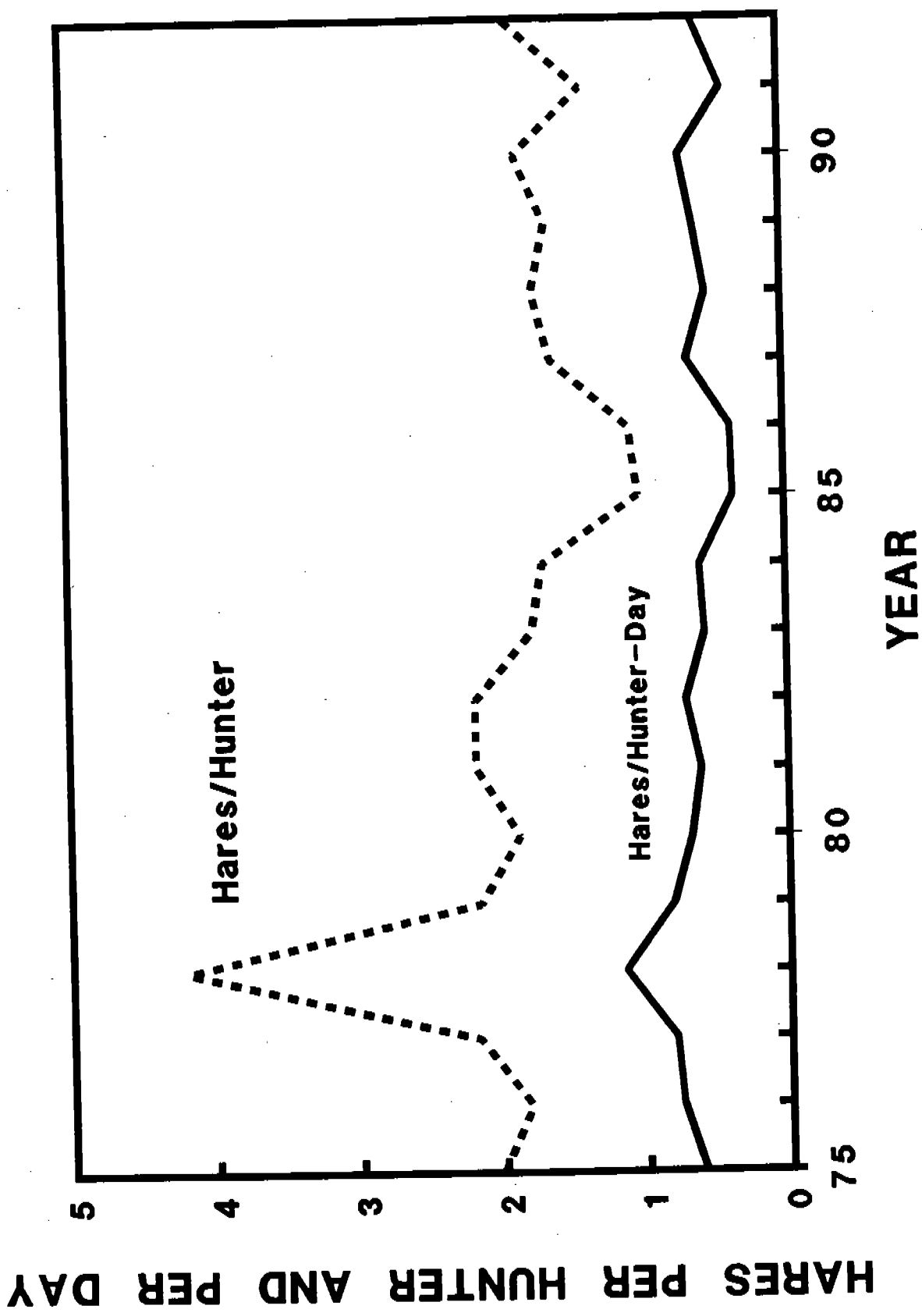


Figure 2. Statewide trends of snowshoe hare hunter success rates, 1975-92.

Table 11. Summary of snowshoe hare hunter success and distribution of harvest and hunting pressure by region and county, 1992.

REGION AND COUNTY	SAMPLE SIZE*	HUNTER-DAYS AFIELD	SNOWSHOES BAGGED	SNOWSHOES HUNTER-DAY	% OF PRESSURE	% OF HARVEST
NORTHERN REGION						
BOX ELDER	40	1,972	1,030	0.52	16.67	14.43
CACHE	20	675	177	0.26	5.71	2.49
DAVIS	0	0	0	0.00	0.00	0.00
MORGAN	3	231	35	0.15	1.95	0.50
RICH	12	355	408	1.15	3.00	5.72
SUMMIT	20	746	462	0.62	6.31	6.47
WEBER	2	35	35	1.00	0.30	0.50
REGIONAL TOTALS	97	4,016	2,150	0.54	33.93	30.10
CENTRAL REGION						
JUAB	6	604	231	0.38	5.11	3.23
SALT LAKE	3	231	17	0.08	1.95	0.25
SANPETE	7	408	177	0.43	3.45	2.49
TOOELE	14	888	515	0.58	7.51	7.21
UTAH	19	1,030	817	0.79	8.71	11.44
WASATCH	10	444	213	0.48	3.75	2.99
REGIONAL TOTALS	59	3,607	1,972	0.55	30.48	27.61
SOUTHERN REGION						
BEAVER	0	0	0	0.00	0.00	0.00
GARFIELD	0	0	0	0.00	0.00	0.00
IRON	1	53	35	0.67	0.45	0.50
KANE	2	88	17	0.20	0.75	0.25
MILLARD	4	604	88	0.15	5.11	1.24
PIUTE	1	35	53	1.50	0.30	0.75
SEVIER	13	479	373	0.78	4.05	5.22
WASHINGTON	0	0	0	0.00	0.00	0.00
WAYNE	7	568	710	1.25	4.80	9.95
REGIONAL TOTALS	28	1,830	1,279	0.70	15.47	17.91
NORTHEASTERN REGION						
DAGGETT	3	71	71	1.00	0.60	1.00
DUCHESNE	17	1,137	266	0.23	9.61	3.73
UINTAH	10	746	1,208	1.62	6.31	16.92
REGIONAL TOTALS	30	1,954	1,546	0.79	16.52	21.64
SOUTHEASTERN REGION						
CARBON	4	142	88	0.63	1.20	1.24
EMERY	4	266	88	0.33	2.25	1.24
GRAND	0	0	0	0.00	0.00	0.00
SAN JUAN	1	17	17	1.00	0.15	0.25
REGIONAL TOTALS	9	426	195	0.46	3.60	2.74
UNKNOWN	0	0	0	0.00	0.00	0.00
STATE TOTALS	223	11,836	7,144	0.60	100.00	100.00

*Total hunter trips from questionnaire returns.

