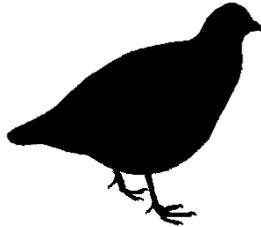


IDAHO DEPARTMENT OF FISH AND GAME

Rod Sando, Director

Project W-170-R-25

Progress Report



UPLAND GAME

Study II, Job 1

April 1, 2000 to March 31, 2001

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**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>1-7</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME – STATEWIDE

STATEWIDE SUMMARY

During the report period, staff continued to follow the 1991-1995 Upland Game Species Management Plan. The plan will be revised, as needed, and will not be rewritten in the near future. This plan has three general objectives:

- Increase efforts at improving habitat for upland game species, particularly through the Department's Habitat Improvement Program (HIP).
- Increase hunting opportunity for underutilized species.
- Simplify regulations to minimize confusion for the hunting public.

Upland game population trends are monitored through harvest surveys, August roadside counts, August helicopter flush counts, rooster crow counts, hunter check stations, and wing barrel harvest data. Each region collects data from a combination of methods based on regional bird densities and sampling constraints. Statewide, telephone surveys assess overall hunter activity and harvest of upland game species. Since 1996, telephone surveys have estimated statewide rather than regional trends (except turkey) due to budget constraints. However, a separate telephone survey was conducted in 2000 for sage grouse and sharp-tailed grouse to improve sample size for these two species. Telephone surveys will expand in 2001 to collect regional data for all upland game species.

Overall, most upland game bird population trends were generally stable in 2000. Statewide harvest of pheasant, sage grouse and forest grouse increased from the previous year, but only the pheasant harvest exceeded the 5-year average. Harvest of chukar and quail increased substantially from the previous year and both exceeded their 5-year averages. Although statewide harvest of gray partridge and turkey decreased from the previous year, both exceeded their 5-year averages. Harvest of sharp-tailed grouse declined sharply from the previous year and was the lowest on record since 1989.

PHEASANT

Abstract

Pheasant management has intensified since the decline of pheasant populations during the 1980s. As of March 31, 2000, over 3,200 Habitat Improvement Program (HIP) upland bird projects covering about 65,000 acres had been started in Idaho. Special Pheasant Management Areas (SPMAs) have been designated in several regions. These areas were established to attempt to concentrate most pheasant management into smaller areas that will allow closer monitoring of the impacts of this program.

2000 Season Framework

Pheasant seasons remained unchanged in 2000 (Appendix I). The bag and possession limit remained 3 and 6 statewide. The bag and possession limit remained 2 and 4 for pheasant hunting on Wildlife Management Areas where pheasants were stocked. The number of pheasants allowed per Wildlife Management Area Pheasant Permit was decreased from 10 in 1999 to 6 in 2000. The cost of the permit increased from \$11.50 to \$21.50 during the same period.

Population Surveys

Surveys were expanded in 1990 to include more August roadside routes. Overall, the number of pheasants observed per mile increased in northern Idaho and decreased in southern Idaho compared to 1999. Brood size increased in the Southwest Region but decreased in the Clearwater and Magic Valley regions. Pheasant crow count data in the Upper Snake Region were difficult to assess this year due to the release of game farm pheasants within the sampling area during early spring. No population surveys were conducted in the Southeast Region.

Harvest Characteristics

Telephone Survey

Statewide, approximately 22,000 hunters harvested 113,100 pheasants in 2000 (Table 1). Birds harvested per day was 0.81, the highest since 1983 (Table 2).

Check Stations

Several check stations continued to provide an index of harvest effort and success in small geographical areas. Overall, harvest by hunters checked in 2000 increased in the Southwest Region and decreased in the Southeast Region compared to the previous year. Although the number of hunters and days hunted varied, the number of birds per hunter day remained almost identical to the previous year for both regions.

Climatic Conditions

Snowfall last winter was 40-60% below average in most of the state. Temperatures and precipitation during the nesting season were moderate and dry. In most cases these conditions improve nest success and brood survival. However, these conditions also favor an early and steady alfalfa harvest that can be detrimental to pheasants in areas like the Magic Valley where alfalfa is a major agricultural product. Summer precipitation was below normal and drought conditions existed throughout the state.

Habitat Conditions

Habitat conditions continue to be marginal in many areas, with intensive farming activities leaving little winter cover or food. Swathing of alfalfa continues to destroy many nests, especially in the Magic Valley Region. Several counties received emergency approval to graze Conservation Reserve Program lands in southeastern Idaho. Other areas were impacted by wildfire throughout the summer. In September, Agriculture Secretary Dan Glickman declared eight Idaho counties as agricultural disaster areas due to losses caused by severe and widespread lightning-caused wildfires. This number increased to 11 counties by October. Pheasant habitat (primarily agricultural) did not suffer significant losses directly from wildfire, but dry vegetative cover was intentionally removed throughout the summer to reduce the threat of fire around housing developments and agricultural fields. The greatest loss of upland game bird habitat from wildfire occurred in sagebrush grasslands and forested habitats.

Depredations

Pheasants continue to cause depredations in a few areas, primarily on sprouting cornfields in the Southwestern Region. Low population levels make this problem minimal.

Trapping and Transplanting

No activity except for research purposes.

Management Studies

A two-year research study designed to evaluate survival, nesting success, and movements of translocated wild and game farm pheasant in the Upper Snake and Magic Valley regions began in April 2000. A similar "management" project started in the Southwest Region but predators were removed prior to the release of radio-marked game farm pheasants. In 2001, predators will be trapped at all study locations and both wild and game farm pheasants will be monitored throughout the nesting season.

Management Implications

Pheasant populations continue to fluctuate below historical levels in Idaho. Stable populations exist in areas where Conservation Reserve Program (CRP) lands complement other available

nesting and brood rearing habitat in the Clearwater, Southwest, and Southeast regions. There is an increasing concern regarding predator numbers and their impacts to upland game species. To alleviate some of these concerns, the department employed private trappers to trap and remove predators during the nesting season on Wildlife Management Areas where upland game and waterfowl production is a primary management objective.

QUAIL

Abstract

Quail populations continued to increase in many areas with the help of mild winters. Statewide harvest levels in 2000 increased from 1999 and exceeded the previous 5-year average. HIP efforts have benefited quail in some areas of the Clearwater and Southwest regions. Mountain quail are rare and research to investigate the dramatic decline of the last 20 years did not occur in 2000.

2000 Season Framework

The season framework (107 days) was unchanged in 2000. The bag limit was unchanged at 10 per day (see Appendix I).

Population Surveys

Quail are counted incidental to other species during the August brood routes. No other surveys are done. No surveys to locate remnant populations of mountain quail occurred in 2000.

Harvest Characteristics

Telephone Survey

The statewide harvest estimate for quail increased from 114,900 in 1999 to 168,800 in 2000 (Table 1). Total number of quail hunters was similar with 10,100 in 1999 and 10,700 in 2000. Number of birds taken per hunter increased from 11.4 in 1999 to 15.8 in 2000 (Table 3). This is the highest harvest per hunter since 1959.

Check Stations

Quail were checked at stations incidental to other activities.

Climatic Conditions

See Pheasant section.

Habitat Conditions

In general, the amount of riparian and agricultural habitat suitable for quail appears stable. The combination of a mild winter and dry nesting conditions improved production and survival of quail during 2000. Mountain quail have declined for reasons that are still unclear.

Trapping and Transplanting

No trapping was done during the study period.

Management Studies

Mountain quail continue to decline in Idaho. In 1992 a graduate research study was initiated to investigate the reasons for the declines observed during the last 20 years. The final report for this project has not been completed.

Management Implications

Habitat improvement for quail will continue to be part of the HIP program. A greater emphasis on riparian buffers and shrub plantings will help improve existing habitat. Financial incentives for these practices are being strengthened through the new Continuous Conservation Reserve Program.

FOREST GROUSE

Abstract

Forest grouse continue to be an important resource for upland game bird hunters in Idaho. Although the number of hunters decreased from 1999, the overall harvest increased slightly. Forest grouse management activities continue to be minimal.

2000 Season Framework

The 2000 season framework was unchanged (Appendix I) with a 122-day season from September 1 to December 31. This season framework has remained unchanged for the past 11 years. Bag and possession limits were 4 and 8.

Population Surveys

There were no forest grouse population surveys conducted in Idaho during 2000.

Harvest Characteristics

Telephone Surveys

The statewide harvest estimate for forest grouse increased from 80,600 in 1999 to 85,900 in 2000 (Table 1). The number of forest grouse taken per day was 1.17, which was the highest harvest rate since 1971 (Table 4). The number of birds per hunter was 6.07, which was the highest recorded since 1959.

Check Stations and Wing Barrels

Wing data were collected incidental to check stations run for other species. Wings were also collected at wing barrels. Blue and ruffed grouse production estimates were above average in the Southeast Region. The number of blue and ruffed grouse wings collected in the Southeast Region increased considerably from the previous year.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

The Department continues to provide input to landowners statewide on how to improve forest grouse habitat. In 2000, the HIP program was expanded to include projects for all upland game bird species. Food plots and riparian enhancements are two practices that benefit forest grouse when practices are located adjacent to a forest edge.

Trapping and Transplanting

No activities during the study period.

Management Studies

A graduate student research project at Andrus Wildlife Management Area (WMA) completed in 2000. The final report will be provided in 2001.

Management Implications

With current staffing and operating resources, little additional management work on forest grouse is planned. Weather, particularly spring nesting weather, will continue to dictate population trends, since habitat is relatively stable for these species.

SAGE GROUSE

Abstract

Sage grouse populations were similar to 1999, but continued to be below pre-1985 levels. Extensive lek routes are run by the Department to monitor populations in specific areas and their response to local weather and habitat conditions. Wildfire has caused a significant impact (loss) to sage grouse habitat. Season regulations were liberalized and standardized from 1990-1995 but changed drastically in 1996. The Department initiated a statewide management effort in 1996 to provide leadership in conserving sage grouse populations in Idaho.

2000 Season Framework

The season framework was altered in 1996 to provide 3 different types of seasons: liberal, conservative, and closed. Research is underway to evaluate whether these frameworks impact sage grouse mortality. The season framework was unchanged in 2000 (See Appendix I).

Population Surveys

Lek routes have been expanded and standardized during the last few years. This was done to provide data that is more robust to year-to-year variation in attendance at a single lek and bird distribution. The need for more and better data is being driven by the steep declines in this bird during the last decade and data needs for the new sage grouse management effort. In general, lek surveys indicated that lek attendance by male sage grouse decreased in the Magic Valley, increased in the Upper Snake, and remained the same in the Southeast Region compared to 1999. Chick production was below average statewide.

Harvest Characteristics

Telephone Surveys

In 2000, sage grouse hunters were required to purchase a sage grouse hunting validation. This requirement provided a means of collecting better harvest estimates from a sample of sage grouse hunters. Approximately 5,600 hunters harvested 7,200 sage grouse during 2000. Although harvest increased from the previous year, it remained below the 5-year average of 9,560 (Table 1). The number of sage grouse harvested per day remained similar to 1999.

Check Stations

Numerous check stations are run in the state to gather information on reproductive success in different areas. In general, the sample size has decreased at these check stations due to shortened seasons and reduced hunter participation.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

Habitat management continues to be a major issue for the Department throughout the state. Several other western states are also concerned about sage grouse declines that have averaged about 40% throughout the West.

Trapping and Transplanting

Inactive except for trapping related to research projects.

Management Studies

An effort began to create a statewide data set for historic sage grouse lek information. This data will be standardized and made available to all state and federal agencies involved in sage grouse surveys and habitat work. Management efforts continued in the Magic Valley Region to locate critical sage grouse habitats in the southern part of the region. Research efforts continued in the Upper Snake Region and Owyhee County to investigate the causes of mortality of juvenile sage grouse.

Management Implications

Sage grouse are a good indicator of sagebrush habitat health. Monitoring and research on this species will continue to expand during the next reporting period. The Idaho Fish and Game Commission in August 1997 adopted a long-term management plan. Five local working groups in different parts of the state are meeting to review the needs of local sage grouse populations.

SHARP-TAILED GROUSE

Abstract

The largest remaining Columbian sharp-tailed grouse populations occur in eastern Idaho. Sharp-tails have received substantial benefits from CRP grassland habitat since the late 1980s. Harvest in 2000 declined considerably from the previous year and was below the 10-year average. The decline was largely due to the impact of drought during the 2000 nesting and brood rearing season. Transplant efforts continued during the study period. Since 1992, 631 sharp-tailed grouse have been translocated to a new location in the Magic Valley Region. In 1998, two active leks were documented near the release site. In addition to in-state translocations, 20 and 58 sharp-tailed grouse were sent to Washington and Nevada, respectively.

2000 Season Framework

The 2000 season framework increased to a 31-day season (October 1-31) statewide. Previously, the Upper Snake Region allowed only a 16-day season. The bag and possession limits remained at 2 and 4, respectively.

Population Surveys

Lek counts were conducted in the Upper Snake, Southeast, and Magic Valley regions. Lek counts conducted in the Magic Valley were conducted as BLM Challenge Cost-Share Projects. Overall, lek data decreased in all regions except for the slight increase observed in eastern Cassia County.