Table 12. Summary of snowshoe hare bagged per hunter-day by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	0.14	0.38	0.35	0.78	0.33	0.54	0.38	0.52
Cache	0.75	0.00	1.67	0.21	1.10	0.56	0.30	0.26
Davis	0.11	0.50	0.25	0.40	1.50	0.00	0.03	0.00
Morgan	0.00	0.03	0.00	0.67	0.36	0.80	2.17	0.15
Rich	0.06	0.56	1.27	0.33	0.51	0.76	1.31	1.15
Summit	0.63	0.29	0.50	0.36	0.73	1.05	0.24	0.62
Weber	0.17	1.00	0.38	0.25	0.50	0.25	0.25	1.00
REGIONAL TOTALS	0.33	0.29	0.76	0.40	0.63	0.70	0.49	0.54
<u>Central Region</u>								
Juab	0.00	1.44	0.00	0.17	0.00	0.53	0.50	0.38
Salt Lake	0.17	0.30	0.00	0.48	0.38	0.00	0.22	0.08
Sanpete	0.23	0.30	0.57	0.68	0.64	1.08	0.78	0.43
Tooele	0.24	0.21	0.75	0.28	0.77	0.32	0.35	0.58
Utah	0.64	0.53	0.39	0.44	0.37	0.51	0.71	0.79
Wasatch	0.32	0.68	0.56	0.77	1.00	0.17	0.22	0.48
REGIONAL TOTALS	0.33	0.54	0.48	0.50	0.65	0.55	0.45	0.55
<u>Southern Region</u>								
Beaver	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00
Garfield	0.40	0.11	0.00	0.00	0.35	0.67	1.00	0.00
Iron	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.67
Kane	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Millard	0.00	1.00	2.80	1.20	1.00	0.00	0.00	0.15
Piute	0.00	0.00	0.00	3.00	0.64	0.43	0.00	1.50
Sevier	0.25	0.63	0.60	0.75	0.55	0.96	0.61	0.78
Washington	0.50	0.00	0.00	2.00	0.00	0.00	0.00	0.00
Wayne	1.00	0.38	1.14	0.00	0.50	0.39	0.44	1.25
REGIONAL TOTALS	0.46	0.45	0.88	0.47	0.50	0.62	0.56	0.70
<u>Northeastern Region</u>								
Daggett	1.00	0.50	1.00	1.96	1.00	0.50	0.14	1.00
Duchesne	0.30	0.41	0.65	0.63	0.54	1.33	0.18	0.23
Uintah	0.49	0.13	1.31	0.89	0.23	0.88	0.14	1.62
REGIONAL TOTALS	0.41	0.28	0.91	1.02	0.40	1.17	0.17	0.79
<u>Southeastern Region</u>								
Carbon	0.29	0.09	1.00	0.46	1.00	0.71	0.21	0.63
Emery	0.67	0.13	0.57	0.94	0.54	0.37	0.45	0.33
Grand	0.00	0.75	0.00	0.00	0.00	2.00	0.00	0.00
San Juan	0.00	1.00	5.00	1.00	1.67	0.00	0.00	1.00
REGIONAL TOTALS	0.37	0.16	0.81	0.83	0.77	0.56	0.30	0.46
Unknown counties	0.00	0.00	0.40	0.42	0.00	0.00	0.00	0.00
STATE TOTALS	0.36	0.37	0.67	0.53	0.61	0.70	0.40	0.60

Table 13. Percentage distribution of snowshoe hare harvest by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	3.12	3.49	3.26	14.80	3.11	10.57	6.62	14.43
Cache	3.73	0.00	10.20	4.86	11.40	5.15	4.78	2.49
Davis	1.87	0.58	0.40	1.21	0.78	0.00	0.37	0.00
Morgan	0.00	0.58	0.00	0.40	1.04	1.08	4.78	0.50
Rich	0.61	5.80	7.75	3.24	7.77	14.09	20.22	5.72
Summit	24.99	6.98	4.89	6.08	4.15	11.11	4.41	6.47
Weber	1.22	5.23	1.22	1.82	1.30	0.27	1.84	0.50
REGIONAL TOTALS	35.61	22.67	27.75	32.45	29.54	42.28	43.02	30.10
<u>Central Region</u>								
Juab	0.00	13.37	0.00	0.81	0.00	2.71	1.47	3.23
Salt Lake	0.61	1.74	0.00	2.43	0.78	0.00	0.74	0.25
Sanpete	1.87	5.80	6.93	10.14	9.33	7.05	11.40	2.49
Tooele	5.60	3.49	4.89	3.24	8.55	3.25	8.83	7.21
Utah	9.97	14.53	8.57	6.89	3.89	4.88	5.52	11.44
Wasatch	3.73	14.53	8.16	8.31	6.22	0.27	3.68	2.99
REGIONAL TOTALS	21.87	53.49	28.57	31.84	28.76	18.16	31.62	27.61
<u>Southern Region</u>								
Beaver	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00
Garfield	1.22	0.58	0.00	0.00	1.81	1.08	1.10	0.00
Iron	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Kane	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Millard	0.00	2.33	5.71	1.21	1.55	0.00	0.00	1.24
Piute	0.00	0.00	0.00	1.21	1.81	0.81	0.00	0.75
Sevier	1.22	2.91	2.44	1.82	2.85	7.05	10.30	5.22
Washington	2.48	0.00	0.00	0.40	0.00	0.00	0.00	0.00
Wayne	2.48	1.74	3.26	0.00	4.66	3.25	1.47	9.95
REGIONAL TOTALS	10.62	7.56	11.42	4.66	2.69	12.47	12.87	17.91
<u>Northeastern Region</u>								
Daggett	3.12	0.58	0.81	9.53	0.26	0.54	1.10	1.00
Duchesne	9.97	6.98	6.93	6.28	6.74	16.26	6.25	3.73
Uintah	11.87	2.33	8.57	5.07	2.33	3.79	1.84	16.92
REGIONAL TOTALS	24.99	9.88	16.32	20.89	9.33	20.60	9.19	21.64
<u>Southeastern Region</u>								
Carbon	4.37	2.33	5.71	1.21	10.88	2.71	1.47	1.24
Emery	2.48	1.16	6.53	6.49	7.51	2.71	1.84	1.24
Grand	0.00	1.74	0.00	0.00	0.00	1.08	0.00	0.00
San Juan	0.00	1.16	2.04	1.41	1.30	0.00	0.00	0.25
REGIONAL TOTALS	6.85	6.40	14.28	9.12	19.69	6.50	3.31	2.74
Unknown counties	0.00	0.00	1.63	1.01	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 14. Percentage distribution of snowshoe hare hunting pressure by region and county, 1985-92.

Region and County	Year							
	1985	1986	1987	1988	1989	1990	1991	1992
<u>Northern Region</u>								
Box Elder	8.34	3.46	6.30	10.16	5.64	13.69	7.11	16.67
Cache	1.80	2.81	4.10	12.64	6.27	6.46	6.37	5.71
Davis	6.09	0.43	1.09	1.62	0.31	0.19	4.59	0.00
Morgan	2.25	7.78	0.27	0.32	1.72	0.95	0.89	1.95
Rich	3.60	3.89	4.10	5.18	9.25	12.93	6.22	3.00
Summit	14.22	8.86	6.57	9.08	3.45	7.41	7.41	6.31
Weber	2.71	1.94	2.19	3.89	1.57	0.76	2.96	0.30
REGIONAL TOTALS	39.05	29.16	24.65	42.91	28.21	42.40	35.56	33.93
<u>Central Region</u>								
Juab	1.13	3.46	0.54	2.59	0.00	3.61	1.19	5.11
Salt Lake	1.35	2.16	2.19	2.70	1.25	0.00	1.33	1.95
Sanpete	2.93	7.13	8.21	8.00	8.78	4.56	5.93	3.45
Tooele	8.34	6.05	4.38	6.27	6.74	7.03	10.22	7.51
Utah	5.64	10.15	14.79	8.43	6.43	6.65	3.11	8.71
Wasatch	4.29	7.99	9.86	5.72	3.76	1.14	6.67	3.75
REGIONAL TOTALS	23.70	36.93	40.00	33.72	26.96	23.00	28.45	30.48
<u>Southern Region</u>								
Beaver	0.00	0.00	0.00	1.83	0.63	0.38	0.30	0.00
Garfield	1.13	1.94	0.27	0.10	3.13	1.14	0.44	0.00
Iron	0.90	0.00	2.19	0.00	0.00	0.00	0.00	0.45
Kane	0.90	0.00	0.00	0.00	0.00	0.00	0.15	0.75
Millard	0.90	0.86	1.36	0.54	0.94	0.19	0.00	5.11
Piute	0.00	0.00	0.27	0.21	1.72	1.33	0.30	0.30
Sevier	1.80	1.73	2.73	1.29	3.13	5.13	6.82	4.05
Washington	1.80	0.00	0.00	0.10	0.16	0.00	0.00	0.00
Wayne	0.90	1.73	1.91	1.18	5.64	5.89	1.33	4.80
REGIONAL TOTALS	8.34	6.26	8.76	5.29	15.36	14.07	9.33	15.47
<u>Northeastern Region</u>								
Daggett	1.13	0.43	0.54	2.59	0.16	0.76	3.26	0.60
Duchesne	12.19	6.26	7.12	5.29	7.52	8.56	13.78	9.61
Uintah	8.80	6.48	4.38	3.02	6.27	3.04	5.19	6.31
REGIONAL TOTALS	22.12	13.17	12.04	10.91	13.95	12.36	22.22	16.52
<u>Southeastern Region</u>								
Carbon	5.41	9.94	3.83	1.40	6.58	2.66	2.81	1.20
Emery	1.35	3.24	7.67	3.67	8.46	5.13	1.63	2.25
Grand	0.00	0.86	0.00	0.00	0.00	0.38	0.00	0.00
San Juan	0.00	0.43	0.27	0.75	0.47	0.00	0.00	0.15
REGIONAL TOTALS	6.76	14.47	11.78	5.83	15.52	8.17	4.44	3.60
Unknown counties	0.00	0.00	2.73	1.29	0.00	0.00	0.00	0.00
STATE TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 15. Statewide summary of snowshoe hare harvest statistics, 1975-92.

Year	Total Hunters	Total Harvest	Hunter-Days Afield	Hares Per Hunter-Day	Hares Per Hunter
1975	5,961	12,072	19,770	0.61	2.03
1976	8,502	15,500	20,367	0.76	1.82
1977	9,752	21,232	26,535	0.80	2.18
1978	8,205	34,535	30,155	1.15	4.21
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
1987	3,702	6,005	8,947	0.67	1.62
1988	4,725	8,231	15,444	0.53	1.74
1989	4,895	8,006	13,233	0.61	1.64
1990	4,095	7,593	10,825	0.70	1.85
1991	3,427	4,731	11,742	0.40	1.38
1992	3,732	7,144	11,836	0.60	1.91
Totals					
(1975-92)	89,612	184,030	264,927	--	--
Averages					
(1975-91)	5,052	10,405	14,888	0.64	1.91

A P P E N D I C E S

APPENDIX A

WEATHER CONDITIONS

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

The 1991-92 winter weather was relatively mild in terms of precipitation and in terms of cold temperature. Below average precipitation fell between December 1991 and January 1992. October 1991 through January 1992 temperatures were below average.

In the spring of 1992, March, May and July precipitation was above normal, temperatures were above normal February through June, while April and June precipitation was below normal across the state. Temperatures were above normal February through June.

Table 1. Comparison of 1992 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
1992	23.6	37.5	44.7	54.5	61.2	66.8	71.8	73.3	63.2	53.3	32.8	24.5
Departure (degrees)	-3.3	4.8	6.0	7.5	4.7	1.1	-2.6	1.3	0.8	2.8	-4.4	-3.9
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
1992	39.6	47.7	50.8	64.2	69.5	77.3	79.9	79.7	74.2	64.4	44.8	36.7
Departure (degrees)	0.9	3.8	2.0	7.8	4.1	2.1	-2.1	0.0	1.6	2.9	-3.0	-3.1
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
1992	24.1	37.0	46.2	55.5	62.7	68.0	71.9	74.0	63.7	54.3	32.4	25.2
Departure (degrees)	-2.9	5.1	7.6	8.1	5.6	2.1	-2.7	1.8	0.6	3.0	-5.6	-3.7
No.4 South Central												
Normal	27.0	31.6	38.6	44.9	54.0	63.1	70.4	68.0	60.2	49.8	37.1	28.8
1992	25.5	35.1	40.8	51.8	57.0	62.7	67.8	68.7	61.1	52.3	32.3	23.8
Departure (degrees)	-1.5	3.5	2.2	6.9	3.0	-0.4	-2.6	0.7	0.9	2.5	-4.8	-5.0
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
1992	21.3	30.8	38.5	47.8	54.7	59.3	63.4	65.8	57.2	48.2	27.5	19.9
Departure (degrees)	0.1	6.1	7.9	7.8	5.1	1.7	-1.9	2.7	2.2	3.3	-4.5	-3.7
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
1992	14.1	28.8	42.8	53.5	60.6	65.2	68.1	69.8	61.1	51.2	31.1	16.5
Departure (degrees)	-3.1	4.7	7.3	7.3	4.4	0.3	-4.0	0.5	0.8	2.7	-2.4	-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
1992	22.9	36.3	45.8	57.5	62.3	68.9	73.4	74.5	66.5	57.2	35.8	24.6
Departure (degrees)	-4.1	2.5	4.8	7.3	2.5	-0.8	-3.2	0.7	1.1	3.5	-3.7	-4.7
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
1992	24.4	36.2	44.2	55.0	61.1	66.9	70.9	72.3	63.9	54.4	33.8	24.5
Departure (degrees)	-2.0	4.4	5.6	7.6	4.2	0.9	-2.7	1.1	1.2	2.9	-4.1	-4.1

Table 2. Comparison of 1992 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
1992	0.39	0.66	1.55	0.13	0.54	0.38	0.68	0.38	0.21	1.10	0.33	0.81
Departure (inches)	-0.20	0.09	0.81	-0.68	-0.37	-0.29	0.05	-0.34	-0.34	0.45	-0.29	0.27
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
1992	0.67	3.27	5.59	0.12	1.14	0.07	0.91	1.01	0.20	1.74	0.02	1.93
Departure (inches)	-0.68	1.91	4.17	-0.70	0.48	-0.29	0.13	0.00	-0.56	0.96	-0.97	0.97
No.3 North Central												
Normal	1.56	1.39	1.6	1.96	1.6	1.19	0.65	0.95	0.99	1.31	1.34	1.41
1992	0.75	1.65	1.07	0.46	1.12	0.79	1.08	0.38	0.71	2.05	1.99	1.66
Departure (inches)	-0.81	0.26	-0.53	-1.50	-0.48	-0.40	0.43	-0.57	-0.28	0.74	0.65	0.25
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
1992	0.72	1.34	2.19	0.36	1.93	0.43	0.76	1.84	0.47	1.58	0.52	1.60
Departure (inches)	-0.37	0.28	1.04	-0.68	0.99	-0.11	-0.20	0.53	-0.53	0.66	-0.46	0.63
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
1992	0.52	1.62	0.98	0.83	1.80	0.98	1.20	0.69	0.77	2.11	1.69	2.28
Departure (inches)	-1.64	-0.30	-0.91	-1.05	0.26	-0.19	0.32	-0.54	-0.38	0.66	0.07	0.30
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
1992	0.28	0.53	0.60	0.13	1.58	0.48	1.53	0.71	0.50	1.01	0.32	0.66
Departure (inches)	-0.23	0.08	0.03	-0.55	0.80	-0.24	0.95	-0.10	-0.21	0.14	-0.22	0.05
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
1992	0.57	1.06	1.35	0.26	2.01	0.17	1.32	0.79	0.62	1.19	0.38	1.29
Departure (inches)	-0.15	0.45	0.71	-0.35	1.34	-0.23	0.55	-0.26	-0.16	0.10	-0.35	0.55
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
1992	0.6	1.4	1.9	0.3	1.4	0.5	1.1	0.8	0.5	1.5	0.8	1.5
Departure (inches)	-0.58	0.40	0.76	-0.78	0.44	-0.25	0.32	-0.18	-0.35	0.53	-0.22	0.43