Harvest Characteristics

Telephone Surveys

In 2000, sharp-tailed grouse hunters were required to purchase a sharp-tailed grouse hunting validation. This requirement provided a means of collecting better harvest estimates from a sample of sharp-tailed grouse hunters. Approximately 2,800 hunters harvested 5,800 sharp-tailed grouse in 2000 (Table 6). The number of birds harvested per hunter (2.06) and birds harvested per day (0.75) decreased from the previous year. Overall, harvest decreased 54% from 1999.

Check Stations

Sharp-tailed grouse wings are collected and hunters checked incidental to other management activities. Wing barrels provide a large proportion of the wings collected on this species. Wing data indicated that production decreased in the Southeast and Upper Snake regions. The decrease ranged from 46-65% below the 5-year averages.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

The federal government's CRP continues to provide good habitat for sharp-tailed grouse in Idaho. The majority of the 780,000 acres of CRP in Idaho are within Idaho's sharp-tailed grouse range.

Trapping and Transplanting

Since 1991 the Department has been trapping Columbian sharp-tailed grouse in southeastern Idaho for transplant to suitable habitats. In 1991, 33 birds were trapped and translocated to

northeastern Oregon. Subsequent releases have taken place since that initial attempt. In April 2000, 20 and 58 sharp-tailed grouse were sent to Washington and Nevada, respectively.

In Idaho, 358 sharp-tails have been trapped and translocated to Shoshone Basin between 1992 and 2000. Shoshone Basin is located in southern Twin Falls County and is historical sharp-tailed grouse range. The first active lek from these releases was documented in early 1995 and another lek was found in 1997. Trapping on the leks has documented that about half of the males on the leks in 1998 were unbanded, indicating that there has been substantial reproduction by transplanted hens. Transplants into other suitable but unoccupied habitat in Idaho will be attempted as funds and transplant stock allow.

Management Studies

Monitoring of the Shoshone Basin transplant is continuing with Magic Valley Region staff doing nearly all the work. Seven hens were monitored during the nesting and four produced successful nests.

Management Implications

Idaho has a unique resource in its Columbian sharp-tailed grouse populations. The Department will continue its efforts to transplant sharp-tails into areas identified as potential sharp-tailed grouse habitat.

CHUKAR PARTRIDGE

Abstract

Chukar partridge harvest in Idaho continued to increase in 2000. Survey work is limited, with helicopter index flights conducted in the Clearwater and Southwest regions. HIP projects have improved several thousand acres of chukar habitat, especially on BLM lands.

2000 Season Framework

The 2000 season framework (Appendix I) increased to a 122-day season statewide. This season ran concurrent with the gray partridge season. Previously, there was an 88-day chukar season in eastern Idaho and a 119-day season in western Idaho. The bag and possession limit remained at 8 and 16, respectively.

Population Surveys

Chukar surveys were conducted by helicopter in the Clearwater (Snake and Salmon River) and Southwest regions (Brownlee and Lucky Peak reservoirs) during late August. The number of chukar observed per square mile decreased in the Clearwater Region and increased in the Southwest Region compared to 1999. The density estimate in the Southwest Region was the highest recorded since 1991.

Harvest Characteristics

Telephone Surveys

The statewide chukar harvest estimate increased 39% from 96,800 in 1999 to 134,400 in 2000 (Table 1). Approximately 9,800 hunters averaged 1.57 birds/day and 13.72 birds per season (Table 7).

Check Stations

Although some chukar hunters are contacted at Department game check stations, very little chukar data is collected. Several hundred wings were collected at Andrus WMA in the Southwest Region.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

Habitat characteristics were good during the report period, with good nesting conditions during the summer of 2000 and a mild winter in 2000-2001.

Trapping and Transplanting

Inactive.

Management Studies

Inactive.

Management Implications

Overall, chukar harvest estimates have been increasing since 1997. This trend is indicative of change primarily in the Southwest Region where most of the statewide harvest occurs. Chukar populations in the Clearwater have not increased during the same period. Factors influencing these populations are not well understood.

GRAY PARTRIDGE

Abstract

Field observations suggested that populations increased significantly in 1999. However, this fluctuation appeared short-lived because harvest estimates and field observations for 2000

indicated an overall decline from 1999. HIP efforts and CRP will continue to improve gray partridge habitat statewide.

2000 Season Framework

The 2000 season framework (Appendix I) increased to a 122-day season statewide. This season ran concurrent with the chukar season. The previous season was an 88-day season in eastern Idaho and a 119-day season in western Idaho. The bag and possession limit was 8 and 16.

Population Surveys

Gray partridge observations are recorded during the August roadside survey routes. Trend data indicated a decrease in the Clearwater and Southwest regions, and an increase in the Magic Valley Region. Brood routes do not sample nonagricultural habitat used by gray partridge in Idaho. In the Magic Valley, field observations indicated that gray partridge had decreased outside of the agricultural habitat.

Harvest Characteristics

Telephone Surveys

The statewide harvest estimate for gray partridge decreased 8% from 103,100 in 1999 to 94,800 in 2000 (Table 1). Approximately 12,400 hunters averaged 1.17 birds per day or 7.62 birds per season (Table 8).

Check Stations

Gray partridge are checked incidental to other management activities at check stations in the Magic Valley and Upper Snake regions. In the Magic Valley, number of birds checked per 100 hunters increased from 7.4 in 1999 to 7.9 in 2000. This represents the highest on record for the Magic Valley. In the upper Snake Region, this value decreased from 4.9 in 1999 to 2.1 in 2000.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

HIP activities continue to improve gray partridge habitat in many parts of the state, especially in areas with large acreage of CRP.

Trapping and Transplanting

Inactive.

Management Studies

Inactive.

Management Implications

Gray partridge will continue to be a species with relatively little active management. HIP activities will continue to enhance habitat primarily in agricultural areas.

WILD TURKEY

Abstract

Wild turkey populations have expanded dramatically in Idaho during the past decade. Most of the suitable habitat has been stocked and the overall population growth has stabilized. Several new hunting opportunities were offered during the fall of 2000. Harvest in 2000 decreased from the previous year but remained the second highest on record. Trapping efforts continued but were hampered by mild winter conditions, especially in the Clearwater Region.

2000 Season Framework

Spring general hunts were offered in the Panhandle, Clearwater, and Southwest regions during 2000 (Appendix I). A second spring tag was offered in these hunts during the final 2 weeks of the season. Spring controlled hunts were offered in the Panhandle, Southwest, and Southeast regions. A fall general season was offered in the Southeast Region. Fall controlled hunts were offered in the Panhandle, Clearwater, and Southwest regions. The bag limit was 2 bearded turkeys/spring (1 per day) and 1 turkey (either sex) during the fall. A total of 3 turkeys per year could be harvested.

Population Surveys

No formal surveys were conducted, although all regions conduct informal surveys of wintering grounds to get some estimate of population numbers and distribution.

Harvest Characteristics

Telephone Surveys

Overall, turkey harvest decreased from 5,458 in 1999 to 4,893 in 2000 (Table 1). Approximately 4,377 were taken in the spring and 516 were taken in the fall. The number of permits issued increased from 16,781 in 1999 to 18,173 in 2000. Statewide harvest is concentrated in the Panhandle, Clearwater, and Southwest regions (Table 9).

Check Stations

No wild turkey check stations are conducted in Idaho.

Climatic Conditions

See Pheasant section.

Habitat Characteristics

Unchanged.

Trapping and Transplanting

A total of 366 birds were trapped and translocated within Idaho during the winter of 1999-2000 (Table 10). Additionally, California provided Idaho with 40 Rio Grande turkeys that were released in the Magic Valley Region (Big Cottonwood Wildlife Management Area). Plans are to move 500 or more birds annually for the next several years.

Management Studies

Inactive.

Management Implications

Wild turkeys continue to be transplanted in large numbers into Idaho. Interest in hunting this species continues to grow. National Wild Turkey Federation chapters are now established in each region except for the Salmon and Upper Snake regions. Cooperative habitat projects have been developed with the US Forest Service.

MOURNING DOVE

Abstract

Mourning dove continues to be a popular early-season species for hunting. Populations remain relatively low because of habitat changes.

2000 Season Framework

The 2000 season framework remained unchanged from 1999 (Appendix I).

Population Surveys

Coo-count surveys are conducted annually and data are provided to the U.S. Fish and Wildlife

Service who monitor dove numbers nationwide. Overall, the number of doves heard per mile decreased in the Panhandle, Clearwater, Southwest, Magic Valley and Southeast regions. The greatest decline from the previous year was 65% recorded in the Magic Valley Region.

Harvest Characteristics

Telephone Surveys

No data available.

Management Implications

Dove will continue to decline because of habitat conditions.

RABBITS AND HARES

Abstract

Rabbit and hare population trends are not monitored except by harvest estimates.

2000 Season Framework

No change from 1999 (Appendix I).

Harvest Characteristics

Telephone Surveys

Approximately 2,029 hunters harvested 7,678 rabbits statewide during 2000.

Management Implications

Rabbit and hare will continue to be a species with no active management in Idaho.

CROWS

Abstract

Crows will continue to be a species with no active management.

2000 Season Framework

No change from 1999 (Appendix I).

Harvest Characteristics

Telephone Surveys

Insufficient data is collected from the telephone survey to allow an estimate of crow harvest and the survey was discontinued in 1994.

Management Implications

Crows will continue to be a species with no active management in Idaho.

Table 1. Estimated upland game bird harvest in Idaho as determined by random telephone survey of license buyers, 1991-2000.

Year ^a	Pheasant	Forest Grouse	Gray Partridge	Chukar	Quail	Sage Grouse	Sharp-tailed Grouse	Turkey
1991	117,700	103,400	32,400	72,700	73,300	39,500	6,000	495
1992	132,400	112,100	27,800	54,600	91,100	29,900	9,300	487
1993	129,100	190,600	39,000	72,800	117,200	37,400	14,400	977
1994	115,400	283,100	34,800	88,800	118,500	38,500	8,200	1,339
1995	114,600	252,600	42,500	125,200	175,300	27,500	7,900	1,526
1996	166,500	292,800	109,300	208,600	350,500	21,000	14,700	1,720
1997	63,300	43,853	32,100	37,300	87,200	16,000	10,300	2,703
1998	94,000	136,100	43,400	74,900	112,400	17,500	N/A	2,690
1999	110,100	80,600	103,100	96,800	114,900	4,700	12,400	5,458
1995-1999 Mean	109,700	161,200	66,100	108,600	168,100	17,300	11,300	2,819
2000	113,100	85,900	94,800	134,400	168,800	7,200	5,800	4,893

^a Harvest estimate methodology has varied. Dashed lines separate years with major changes in techniques.

Table 2. Season framework, estimated pheasant hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b		Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	30	4	(1)	101,100	567,600		5.61	
1960	30	4	(1)	84,300	525,600	347,300	6.23	1.51
1961	30	4	(1)	82,500	535,000	350,000	6.49	1.53
1962	30	4	(1)	81,800	554,100	379,000	6.77	1.46
1963	44	4	(1)	84,500	715,600	458,400	8.47	1.56
1964	44	4	(1)	80,800	757,200	408,800	9.37	1.85
1965	44	4	(1)	79,400	623,400	413,500	7.85	1.51
1966	44	4	(1)	72,900	424,500	338,900	5.83	1.25
1967	44	4		69,000	434,500	343,500	6.31	1.27
1968	44	4		75,800	522,600	379,100	6.89	1.38
1969	44	4		83,600	544,500	430,300	6.51	1.27
1970	44	4	(1)	73,300	470,600	345,900	6.43	1.36
1971	44	4	(1)	81,300	592,300	413,000	7.28	1.43
1972	44	4	(1)	88,800	537,600	437,000	6.06	1.23
1973	44	4	(1)	84,900	449,100	455,600	5.29	.99
1974	44	4	(1)	78,900	326,300	398,000	4.14	.82
1975	44	3		64,600	268,900	331,500	4.16	.81
1976	44	3		71,300	312,000	372,200	4.38	.84
1977	44	3		73,800	310,400	362,000	4.21	.86
1978	44	3		80,600	377,400	435,800	4.68	.87
1979	44	3		86,000	441,500	460,300	5.13	.96
1980	44	3		89,400	438,900	467,900	4.91	.94
1981	44	4		89,800	502,500	512,200	5.60	.98
1982	44	4		76,600	329,700	423,700	4.31	.78
1983 ^c	44	4		79,200	388,700	434,500	4.91	.90
1983 ^c	44	4		78,500	374,100	455,100	4.77	.82
1984	44	4		67,600	264,000	346,400	3.91	.76
1985	44	4		57,000	237,800	336,100	4.17	.71
1986	58	4		49,600	180,100	249,700	3.63	.72
1987	58	4		41,300	155,500	220,700	3.77	.71
1988	58	4		31,300	111,900	166,800	3.57	.67
1989	58	4		28,500	102,700	160,500	3.61	.64
1990	58	3		33,100	148,800	199,100	4.50	.75
1991	58	3		30,900	117,700	183,900	3.81	.64
1992	58	3		31,200	132,400	183,200	4.24	.72
1993 ^d	58	3		31,900	129,100	222,100	4.05	.58
1994	58	3		25,600	115,400	161,200	4.53	.72
1995	58	3		28,100	114,600	189,600	4.07	.60
1996 ^d	58	3		32,900	166,500	234,900	5.06	.71
1997	58	3		32,900	63,300	108,700	1.92	.58
1998	76	3		28,400	94,000	136,200	3.31	.69
1999	77	3		23,700	110,100	150,700	4.65	.73
2000	72	3		22,000	113,100	140,000	5.14	.81

^a Mailout of hunter questionnaire began in 1953. Data collected on hunter days starting in 1960.