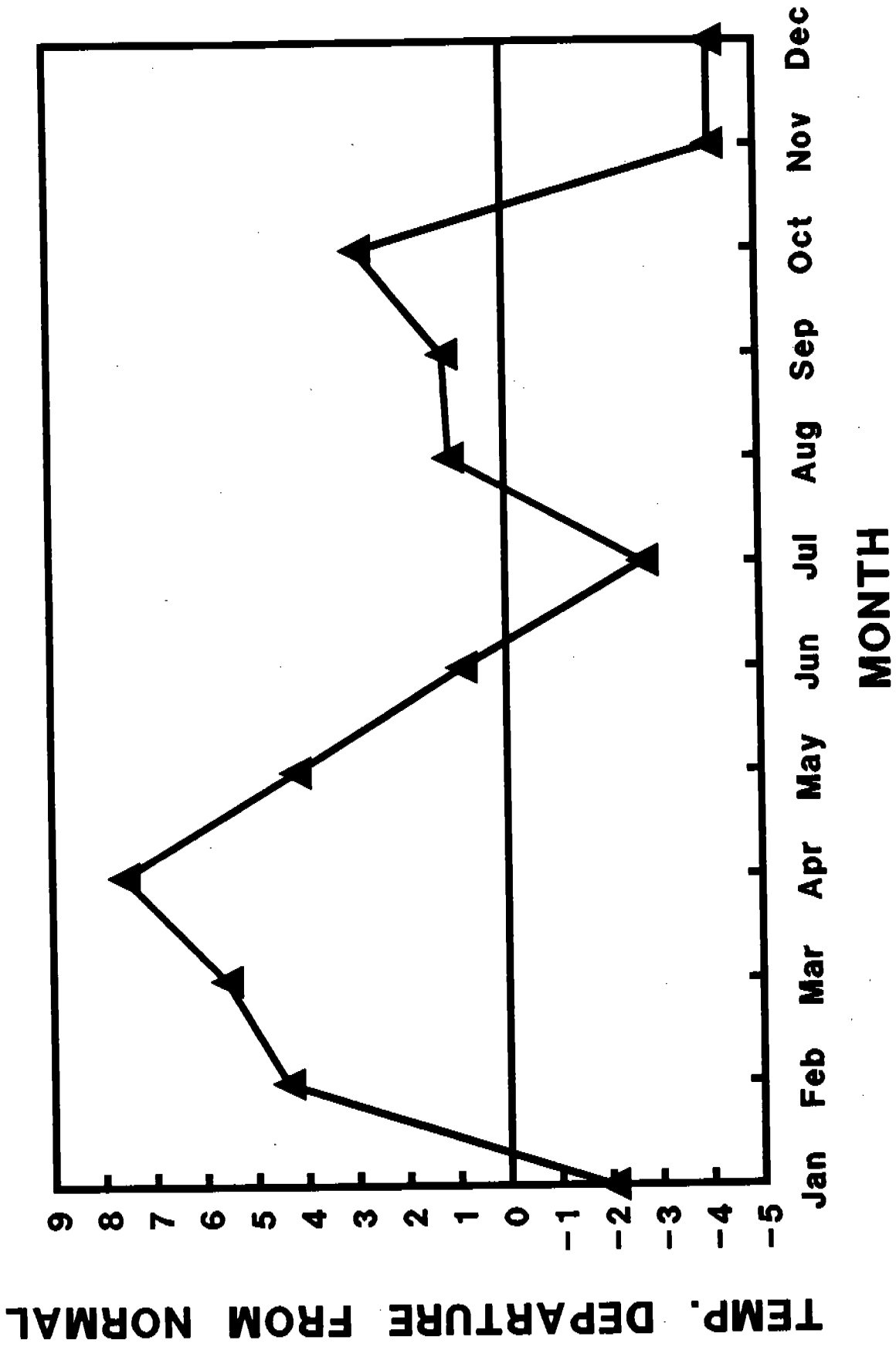


Figure 1. Monthly average temperature departure from normal (degrees F), 1992.

PRECIP. DEPARTURE FROM NORMAL

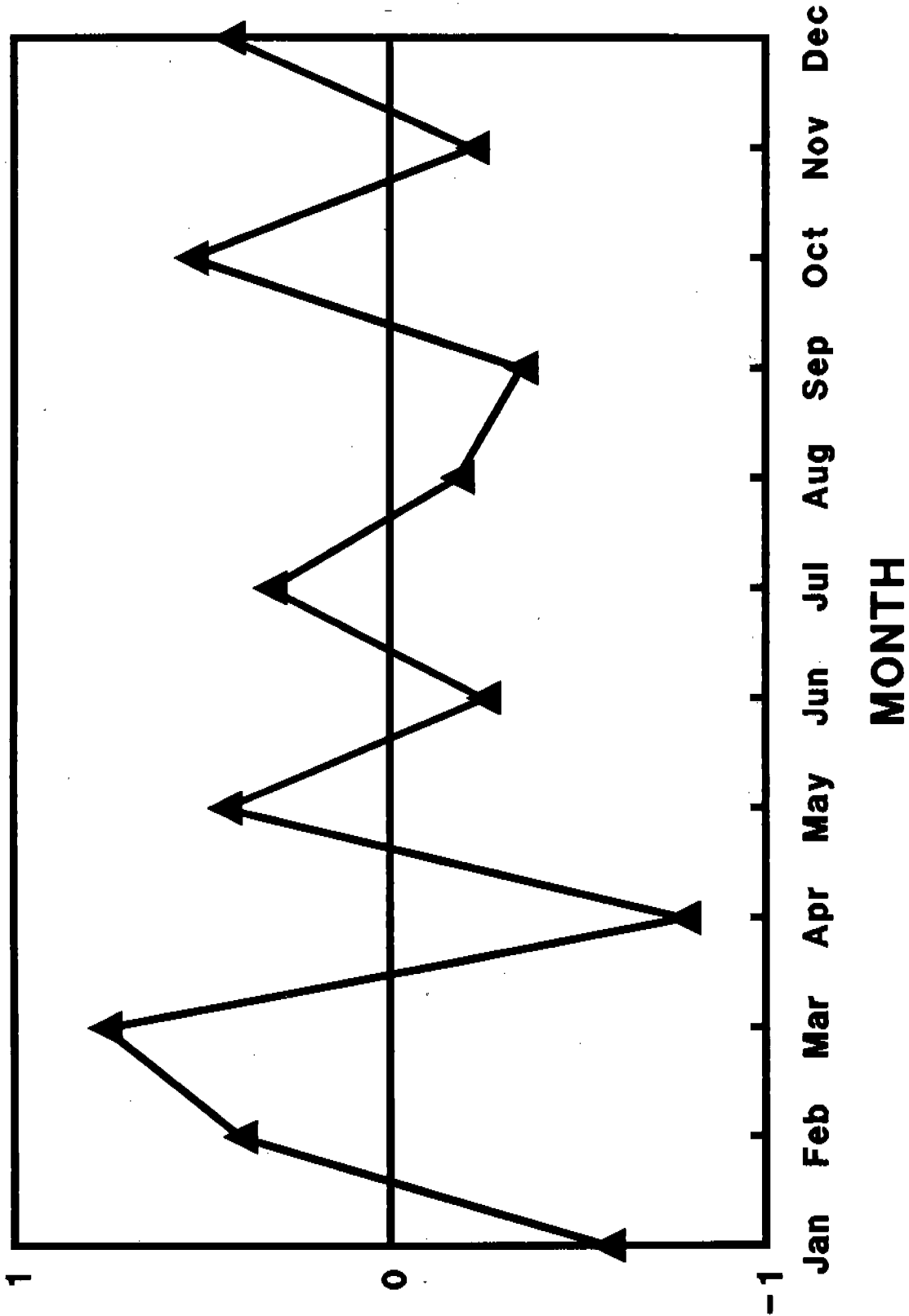


Figure 2. Monthly average precipitation departure from normal (inches), 1992.

APPENDIX B

LICENSE SALES

Small game license sales by type and cost are listed in Table 1. The number of licenses sold for all types decreased slightly in 1992.

The proportion of Utah's population hunting small game is declining (Table 2). In the early 1970's about 10 percent of Utah's population was hunting small game. By 2000, we project that only about 6 percent will be hunting small game.

Table 3 identifies revenue generated to the 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 services.

Table 1. Statewide small game license sales information, 1954-92.

Year	Adult Res.		Juv. Res.		Non Res.		Combination License	Cost
	Small Game	Small Game	Small Game	Small Game	Small Game	Small Game		
	Issued	Cost	Issued	Cost	Issued	Cost	Issued	
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	155,436	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
1987	26,781	12.00	11,228	6.00	1,235	40.00	66,715	35.00
1988	25,733	12.00	9,498	6.00	1,428	40.00	72,846	35.00
1989	25,845	12.00	5,769	6.00	1,422	40.00	74,274	35.00
1990	24,527	12.00	5,682	6.00	1,279	40.00	76,292	35.00
1991	23,276	12.00	5,626	6.00	1,212	40.00	79,165	35.00
1992	21,852	12.00	5,431	6.00	1,195	40.00	78,940	35.00

Table 2. Actual (1971-1992) and projected (1995 and 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	Resident Small Game Licenses Sold 1	Proportion Hunting Small Game
1971	1,101,000	101,421	9.2
1972	1,135,000	110,691	9.8
1973	1,169,000	115,129	9.8
1974	1,197,000	112,963	9.4
1975	1,234,000	108,636	8.8
1976	1,272,000	85,268	6.7
1977	1,316,000	86,549	6.6
1978	1,364,000	95,637	7.0
1979	1,416,000	100,116	7.1
1980	1,461,037	110,039	7.5
1981	1,524,830	103,041	6.8
1982	1,588,622	99,744	6.3
1983	1,652,415	93,303	5.6
1984	1,716,207	88,084	5.1
1985	1,780,000	94,991	5.3
1986a	1,665,000	82,777	5.0
1987a	1,678,000	85,099	5.1
1988	1,695,000	92,677	5.5
1989a	1,715,000	92,031	5.4
1990a	1,722,850	90,532	5.3
1991a	1,774,241	89,297	5.0
1992a	1,820,453	91,422	5.0
1995a	1,879,301	105,000	5.6
2000a	1,992,048	115,000	5.8

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

a Utah Population Estimate Committee Report for July 1
(Office of State Planning Coordinator)

Table 3. Small game license sales and income, 1971-92 (JSG=juvenile small game, RSG=adult resident small game, CMB=combination license, NRSG=nonresident small game).

Year	License Fees			Number of Licenses Sold				No. Federal Duck Stamps Sold(3)	Total Gross Revenues Attributed to Small Game (\$)				
	JSG	RSG	CMB	JSG(4)	RSG	CMB	NRSG		JSG(4)	RSG	CMB(2)	NRSG	TOTAL(1)
1971	2.50	4.50	10.00	16,044	20,681	102,284	1,000	37,588	20,055	93,064	200,557	20,000	313,676
1972	2.50	4.50	10.00	16,523	19,796	107,414	4,075	33,042	20,653	89,082	230,553	21,500	340,288
1973	2.50	4.50	10.00	16,522	18,836	115,436	964	35,665	20,652	84,762	247,290	19,280	352,704
1974	2.50	4.50	10.00	16,334	17,434	117,770	974	38,575	20,417	78,453	245,504	19,480	344,374
1975	2.50	4.50	10.00	15,869	17,057	115,362	967	39,652	19,836	76,756	234,701	19,340	330,993
1976	3.00	6.00	18.00	16,261	33,078	76,587	1,141	40,658	24,391	198,468	184,675	22,820	407,534
1977	3.00	6.00	18.00	15,795	36,473	74,600	1,270	40,319	23,692	218,838	176,204	25,400	418,734
1978	3.00	6.00	18.00	15,419	37,082	81,227	1,449	38,091	23,128	222,492	221,719	28,980	467,339
1979	3.00	6.00	18.00	14,200	36,721	84,450	1,575	35,255	21,300	220,326	252,862	31,500	494,488
1980	4.00	8.00	23.00	14,042	30,189	100,177	1,330	34,369	28,084	241,512	425,120	39,900	694,716
1981	4.00	8.00	23.00	13,874	37,804	83,486	1,559	32,123	27,748	302,432	331,805	46,770	661,985
1982	4.00	8.00	23.00	14,040	36,850	82,970	1,637	34,116	28,080	294,800	315,597	49,110	638,477
1983	4.00	8.00	23.00	13,814	39,602	73,529	1,685	33,642	25,620	305,249	257,670	50,134	588,539
1984	4.00	8.00	23.00	13,170	36,070	73,081	1,633	34,237	26,340	288,560	250,544	48,990	565,444
1985	6.00	12.00	35.00	12,987	30,102	82,137	1,500	30,235	38,961	361,224	484,246	60,000	884,431
1986	6.00	12.00	35.00	11,946	39,567	67,435	1,274	25,533	35,838	354,804	395,973	50,960	786,615
1987	6.00	12.00	35.00	11,228	26,781	66,715	1,235	19,625	33,684	321,372	439,350	49,400	794,406
1988	6.00	12.00	35.00	9,498	25,733	72,846	1,428	15,400	28,494	308,796	535,971	57,120	873,261
1989	6.00	12.00	35.00	5,769	25,845	74,274	1,422	13,857	17,307	310,140	563,691	56,880	891,138
1990	6.00	12.00	35.00	5,682	24,527	76,292	1,279	15,969	17,046	294,324	543,986	51,160	855,356
1991	6.00	12.00	35.00	5,626	23,276	79,165	1,212	18,770	16,878	279,312	563,485	48,480	859,675
1992	6.00	12.00	35.00	5,431	21,852	78,940	1,195	14,801	16,293	262,224	598,417	47,800	924,734

1 Value does not include cougar, bear, band-tailed pigeon and wild turkey permits, Upland Game Habitat Stamp fees or commercial hunting area licenses. It does not include NRSG revenue--this is assumed to be primarily non-resident bear and cougar hunters.

2 Combination 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 sales 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, plus the resident big game license fee, plus the resident small game license fee or \$9.33 for 1992.

3 Total 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.

4 Half 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.

APPENDIX C: Regional and statewide summary of effort expended on upland game summer surveys.

Generally hours spent and miles driven on upland game surveys in Utah have declined since 1971. This is the result of competing uses of time for biologists and conservation officers. In addition, the restriction to a 40 hour work week by the Federal Fair Labor and Standards Act has further eroded survey effort. When effort and results have reached a lower critical sample size, surveys have been eliminated.

Table 1. Regional and statewide summary of effort expended on upland game summer inventory, 1971-92.