^b Season length and bag in southwestern Idaho where the majority of pheasant hunting occurs (number of hens allowed in bag).

^c Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^d New telephone survey methodology.

Table 3. Season framework, estimated quail hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	30	5	9,700	48,800		5.03	
1960	44	5	10,900	38,200	32,700	3.50	1.17
1961	44	10	11,200	58,300	30,100	5.21	1.94
1962	86	10	10,700	61,100	37,100	5.71	1.65
1963	109	10	13,100	89,600	45,000	6.84	1.99
1964	111	10	11,000	88,400	37,100	8.04	2.38
1965	105	10	12,600	89,400	44,100	7.10	2.03
1966	106	10	11,400	92,000	42,400	8.07	2.17
1967	107	10	13,500	107,800	41,000	7.99	2.63
1968	102	10	15,600	147,700	58,800	9.47	2.51
1969	103	10	14,200	105,600	50,700	7.44	2.08
1970	104	10	13,400	108,800	48,900	8.12	2.23
1971	105	10	15,200	106,800	51,700	7.03	2.07
1972	107	10	15,100	86,100	53,400	5.70	1.61
1973	107	10	13,300	68,200	49,800	5.13	1.37
1974	107	10	12,200	76,200	52,500	6.25	1.45
1975	107	10	15,800	127,100	65,500	8.04	1.94
1976	105	10	19,500	170,700	88,600	8.75	1.93
1977	106	10	17,600	131,100	73,500	7.45	1.78
1978	107	10	19,700	155,300	96,400	7.88	1.61
1979	108	10	21,400	147,600	92,700	6.90	1.59
1980	103	10	19,300	123,500	75,800	6.40	1.63
1981	104	10	21,500	155,600	98,900	7.24	1.57
1982	105	10	13,700	64,900	63,400	4.74	1.02
1983 ^c	106	10	15,500	92,200	64,600	5.95	1.43
1983 ^c	106	10	8,000	59,500	46,800	7.44	1.27
1984	108	10	6,400	47,000	42,800	7.34	1.10
1985	102	10	7,000	56,500	43,400	8.07	1.30
1986	103	10	5,900	39,200	26,300	6.64	1.49
1987	104	10	5,200	39,200	29,900	7.54	1.31
1988	106	10	6,300	55,100	34,700	8.75	1.59
1989	107	10	5,800	55,000	31,900	9.48	1.72
1990	108	10	7,400	70,500	44,600	9.53	1.58
1991	102	10	7,300	73,300	46,600	10.04	1.57
1992	103	10	8,000	91,100	45,300	11.39	2.01
1993 ^d	104	10	15,400	117,200	63,900	7.61	1.83
1994	105	10	13,200	118,500	74,000	9.01	1.60
1995	106	10	15,500	175,300	101,800	11.39	1.72
1996 ^d	^e 116	10	22,300	350,500	118,400	15.72	2.96
1997	103	10	12,000	87,200	49,600	7.27	1.76
1998	104	10	13,200	112,400	58,000	8.52	1.93
1999	105	10	10,100	114,900	57,500	11.38	2.00
2000	107	10	10,700	168,800	66,400	15.79	2.54

^a Mailout of hunter questionnaire began in 1953. Data collected on hunter days starting in 1960.

^b Season length and bag in Canyon County.

^c Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^d New telephone survey methodology.

^e Special 2-week extension 1/18-31/97.

Table 4. Season framework, estimated forest grouse hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	44	3	20,900	113,700		5.44	
1960	44	3	26,600	106,300	82,200	4.00	1.29
1961	44	3	30,800	169,000	111,600	5.49	1.51
1962	47	3	28,000	138,300	103,000	4.94	1.34
1963	51	3	26,100	136,800	99,800	5.24	1.37
1964	58	3	21,800	98,300	71,000	4.51	1.38
1965	58	3	24,400	118,500	95,400	4.86	1.24
1966	58	3	23,200	110,600	89,000	4.76	1.24
1967	58	3	27,500	143,300	114,800	5.21	1.25
1968	58	3	25,200	118,800	93,800	4.72	1.27
1969	72	3	30,100	132,200	121,900	4.40	1.85
1970	72	3	28,500	132,900	117,200	4.67	1.14
1971	72	3	30,400	141,200	120,600	4.65	1.17
1972	72	3	35,800	185,200	159,100	5.17	1.16
1973	72	3	37,200	180,300	171,100	4.85	1.05
1974	72	3	36,200	143,100	181,500	3.95	0.79
1975	72	3	35,800	166,400	169,900	4.65	0.98
1976	65	3	41,200	182,000	189,000	4.42	0.96
1977	65	4	40,000	187,400	198,400	4.69	0.95
1978	65	4	39,600	176,100	179,400	4.45	0.98
1979	72	4	47,200	256,100	238,100	5.43	1.08
1980	72	4	35,600	112,900	151,700	3.17	0.78
1981	72	4	33,000	125,400	143,000	3.80	0.88
1982	72	4	31,300	118,100	151,400	3.77	0.78
1983 ^c	72	4	37,000	176,900	199,400	4.78	0.89
1983 ^c	72	4	22,700	110,000	135,800	4.85	0.81
1984	72	4	19,100	85,600	119,100	4.48	0.72
1985	72	4	18,200	73,400	103,900	4.03	0.71
1986	100	4	20,400	104,400	123,400	5.12	0.85
1987	93	4	18,400	100,800	98,800	5.48	1.02
1988	102	4	19,800	107,500	127,100	5.43	0.85
1989	101	4	22,100	122,600	167,600	5.55	0.73
1990	122	4	20,900	98,500	130,900	4.71	0.75
1991	122	4	21,600	103,400	132,500	4.79	0.78
1992	122	4	23,600	112,100	148,200	4.75	0.76
1993 ^d	122	4	55,800	190,600	357,100	3.42	0.53
1994	122	4	60,700	283,100	458,600	4.69	0.62
1995	122	4	61,800	252,600	464,500	4.07	0.54
1996 ^d	122	4	60,000	292,800	420,600	4.88	0.70
1997	122	4	15,300	43,900	60,200	2.87	0.73
1998	122	4	39,400	136,100	160,600	3.45	0.85
1999	122	4	14,500	80,600	81,600	5.56	0.99
2000	122	4	14,200	86,000	73,500	6.07	1.17

^a Mailout of hunter questionnaire began in 1953. Data collected on hunter days starting in 1960.

^b Season length and bag in Kootenai County.

^c Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^d New telephone survey methodology.

Table 5. Season framework, estimated sage grouse hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	2	2 ^{cd}	11,200	23,300		2.08	
1960	1	2 ^{cd}	10,400	15,200	13,100	1.46	1.16
1961	1	2 ^d	11,800	16,100	16,700	1.36	0.96
1962	2	2 ^{cd}	13,300	23,000	20,400	1.73	1.13
1963	2	2 ^d	16,200	28,300	25,600	1.75	1.11
1964	3	2 ^d	15,700	26,700	25,000	1.70	1.16
1965	3	2 ^d	16,200	24,700	26,700	1.53	0.93
1966	5	2 ^d	17,600	34,800	28,600	1.97	1.22
1967	5	2 ^d	21,300	51,700	39,200	2.43	1.32
1968	9	2 ^d	22,800	52,400	43,000	2.30	1.22
1969	9	3 ^d	31,400	81,700	63,200	2.60	1.29
1970	9	3 ^d	27,600	70,800	54,300	2.57	1.30
1971	9	3 ^d	29,500	79,400	56,400	2.69	1.41
1972	9	3 ^d	30,900	72,100	60,900	2.33	1.18
1973	9	3 ^d	30,500	68,800	67,600	2.26	1.02
1974	9	3 ^d	27,400	63,300	61,000	2.31	1.04
1975	9	3 ^d	26,800	57,800	58,000	2.16	1.00
1976	13	3 ^d	28,100	68,800	69,700	2.45	0.99
1977	14	3 ^d	26,600	57,100	63,400	2.15	0.90
1978	14	3 ^d	28,600	72,000	65,600	2.52	1.10
1979	14	3 ^d	32,100	92,600	80,900	2.85	1.15
1980	14	3 ^d	28,400	61,000	60,900	2.15	1.00
1981	14	3 ^d	27,100	70,300	62,600	2.59	1.12
1982	14	3 ^d	22,400	39,600	52,600	1.77	0.75
1983 ^e	14	1 ^d	15,100	26,100	35,500	1.73	0.74
1983 ^e	14	1 ^d	7,100	13,700	18,400	1.93	0.75
1984	14	1 ^d	5,300	11,700	15,400	2.21	0.76
1985	14	3	10,000	26,900	30,000	2.69	0.90
1986	23	3	11,200	37,900	35,700	3.38	1.06
1987	23	3	11,900	42,000	37,500	3.53	1.12
1988	23	3	12,300	39,600	44,000	3.22	0.90
1989	23	3	11,100	40,000	40,000	3.60	1.00
1990	30	3	13,800	55,800	49,400	4.04	1.13
1991	30	3	14,500	39,500	48,100	2.72	0.82
1992	30	3	13,200	29,900	42,700	2.27	0.70
1993 ^f	30	3	26,700	37,400	92,700	1.40	0.40
1994	30	3	17,900	38,500	67,500	2.16	0.57
1995	30	3	17,400	27,500	66,700	1.60	0.41
1996 ^f	7	1	12,000	21,000	45,100	1.75	0.47
1997	7	1	5,700	16,000	18,400	2.81	0.87
1998	7	1	9,200	17,500	36,000	1.90	0.49
1999	7	1	3,500	4,700	7,900	1.34	0.60
2000	7	1	5,900	7,200	12,900	1.22	0.56

^a Mailout of hunter questionnaire began in 1956. Data collected on hunter days starting in 1960.

^b Season length and bag in Butte County. In 1996 seasons changed dramatically and listed dates are for Fremont County.

^c Season limit also.

^d Aggregate bag with sharp-tail grouse.

^e Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^f New telephone survey methodology.

Table 6. Season framework, estimated sharp-tailed grouse hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	2	2 ^c					
1960	1	2 ^c					
1961	1	2 ^c					
1962	2	2 ^c					
1963	2	2					
1964	2	2					
1965	2	2					
1966	5	2					
1967	5	2					
1968	9	2					
1969	9	3					
1970	9	3					
1971	9	3					
1972	9	3					
1973	9	3					
1974	9	3					
1975	9	3					
1976	13	(1)	5,500	10,900	14,300	1.98	0.76
1977	14	2	4,400	7,400	14,400	1.68	0.51
1978	14	3	5,900	12,100	15,700	2.05	0.77
1979	14	3	5,900	12,800	16,000	2.17	0.80
1980	14	3	4,900	7,500	13,900	1.53	0.54
1981	14	3	4,900	8,500	12,700	1.74	0.67
1982	14	3	4,800	7,200	14,000	1.50	0.51
1983 ^d	14	1	3,200	5,600	8,600	1.75	0.65
1983 ^d	14	1	600	900	18,400	1.50	0.05
1984	14	1	800	900	2,500	1.13	0.36
1985	14	3	800	2,000	3,900	2.50	0.51
1986	14	(2)	700	1,700	3,300	2.43	0.52
1987	14	(2)	1,100	4,300	3,100	3.91	1.39
1988	16	(2)	800	3,500	3,400	4.38	1.03
1989	16	(2)	1,200	3,500	4,400	2.92	0.80
1990	16	(2)	1,900	9,800	8,700	5.16	1.13
1991	16	(2)	1,900	6,000	6,700	3.16	0.90
1992	16	(2)	2,400	9,300	7,600	3.88	1.22
1993 ^{de}	16	(2)	5,100	7,200	19,600	1.43	0.37
1994	16	(2)	7,800	8,200	32,400	1.08	0.25
1995	16	(2)	7,900	7,900	40,300	1.04	0.20
1996 ^e	16	(2)	7,000	14,700	31,900	2.10	0.46
1997	16	(2)	4,300	10,300	12,000	2.40	0.86
1998	16	(2)	NA	NA	NA	NA	NA
1999	16	(2)	2,600	12,400	11,600	4.77	1.07
2000	31	(2)	2,800	5,800	7,700	2.06	0.75

^a Sharp-tailed grouse included in mailout hunter questionnaire beginning in 1976.

^b Season length and bag in Fremont County. All bags except those in parentheses are in aggregate with sage grouse.

^c Season limit also.

^d Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983. Unknown harvest location data not included in 1993.

^e New telephone survey methodology.