Species	REGION												STATE TOTALS					
	Northern			Central			Southern			Northeastern			Southeastern			Miles	Miles	Hours
	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours				
Pheasant																		
1971	507	--	878	--	796	--	588	--	346	--	3,115	--	3,115	--	467	--	3,115	--
1972	469	--	963	--	752	--	535	--	297	--	3,016	--	3,016	--	386	--	3,016	--
1973	322	--	691	--	740	--	488	--	230	--	2,471	--	2,471	--	412	--	2,471	--
1974	479	--	819	--	848	--	508	--	317	--	2,971	--	2,971	--	278	--	2,971	--
1975	490	--	846	--	993	--	515	--	393	--	3,237	--	3,237	--	299	--	3,237	--
1976	476	--	822	--	773	--	434	--	400	--	2,905	--	2,905	--	350	--	2,905	--
1977	484	--	731	--	790	--	554	--	343	--	2,902	--	2,902	--	322	--	2,902	--
1978	479	--	642	--	654	--	512	--	588	--	2,875	--	2,875	--	299	--	2,875	--
1979	438	--	642	--	721	--	562	--	209	--	2,572	--	2,572	--	214	--	2,572	--
1980	358	--	672	--	750	--	546	--	270	--	2,596	--	2,596	--	189	--	2,596	--
1981	459	--	525	--	801	--	535	--	330	--	2,650	--	2,650	--	171	--	2,650	--
1982	437	--	639	--	583	--	477	--	332	--	2,468	--	2,468	--	129	--	2,468	--
1983	260	--	442	--	780	--	426	--	330	--	2,238	--	2,238	--	105	--	2,238	--
1984	444	--	359	--	473	--	463	--	166	--	1,905	--	1,905	--	67	--	1,905	--
1985	383	--	303	--	650	--	492	--	180	--	2,008	--	2,008	--	299	--	2,008	--
1986	455	--	617	--	669	--	520	--	270	--	2,531	--	2,531	--	350	--	2,531	--
1987	432	--	518	--	574	--	546	--	90	--	2,160	--	2,160	--	322	--	2,160	--
1988	334	--	436	--	604	--	469	--	90	--	1,933	--	1,933	--	299	--	1,933	--
1989	499	--	427	--	45	--	403	--	90	--	1,464	--	1,464	--	189	--	1,464	--
1990	518	--	509	--	97	--	240	--	90	--	1,454	--	1,454	--	129	--	1,454	--
1991	485	--	496	--	120	--	375	--	90	--	1,566	--	1,566	--	105	--	1,566	--
1992	413	--	455	--	0	--	657	--	90	--	1,615	--	1,615	--	467	--	1,615	--
Chukar																		
1971	182	82	929	130	1,103	100	636	50	496	105	3,346	105	3,346	467	3,346	467	3,346	
1972	712	91	1,423	131	950	37	1,012	69	984	58	5,081	58	5,081	386	5,081	386	5,081	
1973	1,063	119	1,494	167	72	10	705	48	702	68	4,036	68	4,036	412	4,036	412	4,036	
1974	125	31	1,591	107	564	43	440	30	1,115	67	3,835	67	3,835	278	3,835	278	3,835	
1975	188	30	808	85	892	41	908	88	786	55	3,582	55	3,582	299	3,582	299	3,582	
1976	875	75	964	110	465	32	727	67	687	66	3,718	66	3,718	350	3,718	350	3,718	
1977	405	50	1,198	120	601	37	600	44	429	44	3,233	44	3,233	322	3,233	322	3,233	
1978	359	28	459	42	135	14	315	23	536	52	1,804	52	1,804	159	1,804	159	1,804	
1979	546	54	793	76	415	22	293	23	267	14	2,314	14	2,314	189	2,314	189	2,314	
1980	283	68	1,668	124	235	12	0	0	53	10	2,239	10	2,239	214	2,239	214	2,239	
1981	330	56	591	49	147	11	245	21	260	32	2	2	2	169	2	169	2	
1982	473	34	571	56	475	35	260	37	101	9	1,880	9	1,880	171	1,880	171	1,880	
1983	17	15	190	17	20	2	488	44	103	7	818	7	818	85	818	85	818	
1984	654	81	303	32	--	--	--	--	118	16	1,075	16	1,075	129	1,075	129	1,075	
1985	236	73	453	36	--	--	--	--	174	12	863	12	863	121	863	121	863	
1986	394	65	432	37	--	--	135	14	--	--	961	--	961	116	961	116	961	
1987	813	119	398	36	0	3	305	32	175	23	1,691	23	1,691	213	1,691	213	1,691	
1988	379	35	457	49	60	7	--	--	180	14	1,076	14	1,076	105	1,076	105	1,076	
1989	105	17	505	30	11	8	--	--	144	12	765	12	765	67	765	67	765	
1990	--	21	1,190	77	0	--	85	8	235	20	1,510	20	1,510	126	1,510	126	1,510	
1991	0	0	511	18	0	0	0	0	225	11	536	11	536	29	536	29	536	
1992	178	27	270	32	0	0	0	0	216	24	664	24	664	63	664	63	664	

Table 1 (continued)

Species	REGION						STATE TOTALS					
	Northern	Central	Southern	Northeastern	Southeastern	Miles	Hours	Miles	Hours			
Sage Grouse												
1971	1,743	296	909	145	1,423	98	1,465	144	1,089	128	6,629	811
1972	1,628	323	1,187	143	751	144	2,125	170	1,280	141	6,971	921
1973	3,146	353	927	147	1,171	116	1,952	238	496	41	7,692	895
1974	2,026	321	1,551	115	1,881	193	2,964	248	887	124	9,309	1,001
1975	1,254	249	963	123	714	226	1,868	236	1,098	131	5,897	965
1976	1,965	281	426	121	379	183	1,881	227	1,222	161	5,873	973
1977	1,966	305	1,370	133	465	157	1,995	215	928	116	6,724	926
1978	1,408	267	541	124	490	152	1,616	226	879	97	4,934	866
1979	1,051	150	700	132	563	143	1,719	203	279	20	4,312	648
1980	1,003	218	806	150	518	94	1,471	184	278	60	4,076	706
1981	619	194	691	99	285	57	771	163	377	39	2,743	552
1982	1,669	169	762	92	454	83	862	116	--	--	3,747	460
1983	610	158	720	164	284	51	992	125	108	10	2,714	508
1984	1,411	278	283	82	289	54	530	95	151	17	2,664	526
1985	2,164	169	481	74	410	45	666	84	106	9	3,827	381
1986	1,024	197	281	39	169	43	948	94	146	14	2,568	387
1987	1,939	205	172	37	286	50	1,114	124	195	18	3,706	434
1988	2,092	177	678	108	315	66	690	91	--	--	3,775	442
1989	465	108	360	56	46	19	557	61	167	24	1,595	268
1990	175	73	444	89	90	42	244	30	70	7	1,023	241
1991	554	210	270	21	30	21	60	21	86	13	1,000	286
1992	--	126	96	44	265	50	193	18	204	23	758	261
Forest Grouse												
1971	1,201	240	785	173	796	249	794	77	440	89	4,016	628
1972	1,370	212	804	103	214	260	1,346	140	351	82	4,085	797
1973	627	127	917	105	296	429	949	147	761	72	3,550	880
1974	967	152	924	157	157	461	1,090	99	1,574	133	4,712	1,002
1975	1,194	199	1,287	160	775	629	1,474	136	1,476	135	6,206	1,259
1976	1,516	351	1,503	216	427	271	1,108	140	1,127	134	5,681	1,112
1977	737	132	1,317	162	610	286	1,040	135	1,079	128	4,783	843
1978	1,300	297	1,171	129	432	219	1,083	147	626	114	4,612	906
1979	746	344	1,312	177	714	275	729	107	435	42	3,936	945
1980	577	201	1,260	158	160	230	502	74	266	39	2,765	702
1981	688	147	958	147	575	295	835	120	184	29	3,240	738
1982	506	74	1,488	157	--	354	742	111	--	--	2,736	696
1983	1,049	218	1,180	93	459	80	636	93	--	20	3,324	504
1984	615	157	364	30	230	78	--	--	--	40	1,209	305
1985	858	202	436	52	564	90	--	--	--	40	1,858	384
1986	997	127	380	41	254	51	412	61	--	--	2,043	280
1987	1,148	147	305	77	208	65	438	58	--	--	2,091	347
1988	1,118	144	55	6	160	53	558	71	--	--	1,891	274
1989	795	109	635	69	45	3	573	75	286	33	2,334	289
1990	471	150	701	113	30	5	185	91	--	--	1,087	357
1991	--	178	536	54	30	2	0	0	--	2	566	236
1992	362	104	167	52	0	0	10	5	105	20	644	181

Table 1. (continued)

Species	REGION												STATE TOTALS		
	Northern		Central		Southern		Northeastern		Southeastern				Miles	Hours	
	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	
Quail	192	24	289	40	344	28	587	49	140	13	1,552	154	1,552	154	
1971	46	9	342	30	575	39	870	63	120	8	1,953	149	1,953	149	
1972	80	10	264	35	32	8	538	38	25	17	939	108	939	108	
1973	24	4	43	27	853	66	227	28	214	21	1,361	146	1,361	146	
1974	27	8	107	23	841	64	594	43	230	12	1,799	150	1,799	150	
1975	81	10	206	29	503	62	597	44	75	10	1,462	155	1,462	155	
1976	22	4	351	39	445	42	341	26	60	16	1,219	127	1,219	127	
1977	--	--	239	18	563	61	541	46	88	17	1,431	142	1,431	142	
1978	68	11	95	7	478	41	346	32	15	6	1,002	97	1,002	97	
1979	36	9	265	23	240	36	410	34	0	0	951	102	951	102	
1980	58	11	180	12	329	43	366	31	0	3	933	100	933	100	
1981	0	0	151	14	304	44	475	44	0	0	930	102	930	102	
1982	5	9	93	9	562	61	295	26	0	0	955	105	955	105	
1983	--	--	82	8	266	40	--	--	--	--	348	48	348	48	
1984	--	--	82	5	252	33	--	--	--	--	334	40	334	40	
1985	--	--	10	2	306	28	--	--	--	--	316	30	316	30	
1986	--	--	1	20	257	29	--	--	--	--	277	32	277	32	
1987	0	5	--	--	277	37	96	12	--	--	373	54	373	54	
1988	--	--	--	--	145	10	72	7	--	--	217	17	217	17	
1989	--	--	--	--	97	8	--	3	--	--	97	11	97	11	
1990	0	0	--	1	0	0	59	4	0	0	59	5	59	5	
1991	0	0	0	0	0	0	--	1	20	2	20	3	20	3	
1992	85	18	104	18	--	--	--	--	--	--	780	103	780	103	
Hungarian Partridge	1,255	126	--	--	--	--	--	--	--	--	21	126	21	126	
1971	1,643	156	12	4	--	--	--	--	--	--	1,655	160	1,655	160	
1972	1,035	176	14	2	--	--	--	--	--	--	1,049	178	1,049	178	
1973	344	64	0	0	--	--	--	--	--	--	344	64	344	64	
1974	940	83	113	21	--	--	--	--	--	--	1,053	104	1,053	104	
1975	1,145	156	125	5	--	--	--	--	--	--	1,270	161	1,270	161	
1976	1,065	90	197	17	--	--	--	--	--	--	1,262	107	1,262	107	
1977	440	27	37	3	--	--	--	--	--	--	477	30	477	30	
1978	250	55	50	6	--	--	--	--	--	--	300	61	300	61	
1979	270	23	65	3	--	--	--	--	--	--	335	26	335	26	
1980	324	39	--	--	--	--	--	--	--	--	324	39	324	39	
1981	0	60	--	--	--	--	--	--	--	--	0	60	0	60	
1982	815	221	--	--	--	--	--	--	--	--	815	221	815	221	
1983	114	38	--	--	--	--	--	--	--	--	114	38	114	38	
1984	213	44	--	--	--	--	--	--	--	--	213	44	213	44	
1985	300	40	--	--	--	--	--	--	--	--	300	40	300	40	
1986	316	30	10	1	--	--	--	--	--	--	326	31	326	31	
1987	0	0	--	--	--	--	--	--	--	--	0	0	0	0	
1988	393	30	--	--	--	--	--	--	--	--	393	30	393	30	
1989	--	41	0	0	--	--	--	--	--	--	0	41	0	41	
1990	--	83	40	2	--	--	--	--	--	--	40	85	40	85	
1991	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1992	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 1 (continued)

Species	REGION												STATE TOTALS			
	Northern		Central		Southern		Northeastern		Southeastern		Miles		Hours		Miles	Hours
	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours	Miles	Hours				
Wild Turkey	--	--	--	--	726	73	--	--	--	--	215	28	941	101	941	101
1971	--	--	--	--	73	62	--	--	--	--	290	54	363	116	363	116
1972	--	--	--	--	143	11	--	--	--	--	--	--	143	11	143	11
1973	--	--	--	--	0	0	--	--	--	--	799	64	799	64	799	64
1974	--	--	--	--	215	18	--	--	--	--	792	100	1,007	118	1,007	118
1975	--	--	--	--	125	16	--	--	--	--	362	45	487	61	487	61
1976	--	--	--	--	193	29	--	--	--	--	421	58	614	87	614	87
1977	--	--	--	--	--	--	--	--	--	--	204	55	204	55	204	55
1978	--	--	--	--	--	--	--	--	--	--	190	14	190	14	190	14
1979	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1980	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1981	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1982	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1983	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1984	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1985	--	--	--	--	--	--	--	--	--	--	41	15	41	15	41	15
1986	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1987	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1988	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1989	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1990	--	--	--	68	--	--	--	--	--	--	150	15	305	83	305	83
1991	--	--	155	--	--	--	--	--	--	--	35	6	135	22	135	22
1992	--	--	100	16	--	--	--	--	--	--	--	--	--	--	--	--
Cottontail Rabbit	330	--	1,054	--	410	--	410	--	570	--	570	--	2,702	--	2,702	--
1971	338	--	939	--	360	--	360	--	555	--	555	--	2,643	--	2,643	--
1972	510	--	879	--	270	--	270	--	270	--	270	--	1,998	--	1,998	--
1973	337	--	1,040	--	370	--	370	--	542	--	542	--	2,402	--	2,402	--
1974	270	--	1,237	--	340	--	340	--	712	--	712	--	2,850	--	2,850	--
1975	330	--	1,382	--	300	--	300	--	636	--	636	--	3,088	--	3,088	--
1976	510	--	1,329	--	400	--	400	--	556	--	556	--	2,907	--	2,907	--
1977	360	--	1,038	--	300	--	300	--	761	--	761	--	2,745	--	2,745	--
1978	382	--	903	--	400	--	400	--	580	--	580	--	2,423	--	2,423	--
1979	270	--	655	--	359	--	359	--	540	--	540	--	1,909	--	1,909	--
1980	90	--	722	--	400	--	400	--	580	--	580	--	2,423	--	2,423	--
1981	270	--	822	--	298	--	298	--	602	--	602	--	2,102	--	2,102	--
1982	240	--	177	--	340	--	340	--	590	--	590	--	1,932	--	1,932	--
1983	90	--	175	--	356	--	356	--	340	--	340	--	1,932	--	1,932	--
1984	--	--	534	--	631	--	631	--	400	--	400	--	1,932	--	1,932	--
1985	--	--	669	--	358	--	358	--	400	--	400	--	1,932	--	1,932	--
1986	240	--	120	--	373	--	373	--	330	--	330	--	1,610	--	1,610	--
1987	150	--	129	--	604	--	604	--	240	--	240	--	1,552	--	1,552	--
1988	--	--	90	--	266	--	266	--	379	--	379	--	360	--	360	--
1989	90	--	97	--	210	--	210	--	360	--	360	--	872	--	872	--
1990	150	--	33	--	105	--	105	--	330	--	330	--	879	--	879	--
1991	90	--	90	--	204	--	204	--	360	--	360	--	558	--	558	--
1992	60	--	143	--	90	--	90	--	360	--	360	--	857	--	857	--

APPENDIX D: Season dates, bag limits and areas open by upland game species, 1992.