Table 7. Season framework, estimated chukar partridge hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	30	5	7,400	28,900		3.91	
1960	44	5	10,700	32,900	27,000	3.07	1.22
1961	44	7	11,300	38,500	24,900	3.41	1.55
1962	86	7	17,000	99,300	49,400	5.84	2.01
1963	109	10	22,700	148,400	70,300	6.54	2.11
1964	111	10	20,500	166,600	68,700	8.13	2.43
1965	105	10	20,000	143,000	63,500	7.15	2.25
1966	106	10	20,200	146,000	66,100	7.23	2.21
1967	107	10	19,700	123,000	59,200	6.24	2.08
1968	102	10	23,000	176,900	75,400	7.69	2.35
1969	103	10	24,200	171,200	83,100	7.07	2.06
1970	104	10	23,000	168,600	79,400	7.33	2.12
1971	105	10	23,200	158,300	77,100	6.82	2.05
1972	107	10	25,000	134,800	85,200	5.39	1.58
1973	107	10	25,000	172,000	87,200	6.88	1.97
1974	107	10	23,800	145,200	89,400	6.10	1.62
1975	107	10	23,800	124,200	82,900	5.22	1.50
1976	105	8	28,100	206,400	114,500	7.35	1.80
1977	106	8	24,700	150,100	94,100	6.08	1.60
1978	107	8	27,400	183,400	115,400	6.69	1.59
1979	111	8	31,400	219,700	121,000	7.00	1.82
1980	126	8	31,200	228,700	126,800	7.33	1.80
1981	125	8	30,600	221,900	124,400	7.25	1.78
1982	124	8	20,900	72,800	75,400	3.48	0.97
1983 ^c	106	8	18,100	80,500	62,200	4.45	1.29
1983 ^c	106	8	11,600	44,700	45,900	3.85	0.97
1984	108	3	4,400	10,500	16,200	2.39	0.65
1985	102	5	7,200	30,800	28,000	4.28	1.10
1986	103	8	9,800	59,500	37,600	6.07	1.58
1987	104	8	12,100	92,100	60,400	7.61	1.53
1988	106	8	10,600	68,000	47,200	6.42	1.44
1989	107	8	8,800	55,800	42,300	6.34	1.32
1990	108	8	10,400	72,200	42,700	6.94	1.69
1991	102	8	10,900	72,700	48,100	6.67	1.51
1992	103	8	10,500	54,600	42,700	5.21	1.28
1993 ^d	104	8	16,500	72,800	81,900	4.41	0.89
1994	105	8	14,000	88,800	65,700	6.38	1.35
1995	106	8	16,900	125,200	95,500	7.47	1.31
1996 ^d	102	8	18,500	208,600	140,500	11.28	1.49
1997	103	8	14,400	37,300	33,600	2.59	1.11
1998	119	8	14,000	74,900	51,600	5.35	1.45
1999	120	8	12,000	96,500	58,300	8.04	1.66
2000	12	8	9,800	134,400	85,600	13.72	1.57

^a Mailout of hunter questionnaire began in 1953. Data collected on hunter days starting in 1960.

^b Season length and bag in Washington County including Brownlee Reservoir.

^c Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^d New telephone survey methodology.

Table 8. Season framework, estimated gray partridge hunter numbers and harvest in Idaho, 1959-2000.

Year	Season (days) ^b	Daily Bag ^b	Hunters	Harvest	Hunter Days	Birds/Hunter	Birds/Day
1959 ^a	30	10	13,200	47,400		3.59	
1960	44	5	15,200	38,000	51,000	2.50	0.75
1961	44	7	13,200	37,900	41,300	2.87	0.92
1962	86	7	14,000	47,500	46,000	3.39	1.03
1963	109	10	19,500	89,900	62,000	4.61	1.45
1964	111	10	18,600	95,800	63,200	5.15	1.52
1965	105	10	18,300	89,300	70,400	4.88	1.27
1966	106	10	17,300	80,800	62,000	4.67	1.30
1967	107	10	16,100	72,500	51,900	4.50	1.40
1968	102	10	19,500	95,000	65,600	4.87	1.45
1969	103	10	17,100	64,700	66,800	3.78	0.97
1970	104	10	13,800	53,400	44,900	3.87	1.19
1971	105	10	17,000	86,500	56,700	5.09	1.53
1972	107	10	18,300	65,400	55,500	3.57	1.18
1973	107	10	21,500	88,700	76,000	4.13	1.17
1974	107	10	19,500	72,700	77,800	3.73	0.93
1975	107	10	16,600	68,400	70,500	4.12	0.97
1976	105	8	22,000	113,200	89,500	5.15	1.27
1977	106	8	22,500	107,400	94,300	4.77	1.14
1978	107	8	24,900	121,800	105,400	4.89	1.16
1979	111	8	26,300	122,200	101,700	4.65	1.20
1980	126	8	26,100	118,800	109,100	4.55	1.09
1981	125	8	31,700	174,000	139,100	5.49	1.25
1982	124	8	19,100	63,200	80,800	3.31	0.78
1983 ^c	106	8	20,600	77,000	78,600	3.74	0.98
1983 ^c	106	8	11,300	59,500	72,100	5.27	0.83
1984	108	3	5,300	23,500	35,700	4.43	0.66
1985	102	5	4,800	16,800	26,200	3.50	0.64
1986	103	8	4,800	17,200	22,700	3.58	0.76
1987	104	8	5,700	28,200	28,700	4.95	0.98
1988	106	8	4,400	25,000	26,000	5.68	0.96
1989	107	8	2,900	10,000	15,000	3.45	0.67
1990	108	8	6,100	31,200	31,400	5.11	0.99
1991	102	8	6,400	32,400	34,800	5.06	0.93
1992	103	8	5,600	27,800	25,100	4.96	1.11
1993 ^d	104	8	13,600	39,000	65,100	2.87	0.60
1994	105	8	11,200	34,800	59,100	3.14	0.59
1995	106	8	12,400	42,500	67,000	3.44	0.63
1996 ^d	102	8	17,400	109,300	118,000	6.28	0.93
1997	103	8	8,700	32,100	26,300	3.69	1.22
1998	119	8	9,500	43,400	39,600	4.57	1.10
1999	120	8	13,200	103,100	81,700	7.81	1.26
2000	122	8	12,400	94,800	81,000	7.62	1.17

^a Mailout of hunter questionnaire began in 1953. Data collected on hunter days starting in 1960.

^b Season length and bag in Canyon County.

^c Both hunter report cards (first value shown) and telephone survey (second value shown) were used in 1983.

^d New telephone survey methodology.

Table 9. Estimated wild turkey harvest in Idaho as determined by random telephone survey of license buyers, 1987-2000.

Year	Region							Statewide Total
	1	2	3	4	5	6	7	
1987	37	37	90	2	11	6	-	185
1988	58	82	79	12	6	1	-	238
1989	74	92	48	10	5	0	-	228
1990	97	117	60	3	6	-	-	291
1991	111	237	116	3	3	-	-	495
1992	123	181	93	2	4	-	-	487
1993	163	509	295	0	1	-	-	977
1994	265	777	246	0	6	-	-	1,339
1995	289	828	385	0	10	-	-	1,526
1996	413	779	494	-	15	-	-	1,720
1997	862	1,143	618	-	32	-	-	2,703
1998	689	1,189	711	-	101	-	-	2,690
1999	1,205	2,822	1,317	-	116	-	-	5,460
5-Yr Mean	551	1,352	705	-	55	-	-	2,820
2000	890	2,288	1,450	-	265	-	-	4,893

Table 10. Turkey season framework summary, harvest estimate, and number of turkeys transplanted in Idaho, 1961 to 2000.

Year	Season Framework ^a		Bag ^c	General Season Harvest			Controlled Hunts			Total ^b	Total Tags	Turkeys Transplanted		
	Spring	Fall		Spring	Fall ^d	Total	Hunts	Permits	Harvest	Harvest	Sold ^e	Merriam	Other	
2000	04/15-05/25	09/15-09/30	3	4,054	201	4,255	12	1,183	638	4,893	18,173			
1999	04/15-05/25	10/01-10/31	3	4,916		4,916	12	1,205	542	5,460	16,781	366 (ID)	40 RG	(CA)
1998	04/15-05/25	10/01-10/31	2	2,324		2,324	12	658	337	2,690	6,436	475 (ID)	105 RG	(CA)
1997	04/14-05/11		1	2,451		2,451	10	528	252	2,703	5,114	442 (ID WA)	47 RG	(CA)
1996	04/08-05/05		1	1,476		1,476	25	574	244	1,720	4,940	672 (ID)	47 RG	(CA);17 (WA)
1995	04/10-05/07		1	1,314		1,314	29	466	212	1,526	3,929	309 (ID BC)	14 RG	(CA)
1994	04/11-05/08		1	1,130		1,130	25	345+	209	1,339	3,066	407 (ID ND)	70 RG	(CA)
1993	04/12-05/09		1	750		750	14	405	153	903	2,303	487 (ID ND)	49 RG	(CA)
1992	04/13-05/10		1	532		532	14	310	130	662	2,020	191 (ID ND)		
1991	04/08-05/05		1	393		393	13	215	102	495	1,754	465 (ID ND SD)	80 E	(ND)
1990	04/09-05/06		1	185		185	17	226	106	291	1,436	143 (ID)	14 E	(ND)
1989	04/10-05/07		1	137		137	26	271	91	228	1,339	99 (ID)		
1988	04/11-05/08		1	153		153	28	232	85	238	1,395	240 (ID)	29 RG	(ID)
1987	04/13-05/10		1	117		117	30	180	68	185	814	91 (ID)		
1986	04/14-05/11		1	88		88	24	150	52	140	571	101 (NB 52; ID 49)	22 RG	(ND)
1985	04/24-05/09		1	37		37	10	100	36	73	439		16 E	(PA);
													44 RG	(TX)
													98 RG	(KS 6;TX 42)
1984	04/25-05/10		1	17		17	4	70	26	43	312			
1983	04/23-05/01		1	19		19				19	270	64 (NM 44; SD 10; ID 10)	62 RG	(OK 5; X 57)
1982	04/24-05/02		1	29		29				29	281	73 (SD)	177 RG	(CA 31; S 51; OK 47;TX 48)
1981	04/25-05/03		1	33		33				33	379			
1980	04/26-05/04	09/20-09/28	1			26				26	416	35 (SD 25; ID 10)		
1979	04/28-05/06	09/15-09/30	1	6	2 (4)	12				12	424	5 (ID)		
1978	04/29-05/07	09/16-10/01	1	14	4 (3)	21				23	320			
1977	04/30-05/08	09/17-10/02	1	5	7 (3)	15				15	331			
1976	05/01-05/09	09/18-10/03	1	18	3 (4)	25				25	375			
1975	05/03-05/11	09/20-10/03	1	7	5 (4)	16				16	232			
1974	05/04-05/12	09/21-10/04	1	17	2 (11)	17				30	344			
1973		09/22-10/05	1		18 (23)	41				41	227	23 (ID)		
1972		09/23-10/06	1		55	55				55	190	25 (GF ^f 24; ID 1)		
1971		09/25-10/08	1		29	29				29	257	89 (WY 14; ID 15; GF ^f 60)		
1961-1970												87 (CO 39; ID 62)		
Total											2,948		110 E,	565 RG

^a Controlled hunts had same season framework as general hunts until after 1987 when controlled hunts started one week later and consecutive hunts began. In 1995, a late controlled hunt was allowed in Unit 1.

^b Until 1982, turkey harvest reflects known kills from mail-in reports. After 1982, the data are estimates from a random sample telephone survey.

^c Bearded turkey only in spring hunts, either sex in fall hunts. Instituted a second spring tag in 1999 valid 5/10-25.

^d Numbers in parentheses are female harvest. Sex-specific harvest data unavailable for 1967 to 1972.

^e Sportsman Package license sold starting in 1989. Sportsman Package tags not included in total tags sold 1989-1997 and holders not sampled for harvest information until 1991. In 1992, approximately 800 SP tags were used. 1992 = 1,423; 1993 = 2,210; 1994 = 1,968; 1995 = 2,885; 1996 = 3,490; 1997 = 3,546; 1998 = 3,492; 1999 = 5,031.

^f Approximate number of game farm birds released in Boundary County by private citizens.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>1</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME – PANHANDLE REGION

PHEASANT

Background

For many years the Department released game farm birds in the spring prior to nesting and released cocks prior to the season opener to bolster declining wild populations and hunter success rates. Fewer and fewer landowners were willing to allow hunter trespass if pheasants were released on their property. Consequently, the Department's Coeur d'Alene River WMA near Harrison ended up being the only place available to release birds. In 1981 the region recommended that all pheasant releases be discontinued and the program was eliminated effective the fall of 1982.

Most pheasant hunting in the Panhandle Region occurs in the Palouse country around Worley, Plummer, and Tensed. Remnant wild populations still occur and provide fair hunting for those people who have permission to hunt on private land. Telephone survey information since 1996 has been collected at the statewide level only. Region-specific information on pheasant harvest from 1986 through 1995 is contained in the 1996 report. Anecdotal reports reflect relatively good pheasant hunting during fall 2000.

Management Implications

The quality and quantity of pheasant habitat in the Panhandle Region has declined to a low point due to modern, clean farming techniques and monoculture crops. Large complexes of seed-bluegrass fields are burned annually, severely limiting nesting habitat. The Department no longer supplements the wild population or releases birds directly for harvest. There is growing public sentiment against the large-scale field burning in the Palouse. If burning becomes severely restricted in the future, pheasant cover will improve, and additional grain farming could substantially improve pheasant populations.

FOREST GROUSE

Background

Few hunters take the time to hunt primarily for grouse. All three species of forest grouse are usually taken incidental to other activities, and usually in conjunction with driving down the road.

Telephone survey information has been collected at the statewide level only beginning 1996. Region-specific information on grouse harvest from 1986 through 1995 is contained in the 1996 report. Harvest information specific to forest grouse was not collected by regional management personnel during this reporting period.

Wet, cold, spring weather in northern Idaho is the rule rather than the exception. Adverse spring weather can limit the production and survival of forest grouse young for several years at a time. A general slowing of logging during the past two decades has likely been detrimental to grouse populations in the panhandle, particularly for ruffed and blue grouse. The elk season opener was delayed to October 10 in 1991. The total harvest of grouse in the Panhandle is believed to have declined as a result.