Species	Season Dates	Daily Bag Possession		Areas Open
		Limit	Limit	
Pheasant	Oct.31-Nov.13	2 cocks	4 cocks	Statewide.
	Oct.31-Nov.30	2 cocks	4 cocks	All state and federal lands (including private lands leased by the Division subject to restrictions and closures imposed by administering agencies) in Carbon, Duchesne, Emery, Grand, Juab, Millard, San Juan, Sanpete, Sevier, Tooele, Uintah and Utah counties.
Mourning Dove	Sept. 1-30	10	20	Statewide (except lands closed under CLOSED AREAS).
Band-Tailed Pigeon	Sept. 1-30	5	10	Beaver, Garfield, Grand, Iron, Kane, Millard, Piute, San Juan, Sanpete, Sevier, Utah, Washington and Wayne counties.
Chukar	Sept.12-Nov.30	5	10	Cache, Daggett, Morgan, Rich, Sanpete, Wasatch, and Weber counties; Davis County except Antelope Island; those parts of Box Elder, Juab, Millard, Salt Lake, and Utah counties east of I-15; those parts of Duchesne and Uintah counties north of Highway SR-40 and east of Highway SR-88 and the Book Cliffs Seep Ridge Road; that part of Sevier County north of Interstate 70; and all of Summit County except the Henefer-Echo Wildlife Management Area as posted and marked.
	Sept.12, 1992- Jan.31, 1993	5	10	Beaver, Carbon, Emery, Garfield, Grand, Iron, Kane, Piute, San Juan, Tooele, Washington and Wayne counties; those parts of Box Elder, Juab, Millard, Salt Lake, and Utah counties lying west of I-15; that part of Sevier County south of Interstate 70; and those parts of Duchesne and Uintah counties south of Highway SR-40 and west of Highway SR-88 and the Book Cliffs Seep Ridge Road.

APPENDIX D (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Areas Open
Sage Grouse	Sept. 12-20	3	6	Piute and Wayne counties; that part of Garfield County beginning at the Garfield-Piute county line and Highway SR-22; then southerly on SR-22 to Antimony Creek; easterly along this creek and across the Griffin Top to the junction of the Escalante-Bicknell road; northerly on this road to the Garfield-Wayne county line; westerly along this county line to the Garfield-Piute county line; westerly along this county line to SR-22; and that part of Sevier County south and west of Interstate 70 and US-89.
	Sept. 12-20	2	4	Beaver, Carbon, Daggett, Grand, Iron, Kane, Rich and Uintah counties; those parts of Utah and Duchesne counties beginning near Soldier Summit at the Utah-Wasatch county line; then south and east along this county line to Reservation Ridge; east along this ridge to Argyle Creek; east along this creek to the Duchesne-Carbon county line; west along this county line to the drainage divide between the Spanish Fork and Price rivers; north along this drainage divide to the Utah-Wasatch county line near Soldier Summit; that part of Duchesne County north and east of the Duchesne River; that part of Box Elder County west of I-15; and Garfield County except that part listed in Season Dates (A)(1) of this proclamation.
Forest Grouse	Sept. 12- Nov. 30	4	8	Statewide.
		(aggregate)	(aggregate)	

APPENDIX D (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Areas Open
Quail	Oct.31-Nov.13	5	10	Beaver, Box Elder, Carbon, Daggett, Davis, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Piute, Salt Lake, San Juan, Sevier, Uintah, Utah, Wayne and Weber counties.
	Oct. 31-Dec. 31	5	10	Washington County.
Hungarian Partridge	Sept. 12-Nov. 30	5	10	Cache, Davis, Morgan, Rich and Weber counties; those portions of Box Elder and Juab counties east of I-15; and all of Summit County except the Henefer-Echo Wildlife Management Area as posted and marked.
	Sept. 12, 1992-Jan. 31, 1993	5	10	Tooele County and that part of Box Elder and Juab counties west of I-15.
Wild Turkey General Season	May 1-24		Season Limit 1 Male Turkey	Kane and Wayne counties; that part of Grand County south of the Dolores and Colorado rivers; that part of San Juan County beginning at the LaSal Junction of Highway SR-46 and US-191; then easterly on SR-46 to the Lisbon Valley Road; southeasterly on this road to the Island Mesa Road; easterly on this road to the state line; north along this state line to the Grand-San Juan county line; westerly along this county line to its intersection with US-191; southerly on US-191 to the LaSal Junction and SR-46; and those parts of Iron and Washington counties east of I-15. All of Garfield County except the Tropic area described in (L) WILD TURKEY (LIMITED ENTRY SEASON)(permit required) below.
Wild Turkey Limited Entry Season	April 11-26		Season Limit 1 Male Turkey	Tropic-Boundary begins at the junction of Bryce Canyon National Park and
			5 Permits Available	

APPENDIX D (continued)

Species	Season Dates	Daily Bag Limit	Possession Limit	Areas Open
		in Each Area		<p>the Kane-Garfield county line; then east along this county line to a point 3.0 miles east of the road to Kodachrome Basin directly south of Henrieville; directly north to Henrieville and Highway SR-12; north-easterly on SR-12 to the Dixie National Forest boundary; west along this forest boundary to the Bryce Canyon National Park boundary; south-easterly along this boundary to the Kane-Garfield county line.</p> <p>New Harmony-Boundary begins at Cedar City and Highway SR-56; then westerly on SR-56 to Pinto Junction; south-westerly on the Pinto Road to Page Ranch; southeasterly on the Page Ranch-Pace Draw-New Harmony road to New Harmony and Ash Creek; southwesterly up this creek to the summit 2.0 miles west of Mount Baldy; south from the summit to Leap creek; southeasterly along this creek to Interstate 15; northerly on I-15 to Cedar City and the Junction of SR-56.</p> <p>Marysvale-Boundary begins at Deer Creek and Highway SR-89; then southwesterly along Deer Creek to Gold Mountain and to Mount Belknap and the Beaver-Piute county line; south-easterly along this county line to Mount Holly; easterly to Gold Gulch and the Gold Gulch Road; easterly on this road to SR-89; northerly on SR-89 to Marysvale and the Deer Creek Road.</p> <p>Pine Valley (west)-Boundary begins at Page Ranch and Pinto Road; then southwesterly on this road to Highway</p>

APPENDIX D (continued)

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Species	Season Dates	Daily Bag Limit	Possession Limit	Areas Open
				SR-18; south on SR-18 to St. George and the junction with Interstate 15; northeasterly on I-15 to Leap Creek; northwesterly along this creek to the summit 2.0 miles west of Mount Baldy; north from the summit to Ash Creek; northeasterly along this creek to New Harmony; northwesterly up pace Draw on the New Harmony to Page Ranch Road to Page Ranch and the junction with the Pinto Road.
White-Tailed Ptarmigan	Sept.12-Oct. 13	4	8	Daggett, Duchesne, Summit and Uintah counties.
Cottontail Rabbit	Sept. 12, 1992- Feb. 28, 1993	10	20	Statewide.
Snowshoe Hare	Sept. 12, 1992- Feb. 20, 1993	5	10	Statewide.

APPENDIX E. Summary of upland game harvest questionnaire returns, 1962-92.

Year	Questionnaires	Total	Percent	Useable	Percent	Licenses Who
	Mailed	Returns		Returns		Did Not Hunt
1962	10,068	4,122	40.9	3,433	34.1	22.0
1963	11,058	5,062	45.8	4,325	39.1	21.0
1964	10,718	4,840	45.2	4,180	39.0	23.0
1965	11,917	6,232	52.3	--	0.0	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	--	0.0	--
1972	15,272	--	--	6,399	41.9	--
1973	17,572	--	--	7,999	45.5	--
1974	27,379	9,157	33.4	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	45.7	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	53.7	6,324	52.6	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
1987	10,022	4,294	42.8	4,272	42.6	30.1
1988	15,350	6,650	43.3	6,527	42.5	35.6
1989	12,894	5,135	39.8	5,105	39.6	36.7
1990	12,236	5,264	43.0	5,175	42.3	39.1
1991	15,054	6,419	42.6	6,212	41.3	42.7
1992	16,472	6,207	37.7	5,977	36.3	45.0