Management Implications

Grouse populations in the Panhandle are driven by large-scale influences on early seral stages. Logging and wildfire are both less prevalent now than they were 40 years ago. On a proximate scale, grouse abundance is heavily influenced by spring weather, much as it is in other portions of their range. Hunting is a negligible influence on grouse populations, and season changes do not need to be adjusted to influence grouse populations.

GRAY PARTRIDGE

Background

Gray partridges in North Idaho are associated with agricultural lands near Worley, Plummer, Harrison, and Post Falls. Widespread burning of crop residues in August and September eliminates most potential food and cover patches that would help gray partridge to survive the winter months. Intensive farming also contributes to fewer gray partridge by eliminating permanent cover patches, annual weeds that serve as food sources, wind breaks, fence rows, and riparian zones.

Partridge hunting effort in the Panhandle Region is very low. A few hunters are checked on the Rathdrum Prairie and the rolling hill country near Worley and Plummer. Historic harvest information obtained from the statewide telephone survey is believed to reflect, almost entirely, Panhandle Region hunters hunting in other regions. Telephone survey information beginning 1996 has been collected at the statewide level only.

Management Implications

Gray partridge are taken largely incidental to pheasant hunting. Seasons should be set to match those in adjacent portions of the state where gray partridge are taken more commonly.

WILD TURKEY

Harvest Characteristics

Turkey hunter numbers have grown very rapidly in the Panhandle. From just 187 hunters in 1991, hunter numbers peaked at 4,187 in 1999 (Table 1). Hunter numbers dropped 11% in the 2000 season. A substantial fee increase and a general fall season during 2001 dropped hunter numbers another 37%. There was a significant shift in tag sales during 2001. While 1302 fall turkey tags were sold in the Panhandle, only 456 (35%) actually hunted the fall season.

Success rates have averaged 15.4 hunter days per bird from the first general hunt in 1994, through 1999. Data from 2000 and 2001 (14.0 and 15.2 days, respectively) show little change from this average (Table 1), despite the addition of a second bird in the bag limit.

Fall controlled hunt permits did not sell out in either 1999 (205 of 400 permits, October 20-31) or 2000 (176 of 500 permits, October 20-31).

Trapping and Transplanting

Trapping was undertaken during the 1999-2000 and 2000-2001 winters to alleviate damage problems to fields, buildings, and equipment.

Management Implications

By delaying the bulk of turkey hunting until May 1, we allow greater dispersal of gobblers from winter flocks to woodlands, which reduces landowner/hunter conflicts, hunter/hunter conflicts, and likely serves the resource by ensuring breeding is complete before heavy disturbance by hunters begins.

MOURNING DOVE

Population Surveys

Mourning doves are common in the Panhandle Region and in some areas are locally numerous. Most mourning doves are found during the summer around agricultural lands near Worley, Plummer, Harrison, Post Falls, and Bonners Ferry.

In May 2000, three call-count surveys were completed in the Panhandle Region (Table 4). One route was run in Boundary County, one in Kootenai County, and one in Shoshone County. The number of mourning doves heard per mile has increased slightly during the past 14 years. Route

replacement during 1993 precludes direct comparison of subsequent data route with that prior to 1993.

Harvest Characteristics

In North Idaho most mourning doves leave before the season opens. The season opener usually coincides with the first cool evening temperatures of late August. Also, most of the grain and grass seed farmers annually burn their fields after harvest. Starting in mid-August and ending in late September, most cover and food patches are consumed by fire.

Idaho has had a very liberal mourning dove season and bag limit in the past. However, due to the declining trend in the mourning dove breeding population throughout the west, the hunting season was shortened by one month in 1987 and the bag and possession limits reduced from 15 and 30 to 10 and 20, respectively.

Mourning dove hunting effort in the Panhandle Region is very low. A few hunters are checked on opening day on Harrison Flats and near Athol on the edge of the Rathdrum Prairie. Telephone survey information beginning in 1996 has been collected at the statewide level only.

Management Implications

Widespread burning of crop residues practiced by area farmers coupled with the first cool evening temperatures of late August usually combine to move mourning doves south out of the region before the hunting season opens.

Table 1. Turkey harvest in the Panhandle Region, 1991-2000.

Hunt	Number of Hunts	Permits Available	Hunters	Birds Taken	Day Per Bird	Total Days Hunted
1991						
Controlled	9	195	187	99	5.2	518
General	0		0	0	0	0
1992						
Controlled	12	300	285	123	7.1	875
General	0		0	0	0	0
1993						
Controlled	12	395	219	155	7.5	1165
General	0		0	0	0	0
1994						
Controlled	23	457	409	206	5.9	1223
General ^a	1		256	77	10.0	769
1995						
Controlled	23	436	417	203	5.5	1117
General	1		557	86	23.9	2057
1996						
Controlled	17	435	444	221	6.3	1402
General	1		1043	192	19.1	3671
1997						
Controlled	2	450	398	216	4.9	1059
General	1		2223	643	13.4	8632
1998						
Controlled	2	450	389	225	5.7	1287
General	1		1534	464	10.7	4972
1999^a						
Controlled Spring	2	525	479	284	6.0	1680
General Spring	1		3503	815	15.4	12537
Controlled Fall	1	400	205	106	4.0	424
2000						
Controlled Spring	2	525	464	232	6.2	1431
General Spring	1		3140	593	14.0	11206
Controlled Fall	1	500	131	90	2.2	175

^a Multiple bird bag limits and fall seasons began 1999.

^b 1302 fall tags sold in the Panhandle, but only 456 actually hunted.

Table 2. Drawing odds for controlled hunts in the Panhandle Region, 2000-2001.

Hunt Area	Year	Permit Level	Applications	1 st Choice Applicants per Permit
9001 (Spring)	2000	525	688	1.3
	2001	525	630	1.2
9010 (Fall)	2000	500	239	0.5

Table 3. Mourning dove call-count survey results, Panhandle Region, 1994-2001. Routes were in different areas prior to 1994.

Year	Routes	Miles Counted	Doves Heard	Doves Seen	Doves Heard Per Mile	Doves Seen Per Mile
1994	3	60	13	8	0.22	0.13
1995	3	60	6	4	0.10	0.07
1996	3	60	18	19	0.30	0.32
1997	3	60	18	19	0.30	0.32
1998	3	60	14	4	0.23	0.07
1999	3	60	24	9	0.40	0.15
2000	3	60	20	9	0.33	0.15
2001	3	60	10	9	0.17	0.15

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>2</u>	STUDY NAME:	<u>Upland Game and Waterfowl</u>
STUDY:	<u>II</u>		<u>Population Status and Trends</u>
JOB:	<u>1</u>		

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME –CLEARWATER REGION

CLIMATIC CONDITIONS

The Clearwater Region experienced weather conditions in 2000-2001 that were far below normal. Snowpack was only 50% of average (October through March), the lowest since 1961 in the Clearwater Basin and the second lowest in the Salmon River Basin. Even though snow coverage at higher elevations was good and persisted into spring, water equivalent of snowpack was very low at 59% of average. A drier, warmer than normal fall and a drier than average spring (68% of average spring precipitation) resulted in decreased soil moisture and may contribute to suboptimal nesting and brood rearing conditions.

PHEASANT

Population Surveys

In 1990, 11 brood routes were established in the Clearwater Region, with the primary emphasis directed at better monitoring pheasant population trends in the region. Ninety-five pheasants were observed in 2000 (Table 1). The results are an increase from last year and higher than the previous mean five-year trend of 45. Other species recorded on the routes included quail, gray partridge, doves, cottontail rabbits, and raptors.

Harvest Characteristics

Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints. However, brood survey results indicate increased production that, along with a season extension of 2 weeks beginning in 1996, should have improved harvest opportunities.

Management Implications

Populations in north Idaho have been at reduced levels since 1983. An abundance of fields of small grains and adjacent idle uplands provides adequate nesting cover for pheasants in the Clearwater Region. The population's limiting factor is inadequate winter cover and/or

inadequate winter food adjacent to winter cover. Development of scattered, permanent wintering areas that can provide adequate food and cover in those portions of the region where they are lacking would allow pheasant populations to increase.

The Department began working with the U.S. Soil Conservation Service and the U.S. Agricultural Stabilization and Conservation Service regarding the Conservation Reserve Program (CRP) in 1986 and has continued this cooperation since that time. This program has great potential to increase upland game populations in the future, and the Clearwater Region will place high priority on its involvement with this program.

In 1987 the Department also initiated a statewide Habitat Improvement Program (HIP) for upland game directed primarily towards pheasants, quail, gray partridge, and chukar partridge. This program, in conjunction with CRP, has great potential to positively affect upland game populations, particularly pheasants.

BOBWHITE QUAIL

Reporting on this species is not applicable for the Clearwater Region.

CALIFORNIA QUAIL

Population Surveys

No reliable population surveys are currently conducted for California quail in the Clearwater Region.

Harvest Characteristics

Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

Availability of quail habitat probably will not change dramatically in the next few years. California quail continue to be a lightly hunted species in the region, and management will continue to be directed at maximizing hunting opportunity through liberal, standardized seasons and bag limits.

MOUNTAIN QUAIL

Abstract

Populations of mountain quail are limited to a few scattered sites ranging from Lewiston to Riggins, primarily adjacent to the Salmon River. A final project report from a mountain quail research project has been completed and is available for review.

Population Surveys

The season on mountain quail was closed in 1984 because of concern for declining populations. Mountain quail population fluctuations are difficult to monitor, but it is generally believed that they have declined due to unknown causes during the past 20 years. These declines are probably the result of subtle habitat changes unfavorable to mountain quail.

A graduate student research project on mountain quail was initiated in 1991. The focus of the project shifted from spring/summer habitat use and seasonal movements to fall/winter emphasis in 1994. The project has now been completed and a final project report prepared.

FOREST GROUSE

Population Surveys

Random brood counts and drumming route counts were discontinued in 1988. Presently none of these surveys are conducted to monitor population trends or predict fall harvest.

Harvest

Collections of random field check harvest data were discontinued in 1988. Regional telephone harvest survey information on forest grouse since 1984 has been variable (Table 4). Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

The limited amount of data currently collected on forest grouse and the lack of standard techniques for collecting it precludes its effective use for management purposes. There are few avid forest grouse hunters in the Clearwater Region. Most grouse are currently harvested incidentally to hunting for other species, and many are taken from or immediately adjacent to forest roads during the opening weeks of big game seasons. Therefore, the majority of forest grouse in the region are seldom hunted.

SHARP-TAILED GROUSE

Population Characteristics

Substantial populations of Columbian sharp-tailed grouse were found in this area during the early 1920s but were believed to have been eliminated by the mid-1930s. Factors contributing to the decline and eventual loss of the species from the area were overhunting, overgrazing by livestock, and intensified agricultural practices resulting in habitat destruction.

Harvest Characteristics

There has been no hunting season for sharp-tailed grouse in the Clearwater Region for several decades.

Trapping and Transplanting

A total of 82 sharp-tailed grouse were transplanted in the Clearwater Region during 1987 and 1988 from birds captured in the Southeast and Upper Snake Regions. Due to the small number of birds and the difficulty in monitoring, limited information on the success of these transplant efforts is available.

Management Implications

It is extremely difficult to reestablish populations of sharp-tailed grouse by transplanting relatively small numbers of birds in the spring. Future efforts may require increased sample sizes and more extensive monitoring.

CHUKAR PARTRIDGE

Population Surveys

No distribution surveys are conducted in the Clearwater Region. In general, the majority of the chukars within the region are located along the breaks of the Snake, Salmon, and Clearwater Rivers.

A chukar ecology project in Unit 11 was conducted from spring 1995 to 1997. Radio-marked chukars along the breaks of the Salmon and Snake Rivers were monitored to define habitat use, movements, distribution patterns, nesting chronology and success, and overall mortality causes and rates. A final report was completed in 1998.

Production

Random brood routes and counts are no longer conducted.

Since 1985 the breaks of the Snake River have been surveyed annually from Tenmile Creek upstream to Corral Creek by helicopter (Table 5). Since 1991 the Salmon River breaks from White Bird to Maloney Creek have also been surveyed annually. Although it is difficult to make a final determination, it appears that helicopter surveys may be a reliable index to determine trends in fall chukar populations. Although other factors are apparently involved when predicting fall harvest, general trends appear predictable based on the surveys. Compared to the 1999 aerial survey results, the number of chukar partridge observed in 2000 declined along the Snake River (-50%) and also along the Salmon River breaks (-28%). The survey this year was conducted later than normal and after a period of precipitation. The delay in survey timing and

the weather conditions may have influenced the overall survey results by dispersing the birds from the areas in which they are normally observed. Most values recorded in 2000 are below corresponding averages from 1991-1995; group size observed remained relatively stable during both surveys.

Harvest Characteristics

A summary of the Clearwater Region chukar harvest since 1984 from the telephone survey is provided (Table 6). Fluctuating harvest rates over the past several years apparently reflect stochastic variables, possibly weather impact on productivity. Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

Annual chukar partridge populations, like most upland game, are greatly influenced by weather conditions during the nesting and brood-rearing seasons. Season lengths and bag and possession limits apparently do not need to be reduced for chukar partridge during periods of population lows. Upland game density-dependent hunting pressure is well documented in pheasant and quail populations (George et al. 1980, Vance and Ellis 1972, Kabat and Thompson 1963, Gallizoilli and Swank 1958, and Bennitt 1951), and it is likely no different for chukar partridge.

GRAY PARTRIDGE

Population Surveys

No standardized population surveys are currently conducted for gray partridge in the Clearwater Region. However, gray partridge counted incidentally in 2000 on the 11 Clearwater Region pheasant brood routes indicate that populations may cycle on an alternate year basis.

Harvest Characteristics

Previous harvest information on gray partridge has varied (Table 7). However, telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

Favorable weather during early summer will allow populations to remain at current levels. No adjustments in season length or bag and possession limits apparently are necessary to accomplish population increases during or following population lows caused by adverse nesting and/or winter weather conditions.

WILD TURKEY

Population Surveys

The Department does not have a reliable survey method for estimating turkey numbers. However, population status and trend can be inferred to a limited degree from harvest trend, turkey distribution, and general impressions of bird numbers from year to year. This information suggests that turkey numbers are stable and the distribution of turkeys is widespread throughout the region.

A turkey research project was conducted in Unit 11 in the early 1990s. Among the more interesting findings were the long-distance seasonal movements of turkeys between Cottonwood and Waha, exceptionally high productivity among young birds, and relatively low hunting-related mortality. Nesting and roosting habitat do not appear to be limiting in this area.

Harvest Characteristics

Turkey harvest estimates have been calculated on a management unit basis since 1983 (Table 8). Regional turkey harvest had increased until 1999, and was a function of expanding turkey distribution and numbers, and increasing hunter effort. Turkey harvest in the Clearwater Region fell from the high of 2,822 in 1999 to 2,208 for the 2000 spring season. A controlled fall turkey-hunting season was available in 2000 for 200 permittees. Telephone surveys estimated fall harvest at 80 birds.

Winter Feeding

Landowners in some areas traditionally feed flocks of wintering birds. Feeding is often associated with livestock feedlots. Because of average to below average winter weather severity in most recent years, it has not been necessary to initiate any Department-sponsored feeding operations. However, feed was sometimes supplied upon request to private individuals who had large numbers of turkeys on their property or if turkeys were negatively impacting livestock operations or in areas with significant snowfall and corresponding lack of natural winter feed.

Trapping and Transplanting

Two transplants of turkeys (46 birds) were completed in 2001 in the Clearwater Region (Table 9). One site within the region was supplemented with birds and one new site in the Upper Snake Region was stocked. Temporary personnel time was in part funded by a donation from the National Wild Turkey Federation. Additional sites in the region will be evaluated for future releases of turkeys.

Management Implications

The aggressive trap and transplant program in combination with expansion of existing flocks should result in a continued increase in numbers and distribution of turkeys in the Clearwater

Region. The present hunting season structure does not appear to adversely impact the expansion of populations.

MOURNING DOVE

Population Surveys

There are only 2 coo count routes conducted in the Clearwater Region. By themselves they do not provide an accurate index to dove production or population trend (Table 10). When those results are incorporated with the results from all other routes in the state, an accurate index to statewide dove production may be achieved.

Harvest Characteristics

The annual harvest of mourning doves in the Clearwater Region is dependent upon the progress of the fall migration. In most years a majority of the migrating doves have passed southward out of the Clearwater Region prior to opening day, influencing hunter opportunity. Regional harvest information on mourning doves since 1985 has varied (Table 10). Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

No trapping, banding, or research of doves has been conducted in the Clearwater Region for several years. Dove management in the Clearwater Region consists of permitting an annual hunting season as liberal as the federal season framework allows and conducting the annual coo counts on routes located within the region. In 1987 the federal season framework reduced the maximum allowable season length to 30 days and maximum daily bag and possession limits to 10 and 20, respectively. Idaho's hunting season regulations since then have reflected those changes.

RABBITS AND HARES

COTTONTAIL RABBIT

There is no reliable measure of cottontail production or population trend in the region, and it is not known what effect weather has on production. Lack of adequate brush for winter cover adjacent to adequate food is probably limiting for cottontails on much of the unforested upland areas in the Clearwater Region.

Harvest Characteristics

Cottontail harvest appears to be well under minimum sustainable levels. Reported harvest in 1995 was 2,518 region-wide. Telephone survey data have not been collected at the regional level since 1995 due to budgetary constraints.

Management Implications

Management direction for cottontail rabbits in the Clearwater Region has been and will continue to be to provide maximum hunter opportunity through liberal seasons and bag limits. Cottontails are lightly hunted, and liberal seasons and regulations apparently do not adversely impact cottontail numbers.

SNOWSHOE HARE

Population Surveys

There is no measure of populations, production, or trends in the region. Hare populations may be cyclic in nature and dependent upon forage availability, disease, and other density-dependent factors. Populations appear scattered and localized, with spruce-fir forest in young age classes as dominant cover in preferred habitat.

Harvest Characteristics

Harvest levels are likely below sustainable levels. Harvest data are not available for 2000; however, harvest levels have probably continued to be relatively insignificant.

Management Implications

Management direction of snowshoe hares in the Clearwater Region has been and will continue to be to provide maximum hunter opportunity through liberal seasons and bag limits. Management direction to promote hare hunting would probably have little effect on hare populations.

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Table 1. Pheasant population characteristics and production in the Clearwater Region, 1991-2000.

Year	N ^a	Brood Routes					N ^a	Average Brood Size
		Routes & Miles Counted	Birds Per Mile	Percent Unsucc. Females	Juv:100 Adult Females			
1991	ND	11 (220)	0.3	13	550	56	6.0	
1992	ND	11 (220)	0.8	41	517	164	5.9	
1993	ND	11 (220)	0.2	33	667	35	5.8	
1994	ND	11 (220)	0.8	13	508	165	6.1	
1995	ND	11 (220)	<0.1	100	0	1	0.0	
1996	ND	11 (220)	0.1	33	100	27	5.5	
1997	ND	11 (220)	0.3	0	771	61	7.7	
1998	ND	11 (220)	0.4	33	456	93	6.1	
1999	ND	11 (220)	0.2	40	385	41	5.4	
2000	ND	11 (220)	0.4	37	321	95	5.1	

^a Sample size.

Table 2. Estimated pheasant harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession Limits	Hunters	Birds	Total Hunter Days	Birds per Hunter Days
1991	3/6	2,170	7,773	12,775	0.6
1992	3/6	2,400	9,644	17,009	0.6
1993	3/6	4,638	15,245	27,892	0.5
1994	3/6	4,533	16,313	25,547	0.6
1995	3/6	3,330	10,235	18,135	0.6
1996-2000 ^a	3/6	ND	ND	ND	ND

^a Telephone survey data at the regional level were not collected after 1995.

Table 3. Estimated quail harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession Limits	Hunters	Birds	Total Hunter Days	Birds per Hunter Days
1991	10/20	903	5,525	5,315	1.0
1992	10/20	1,398	10,092	6,163	1.6
1993	10/20	3,000	21,213	18,121	1.2
1994	10/20	3,203	21,520	18,130	1.2
1995	10/20	2,051	14,358	11,332	1.3
1996-2000 ^a	10/20	ND	ND	ND	ND

^a Telephone survey data at the regional level were not collected after 1995.

Table 4. Estimated forest grouse harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession Limits	Hunters	Birds	Total Hunter Days	Birds per Hunter Days
1991	4/8	4,364	24,127	30,026	0.9
1992	4/8	4,117	16,638	26,851	0.6
1993	4/8	11,782	55,692	89,243	0.6
1994	4/8	14,796	70,255	117,135	0.6
1995	4/8	12,692	54,993	94,736	0.6
1996-2000 ^a	4/8	ND	ND	ND	ND

^a Telephone survey data at the regional level were not collected after 1995.

Table 5. Summary of helicopter surveys of chukars conducted in Management Unit 11, 1991-2000.

Year	Area	Number Birds	Number Groups	Groups/ Sq. Mile	Birds/ Sq. Mile	Birds/ Group
1991	Snake R. breaks	745	84	5.9	53.0	9.0
1991	Salmon R. breaks	1,330	136	11.9	116.5	9.8
1992	Snake R. breaks	867	100	6.2	53.5	9.0
1992	Salmon R. breaks	1,230	155	13.0	103.5	7.9
1993	Snake R. breaks	307	35	2.2	19.0	8.8
1993	Salmon R. breaks	537	90	7.6	45.1	6.0
1994	Snake R. breaks	638	49	3.0	39.4	13.0
1994	Salmon R. breaks	680	91	7.6	57.1	7.5
1995	Snake R. breaks	137	23	1.4	8.5	6.0
1995	Salmon R. breaks	157	47	3.4	13.2	3.3
1996	Snake R. breaks	829	39	2.4	51.2	21.3
1996	Salmon R. breaks	561	51	4.3	47.1	11.0
1997	Snake R. breaks	1,124	82	5.1	69.4	13.7
1997	Salmon R. breaks	544	56	4.7	45.7	9.7
1998	Snake R. breaks	1,159	91	5.6	71.5	12.7
1998	Salmon R. breaks	1,084	108	9.1	91.1	10.0
1999	Snake R. breaks	956	83	5.1	59	12.0
1999	Salmon R. breaks	1,055	88	7.4	89	11.5
2000	Snake R. breaks	481	40	2.5	30	12.0
2000	Salmon R. breaks	756	60	5.0	64	12.6

Table 6. Estimated chukar partridge harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession		Total Hunter Days	Birds per Hunter Days
	Limits	Hunters		
1991	8/16	1,751	6,841	1.4
1992	8/16	1,794	5,208	1.9
1993	8/16	2,628	11,936	1.2
1994	8/16	2,791	13,635	1.3
1995	8/16	2,518	12,266	1.2
1996-2000 ^a	8/16	ND	ND	ND

^a Telephone survey data at the regional level were not collected after 1995.

Table 7. Estimated gray partridge harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession Limits	Hunters	Birds	Total Hunter Days	Birds per Hunter Days
1991	8/16	1,012	6,215	5,661	1.1
1992	8/16	784	3,091	2,954	1.0
1993	8/16	2,505	8,658	13,668	0.6
1994	8/16	2,585	8,803	14,796	0.6
1995	8/16	1,767	6,905	9,281	0.7
1996-2000 ^a	8/16	ND	ND	ND	ND

^a Telephone survey data at the regional level were not collected after 1995.

Table 8. Estimated wild turkey harvest in the Clearwater Region by unit, 1991-2000.

Year	Unit ^a											Total Hunter Days	
	8	8A	10A	11	11A	12	13	14	15	16	18		Total
1991	35	13	59	87	38	-	3	-	-	-	2	237	3,650
1992	21	18	42	37	34	-	5	-	0	0	24	181	3,651
1993	59	88	127	137	39	-	0	-	20	29	10	509	9,491
1994	90	192	372	115	141	-	0	13	0	26	0	949	14,573
1995	57	114	286	100	57	-	0	86	57	57	14	828	15,000
1996	47	116	280	94	91	22	0	35	69	25	0	779	11,000
1997	40	123	385	189	182	13	41	27	51	92	0	1,143	12,813
1998	65	194	444	134	157	42	23	55	0	55	18	1,189	13,160
1999	251	435	1,059	257	278	101	58	28	154	187	14	2,822	24,975
2000 ^b	123	461	822	141	264	22	30	76	76	163	30	2,288	26,205

^a Units having no data were not open to hunting during those years.

^b Fall turkey harvest added to total. Unit of harvest and hunter days was not asked in the fall survey.

Table 9. Turkey transplant history for the Clearwater Region, 1961-2000.

Year	Sub-Species	Release Site Drainage – Unit	Source – Unit	Birds Released			New or Supple. Release
				M	F	Total	
1961	M	Deer Cr-18	Colorado	4	13	17	N
1962	M	Shingle Cr-18	Colorado	3	8	11	N
1963	M	Skookumchuck Cr-14	Colorado	4	7	11	N
1965	M	Webb Cr-11	Shingle Cr-18	2	8	10	N
1966	M	Webb Cr-11	John Day Cr-14	2	0	2	S
1971	M	Potlatch R-8	St. Maries-6	4	11	15	N
1972	M	Potlatch R-8	St. Maries-6	2	0	2	S
1973	M	Potlatch R-8	St. Maries-6	2	0	2	S
	M	Webb Cr-11	St. Maries-6	4	0	4	S
1980	M	Deer Cr-18	South Dakota	3	7	10	S
1982	M	Capt John Cr-11	South Dakota	5	14	19	N
	M	Slate Cr-14	South Dakota	3	9	12	S
	R	Lawyers Cr-11A	Kansas, Texas	7	17	24	N
	R	Cottonwood Cr-11A	Texas	4	8	12	N
	R	Big Canyon Cr-11A	Oklahoma	4	11	15	N
1983	R	Big Canyon Cr-11A	Oklahoma, TX	3	15	18	S
1985	R	Wolf Cr-13	Texas	4	30	34	N
	E	Canyon Cr-10A	Pennsylvania	6	10	16	N
1986	M	Bedrock Cr-8	Hornet Cr-22	4	14	18	N
	M	Pine Cr-8	Hornet Cr-22	4	12	16	N
	R	Deer Cr-11	North Dakota	4	10	14	N
1988	M	Cottonwood Cr-13	Cottonwood B-11	4	21	25	N
	M	Bear Cr-8	Hornet Cr-22	6	23	29	N
	M	Six-Mile Cr-11A	Capt John Cr-11 Hornet Cr-22 Capt John Cr-11	11	18	29	N
1989	M	Lawyers Cr-11A	Woodland-10A	3	15	18	S
1990	M	John Day Cr-14	Big Bear Cr-8	6	10	16	N
	E	Jim Ford Cr-10A	N. Dakota	9	8	17	N
1991	M	John Day Cr-14	Big Bear Cr-8	3	14	17	S
	M	Little Cnyn-11A	Brush Cr-9	10	24	34	N
	M	Big Canyon Cr-11	Dawson Rdge-1	10	25	35	S
	E, R	Upper Fords Cr-10A	N. Dakota	5	35	40	S
	E	Dicks Cr-8A	N. Dakota	4	36	40	N
	M	Slate Cr-14	Cottonwood B.- 11	6	21	27	S
1992	M	Lawyers Cr.-11	Kootenai R.-1	7	21	28	N
	M	Skookumchuck-14	N. Dakota	10	21	31	S
	M	Cottonwood B.-11	N. Dakota	7	10	17	S
1993	M	White bird Cr.-14	Grouse Cr.-1	6	24	30	S
	M	Hamilton Cr.-13	N. Dakota	4	20	24	S
	M	Rock Cr.-11	N. Dakota	3	22	25	N
	M	Orofino Cr.-10A	Big Bear Cr-8	6	20	26	S

Table 9. Continued.

Year	Sub-Species	Release Site Drainage – Unit	Source – Unit	Birds Released			New or Supple. Release
	M	Rock Cr-11	Big Bear Cr.-8	3	0	3	N
	M	Wapshilla Cr.-11	Blue Cr.-3	4	8	12	S
	M	Whiskey Cr.-10A	Grouse Cr.-1	6	6	12	S
	M	Whiskey Cr.-10A	Blue Cr.-3	2	8	10	S
1994	M	Pickle Canyon-11A	Big Bear Cr.-8	5	12	17	N
	M	Pickle Canyon-11A	Little Cnyn-11A	5	0	5	N
	M	Allison Cr-14	Big Bear Cr-8	6	4	10	N
1994	M	Allison Cr.-14	Big Bear Cr.-8	0	11	11	N
	M	Allison Cr.-14	Maas g.-1	0	8	8	N
	M	Allison Cr.-14	Houcks Spur-1	4	0	4	N
	M	Flannigan Cr.-8	Maas g.-1	1	2	3	N
	M	Flannigan Cr.-8	Houcks Spur-1	4	24	28	N
	M	Flannigan Cr.-8	Little Cnyn-11A	4	0	4	N
1995	M	5-Mile Cr.-11A	Big Bear Cr-8	6	0	6	S
	M	Flat Cr.-8	Big Bear Cr.-8	6	0	6	N
	M	Allison C.r-14	Crow Bench-11A	1	18	10	S
	M	Allison Cr.-14	Ctnwood Cr-11A	5	0	5	S
1996	M	Deep Cr.-8	Port Hill, B.C.	12	18	30	N
	M	Boulder Cr.-8	Port Hill, B.C.	3	5	8	S
	M	Eagle Cr.-11	Port Hill, B.C.	6	19	25	N
	M	Grave Cr.-11	Orofino,-10A	1	5	6	N
	M	Deer Cr.-11	Big Bear Cr.-8	10	28	38	N
	M	Blanco Cr.-15	Jacks Cr.-11A	4	6	10	N
1997	M	Squaw Cr.-18	Armiger-10A	8	27	35	N
	M	Castle Cr.-15	Armiger-10A	8	21	29	N
	M	Rice Cr.-13	Panhandle Reg.	10	24	34	N
	M	Nora Cr.-8A	Panhandle Reg.	10	33	43	N
	M	Billy Cr.-11	Crow Bench-10A	10	27	37	N
	M	Ctnwood Cr.-11	Big Bear Cr.-8	8	27	35	N
	M	Dough Cr.-11	Armiger-10A	6	19	25	N
	M	Blanco Cr.-15	Mt. Idaho-15	10	13	23	S
1998	M	MF Payette-33	Packard-8	6	24	30	N
	M	Papoose Cr.-18	Lathrop-10A	6	29	35	N
	M	Allison Ranch-20	Mt. Idaho-15	5	20	25	N
	M	Allison Cr.-14	Duman-11	5	9	14	S
	M	Little Weiser-32W	Duman-11	6	11	17	S
	M	California	Duman, et al-11	6	26	32	NA
1999	M	Schwartz Cr.-15	Bott Ranch-10A	3	21	24	N
	M	Rapid River-23	Busta-10A	12	28	40	N
	M	California	Bott Ranch-10A	3	24	27	NA
2000	M	Rapid River-18	Bott Ranch-10A	4	14	18	S
	M	Rice Cr.-13	Groom, et al-11A	6	28	34	S
	M	Divide Cr.-13	Bott, et al-10A	1	24	25	S
	M	Getta Cr.-13	Gray, et al-10A	8	40	48	S
	M	Big Canyon Cr.-13	Bott, et al-10A	6	14	20	S
	M	Wolf Cr.-13	Duclercque-10A	6	11	17	S

Table 9. Continued.

Year	Sub-Species	Release Site Drainage – Unit	Source – Unit	Birds Released			New or Supple. Release
	M	Hi-Range Cr.-13	Gray, et al-10A	3	20	23	S
	M	Slate Cr.-14	Gray-10A	2	23	25	S
	M	Red River-15	Duclercque-10A	1	22	23	S
	M	Billy Cr.-11	Bott Ranch-10A	1	7	8	S

Table 10. Annual coo count routes and estimated mourning dove harvest in the Clearwater Region obtained from the telephone survey of hunters, 1991-2000.

Year	Bag/Possession Limits	Coo Count Routes		Telephone Survey			
		Routes	# Doves Heard Mile	Hunters	Birds	Total Hunter Days	Birds per Hunter Day
1991	10/20	2	0.1	324	3,971	1,098	3.6
1992	10/20	2	0.1	156	1,151	152	7.6
1993	10/20	2	0.2	773	3,587	3,123	1.1
1994	10/20	2	0.3	1,161	8,765	3,989	2.2
1995	10/20	2	0.1	792	4,062	3,229	1.3
1996 ^a	10/20	2	0.02	ND	ND	ND	ND
1997 ^a	10/20	2	0.15	ND	ND	ND	ND
1998 ^a	10/20	2	0.30	ND	ND	ND	ND
1999 ^a	10/20	2	0.15	ND	ND	ND	ND
2000 ^a	10/20	2	0.15	ND	ND	ND	ND

^a Route 1150 not surveyed.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>3</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME – SOUTHWEST REGION

PHEASANT

Population Surveys

No winter sex ratio counts were conducted during December 2000 or January 2001.

The average young per brood in 2000, based on brood survey routes, was 7.4. This was greater than the 4.8 young/brood counted during the previous 3 years (1997-1999), and greater than the previous 5-year average of 5.0. The 0.5 birds observed per mile was slightly less than observed in 1999 (0.6), and slightly less than the 5-year average (0.6 birds per mile)(Table 1).

Harvest Characteristics

Telephone Survey

There are no regional pheasant harvest estimates for 2000. From 1991 to 1995 hunter numbers averaged 16,000 and the harvest averaged 67,300 birds for the Southwest Region (Table 2).

Check Stations

Two check stations were operated in the Southwest Region to monitor pheasant hunting success. They were located at Star and Freezeout Hill. Total hunters checked increased from 197 in 1999 to 357 in 2000. The number of birds checked increased from 92 birds in 1999 to 135 birds in 2000. Birds per hunter day dropped to 0.4 and the hours per bird increased to 7.1 (Table 2).

Climatic Conditions

The 2000 spring weather conditions were mild and favorable for nesting.

Habitat Conditions

Long-term population trends are down, primarily due to major changes in farming practices and development of agricultural lands. In Canyon and Owyhee counties, farmers are not raising high-moisture corn that is normally harvested in late fall. Fall plowing of all fields has become the normal operating procedure, thereby limiting winter food and cover for pheasants. These practices have not become common in Gem County, which has the highest densities of fall pheasants. If this trend in farming practices continues, we can expect further reductions in long-term populations.

Depredations

Pheasant depredations occur every spring on wheat, barley, and corn. Sweet corn is the major problem. Cracker shells and M99s are provided to landowners to alleviate the problem.

Release Pen-reared

Adult roosters were purchased from a contractor and released on Department lands in the Southwest Region. A total of 8,087 pheasants were released on Fort Boise Wildlife Management Area (WMA), C. J. Strike WMA, Payette River WMA, and Montour WMA during the season. These birds added significantly to hunter opportunity on these four heavily-hunted public management areas.

Management Implications

Pheasant populations are largely dependent upon winter habitats, nesting habitats, and spring weather conditions during nesting and brood-rearing time. Habitat quality and quantity needs to be improved to moderate the effect of weather conditions. Uncontrollable weather factors and predation will be the major influence on recruitment of birds into the fall populations until habitat conditions improve.

The Southwest Region has seen significant decreases in the wintering habitat due to changes in farming practices and development of agricultural lands into home sites. The probability that populations will decrease is high, since any added mortality factors will cause further declines in pheasant numbers.

Summary

Pheasant populations continue to decline with the loss of habitat. Associated with the decline in pheasant population, the number of hunters and harvest is down.

QUAIL

BOBWHITE AND CALIFORNIA QUAIL

Population Surveys

No brood surveys were run during 2000.

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000. From 1991 to 1995, an average of 7,000 hunters harvested about 70,000 quail each year (Table 3).

Check Stations

A few birds are checked incidental to other activities. No check stations are run specifically for quail.

Climatic Conditions

See Pheasant section.

Management Implications

California quail populations are fairly stable over the long term but experience short-term population fluctuations, depending upon the severity of winter weather and the amount of cold, wet weather during the nesting season. Populations are currently in good condition.

Summary

Quail populations are at a stable level in the Southwest Region. Harvest has remained stable over the last several years.

FOREST GROUSE

Population Surveys

Drumming counts or other spring population indices were not conducted in the region during the last reporting period.

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000. From 1991 to 1995, forest grouse harvest averaged 44,000 birds taken by 6,000 hunters annually (Table 4).

Check Stations

No management check stations were run. Seventeen wing barrels were operated to check forest grouse hunters during the reporting period in Units 32, 33, 35, and 39 (Table 5).

Climatic Conditions

See Pheasant section.

Management Implications

Forest grouse populations are dependent on good nesting and brood-rearing conditions. There is concern that insect damage to evergreen species may have a negative impact on blue grouse populations. Our goals, as listed in the species management plan, are to increase hunter opportunity and harvest. Seasons have been extended at the beginning and the end of the seasons, which should increase the total harvest by a small amount. We have emphasized good forest grouse habitat management procedures to the Bureau of Land Management (BLM) and the US Forest Service when reviewing timber sales and livestock management plans.

Summary

Harvest and hunter numbers have been highly variable during the last five years.

SAGE GROUSE

Population Surveys

No sage grouse brood routes were conducted in the Southwest Region in 2000. Thirty-nine leks were monitored in the Region during March–May 2001. An estimated 405 sage grouse were observed on 33 leks.

Harvest Characteristics

Telephone Survey

An estimated 997 hunters pursued sage grouse in the Southwest Region for an estimated 1,848 days in 2000, and harvested an estimated 1,067 birds. From 1991 to 1995 the sage grouse harvest averaged 2,200 sage grouse by 4,300 hunters (Table 6).

Check Stations

Check stations were operated 2 weekends at Bruneau, Marsing, Mud Flat, and Walters Ferry during the 2000 season. The total number of birds checked was 312. Significantly more birds were checked this year than previous years (21 in 1999 and 23 in 1998) as a result of greater monitoring efforts. The number of birds per hunter decreased slightly, and there was an increase in the hours of effort required to harvest a bird (Table 6).

Sage grouse wings were collected for age analysis at check stations and wing barrels (Table 7).

Climatic Conditions

See Pheasant section.

Management Implications

Sage grouse populations are largely dependent upon spring weather conditions during nesting and brood rearing. Recruitment of birds into the fall populations will be governed by uncontrollable weather factors until habitat quality and quantity is improved to moderate the effect of weather conditions.

Regional personnel have worked closely with the BLM to reduce impacts of present and proposed land management practices on sage grouse habitat. We have reviewed all major projects on sage grouse habitat and have encouraged the BLM to use the Sage Grouse Habitat Management Guidelines in their planning process.

Summary

All survey information indicates that sage grouse populations are stable.

SHARP-TAILED GROUSE

Population Surveys

No sharp-tailed grouse dancing grounds or broods routes were censused by regional personnel in 2000.

Trends in sharp-tailed grouse populations are unknown in the Southwest Region. Washington County dancing grounds are monitored by BLM personnel and indicate a stable number of birds attending leks in recent years.

Climatic Condition

See Pheasant section.

Habitat Conditions

Due to habitat loss sharp-tailed grouse populations in the Southwest Region have been reduced to remnant flocks in Washington, Adams, and Payette counties. Research on sharp-tailed grouse distribution, habitat use, and population size in Washington County was completed by the Department and the BLM in 1985.

Management Implications

The Southwest Region has encouraged land management agencies to protect sharp-tailed grouse habitat when planning land management activities. In addition the region has entered into a cooperative agreement with the BLM and The Nature Conservancy to manage sharp-tailed grouse populations and habitat in Washington County. An area of critical habitat for sharp-tailed grouse comprised of approximately 7,000 acres of BLM and The Nature Conservancy lands will be managed for sharp-tailed grouse by the cooperators.

The Department will provide increased enforcement patrols and take over monitoring of sharp-tailed grouse dancing grounds on the Hixon Sharp-tailed Grouse Preserve, and additional leks in other portions of the region will be surveyed for possible inclusion into the monitoring program.

Populations are far below long-term levels due to habitat losses. The sharp-tailed grouse have increased because of Conservation Reserve Program improvements to habitat and good climatic conditions. It is not likely that populations will reach harvestable levels during this planning period.

Summary

Sharp-tailed grouse populations are remaining stable, but are in a very threatened position. Significant increases in occupied habitat need to be accomplished before these populations will be safe.

CHUKAR PARTRIDGE

Population Surveys

Helicopter aerial surveys have been conducted in late August or early September along a portion of Brownlee and Lucky Peak Reservoir since 1984 to monitor chukar population trends (Tables 8 and 9). A survey area on the Bruneau River was conducted for one year in 1997. The number of birds observed during the 2000 surveys was larger than observed in 1999 on Brownlee Reservoir and Lucky Peak Reservoirs. Chukar counts are above the 10-year average (Tables 8 and 9). No aerial surveys have been conducted on the lower Bruneau River since 1997 (Table 10).

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000. From 1991 to 1995 the chukar harvest averaged 50,000 by 8,000 hunters (Table 11).

Check Stations

A few birds are checked incidental to other activities.

Climatic Conditions

See Pheasant section.

Management Implications

Chukar populations are largely dependent upon spring weather conditions during nesting and brood rearing. Recruitment of birds into the fall populations will be governed by uncontrollable weather factors until habitat quantity and quality is improved to moderate the effect of weather conditions.

Summary

The chukar population is below its historic highs observed in 1987. However, there is an increasing trend observed over the past four years.

GRAY PARTRIDGE

Population Surveys

No trend surveys are conducted for gray partridge in the Southwest Region.

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000. From 1991 to 1995 the gray partridge harvest averaged 11,000 birds by 5,000 hunters (Table 12).

Check Stations

A few birds are checked incidental to other activities.

Climatic Conditions

See Pheasant section.

Management Implications

Gray partridge populations are largely dependent upon spring weather conditions during nesting and brood rearing. Recruitment of birds into the fall populations will be governed by uncontrollable weather factors until habitat quantity and quality is improved to moderate the effect of weather conditions.

Summary

The gray partridge population is well below its historic highs, but the basic core population is still present. The habitat needs to be improved and the amount of high quality habitat needs to be increased.

WILD TURKEY

Population Surveys

No trend surveys are in place to monitor turkey populations (Merriam's or Rio Grande).

Harvest Characteristics

Telephone Survey

One controlled hunt was held for turkey in the Southwest Region in 2000. The general harvest estimates remained stable in 2000 (Table 13).

Check Stations

No check stations are run during the turkey season.

Climatic Conditions

The winter of 2000-2001 was relatively mild. There were few periods of extended snow cover, which did not impact the turkeys.

Trapping and Transplanting

Twenty-seven turkeys were transplanted from the Southwest Region to the Upper Snake Region in 2001 (Table 14).

Management Implications

Regional personnel have supported enhancement of turkey habitat by plantings of food plots specifically for wild turkey on Forest Service lands. Additionally, Regional personnel have provided input into land use plans on the importance of turkey habitat, and by habitat improvement projects on Department-owned lands.

Turkey depredation complaints were received from several subdivisions near Boise. The increasing turkey populations are damaging gardens, power lines, and specialty crops, and fouling wintering concentration areas. A combination of trapping and transplanting plus attracting to new feeding areas has helped alleviate some of the problems.

Turkey numbers have increased, and in some areas of the Region they are dependent upon supplemental feed to survive the winter. During the winters of 1999-2000 and 2000-2001, Department personnel distributed approximately 40 tons of donated grain to sustain these turkeys.

Summary

Wild turkey numbers continue to increase in the Southwest Region.

MOURNING DOVE

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000. From 1991 to 1995, the dove harvest averaged 46,000 birds by 4,500 hunters (Table 15).

Climatic Conditions

The 2000 spring weather conditions appeared favorable for nesting.

RABBITS AND HARES

Population Surveys

No surveys or other efforts are made to estimate rabbit and hare populations in the Southwest Region.

Harvest Characteristics

Telephone Survey

There are no regional harvest estimates for 2000.

Check Stations

No check stations were run to obtain information on rabbit and hare harvest.

Climatic Conditions

The 2000 spring weather conditions appeared favorable for production of rabbits and hares.

Management Implications

Hunting has little, if any, effect on populations. Seasons have been set with liberal bag limits and season lengths. No active data collection programs exist for rabbit or hare production or population estimates.

The harvest of rabbits and hares is very small and has no impact on the populations.

CROWS

Population Surveys

No surveys are run for crows.

Climatic Conditions

The 2000 spring weather conditions appeared to have no adverse effect on nesting.

Management Implications

This species receives no active management.

Table 1. Pheasant population characteristics and production in Southwest Region, 1980-2000.

Year	Winter Sex Ratio ^a	Brood Routes						Average Brood Size
		N ^b	Routes/ Miles Counted	Birds Per Mile	Percent Unsucc. Females	Juv.:100 Adult Females	N ^b	
1980	2.5	3,563	404	3.6	3	481	1,483	0.5
1981	2.1	4,172	402	4.4	7	427	1,799	5.4
1982	3.0	11,971	430	2.1	134	304	905	4.4
1983	2.5	3,564	298	3.1	15	383	941	4.6
1984	2.3	7,622	310	1.8	17	437	555	4.5
1985	2.0	3,217	278	2.8	16	653	784	7.7
1986	2.5	2,814	176	3.2	10	475	570	5.3
1987	3.2	2,426	178	2.7	13	415	446	4.8
1988	2.8	1,661	161	2.0	12	414	315	4.5
1989	ND	ND	176	2.0	2	497	414	4.9
1990	2.7	1,147	192	2.5	8	516	485	5.2
1991	ND	ND	600	0.7	34	505	397	4.0
1992	ND	ND	660	0.9	29	527	610	5.3
1993	ND	ND	580	0.3	39	611	200	6.1
1994	ND	ND	580	1.6	24	481	959	6.9
1995	ND	ND	480	0.5	40	398	246	4.5
1996	ND	ND	260	0.8	17	624	215	6.2
1997	ND	ND	660	0.4	25	360	290	4.8
1998	ND	ND	640	0.6	25	358	371	4.8
1999	ND	ND	540	0.6	17	396	315	4.8
2000	ND	ND	540	0.5	22	575	246	7.4

^a Hens per cock.

^b Sample size.

Table 2. Pheasant harvest data in Southwest Region obtained from check stations and the telephone survey, 1980-2000.

Year	Check Station				Phone Survey		
	Hunters	Birds	Birds/ Hunter	Hours/ Bird	Hunters	Birds	Birds/Day
1980	2,457	2,239	0.9	3.7	--	--	--
1981	2,751	2,054	0.8	4.1	--	--	--
1982	1,860	1,147	0.6	5.5	--	--	--
1983	2,054	1,963	1.0	3.5	31,946	155,604	0.9
1984	1,723	1,342	0.8	4.6	28,979	132,487	0.8
1985	1,324	1,051	0.8	4.0	27,231	142,867	0.8
1986	1,718	1,412	0.8	4.1	25,218	119,326	0.8
1987	1,696	1,143	0.7	5.6	23,047	103,728	0.8
1988	1,245	569	0.5	7.0	17,016	64,302	0.7
1989	845	515	0.6	5.1	15,983	64,059	0.7
1990	962	739	0.8	4.2	16,309	74,302	0.7
1991	880	546	0.6	5.3	16,073	61,248	0.6
1992	693	488	0.7	4.5	15,800	68,600	0.7
1993	250	114	0.4	7.0	15,700	68,200	0.6
1994	198	128	0.6	4.7	12,600	57,100	0.7
1995	293	576	0.6	3.1	16,000	70,300	0.6
1996	156	471	0.7	4.5	--	--	--
1997	258	109	0.4	8.1	--	--	--
1998	143	86	0.6	5.3	--	--	--
1999	197	92	0.5	6.0	--	--	--
2000	357	135	0.4	7.1	--	--	--

Table 3. Quail population trends and harvest in Southwest Region, 1985-2000^a.

Year	Brood Routes		Telephone Survey		
	Routes/Miles Counted	Birds/Mile	Hunters	Birds	Birds/ Hunter Days
1985			4,854	37,776	1.2
1986			4,123	26,234	1.5
1987			3,677	27,476	1.2
1988			4,536	43,549	1.6
1989			4,523	47,418	1.8
1990			4,857	46,097	1.9
1991	600	1.5	5,478	58,352	1.7
1992	620	0.6	5,400	71,100	2.1
1993	580	0.3	10,400	86,100	1.3
1994	560	1.2	8,500	86,500	1.7
1995	480	0.9	11,500	143,800	1.8
1996	260	2.2	--	--	--
1997	660	1.0	--	--	--
1998	640	1.0	--	--	--
1999	540	2.1	--	--	--
2000	540	2.0	--	--	--

^a Almost entirely California quail.

Table 4. Forest grouse hunter success in Southwest Region obtained from the telephone survey, 1985-1995.

Year	Hunters	Birds	Birds/Day
1985	3,524	12,441	0.8
1986	3,641	17,049	1.2
1987	4,145	18,406	1.1
1988	4,207	18,843	0.9
1989	4,846	25,699	1.0
1990	2,637	10,605	1.1
1991	2,365	10,636	1.0
1992	5,100	17,800	0.9
1993	10,400	30,100	2.9
1994	9,000	31,700	0.6
1995	13,500	43,800	0.6

Table 5. Forest grouse production in Southwest Region based on wing collection, 1988-2000.

Year	Blue Grouse			Ruffed Grouse		
	N	Juv.:100 Adult Females	Juv.:100 Adults	Percent Unsuccessful Females	N	Juv.:100 Adults
1988		52	120	ND	36	100
1989		61	239	ND	34	105
1990		126	107	ND	24	60
1991		106	74	ND	16	300
1992-2000		ND	ND	ND	ND	ND

Table 6. Sage grouse hunter success and harvest in Southwest Region obtained from check stations and the telephone survey, 1980-2000.

Year	Bag & Possession Limit	Check Station				Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day ^a	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1980	2/2	505	441	0.9	6.7	--	--	--
1981	2/2	464	606	1.3	3.5	--	--	--
1982	2/2	359	236	0.6	9.2	--	--	--
1983	1/1	108	37	0.3	14.9	2,912	2,713	0.4
1984	1/1	47	31	0.7	5.2	504	901	0.6
1985	2/2	161	110	0.7	6.5	1,319	2,718	0.6
1986	2/4	245	330	1.3	4.3	608	1,253	0.6
1987	2/4	219	315	1.1	4.9	837	1,567	1.1
1988	2/4	329	284	0.9	5.7	1,830	4,532	0.7
1989	2/4	228	222	1.0	5.4	1,035	2,049	1.1
1990 ^b	3/6	476	883	1.9	3.3	1,217	4,320	1.5
1991	3/6	476	498	1.1	5.3	1,584	4,292	0.6
1992	3/6	599	412	0.7	7.7	1,500	4,200	0.7
1993 ^c	3/6	74	58	0.8	6.3	3,200	11,100	1.9
1994 ^c	3/6	99	109	1.1	3.8	3,400	6,400	0.6
1995 ^c	3/6	71	62	0.9	4.2	4,300	6,700	0.5
1996 ^c	^d 2/4	44	29	0.7	6.0	--	--	--
1997 ^c	^d 2/4	34	36	1.0	3.7	--	--	--
1998 ^c	^d 2/4	23	23	1.0	3.8	--	--	--
1999 ^c	^d 2/4	21	18	1.0	4.4	--	--	--
2000	^d 2/4	365	312	0.9	6.5	997	1,848	0.6

^a Total birds checked over total hunters.

^b Walters Ferry and Bruneau check station open on weekends.

^c Bruneau check station open on opening day only.

^d Part of area was a 1/2 sage grouse bag/possession limit.

Table 7. Sage grouse production in Southwest Region based on wing collections, 1980-2000.

Year	Juv.:100 Females	Juv.:100 Adults	Percent Unsuccessful Females
1980	106	62	65
1981	111	61	26
1982	83	57	59
1983	332	225	33
1984	145	111	40
1985	150	101	48
1986	195	133	29
1987	198	124	29
1988	165	109	35
1989	277	163	26
1990	211	153	20
1991	108	66	78
1992	83	56	84
1993	197	129	53
1994	277	207	69
1995	145	98	46
1996	185	107	51
1997	123	78	54
1998	130	101	75
1999	300	192	56
2000	127	85	67
Previous 5-yr mean	177	115	56
Change from last year	-58%	-56%	20%
Change from previous 5-yr average	-28%	-26%	20%

Table 8. Chukar aerial survey results along Brownlee Reservoir in the Southwest Region. The survey area is 12 square miles. The surveys are conducted in a Hiller 12E helicopter.

Year	Chukars Observed	Chukar Groups	Groups per Square Mile	Chukars per Square Mile	Chukars per Group
1984	597	45	3.8	49.8	13.3
1985	872	62	5.2	72.7	14.1
1986	1686	94	7.8	140.5	17.9
1987	2,652	115	9.6	221.0	23.1
1988			No Counts		
1989	643	57	4.8	54.1	11.4
1990	1,313	77	6.4	109.4	17.1
1991	1,621	103	8.6	135.1	15.7
1992	930	89	7.4	77.5	10.5
1993	211	24	2.0	17.6	8.8
1994	1,056	65	5.4	88.0	16.2
1995	952	88	7.3	79.3	10.8
1996	949	90	7.5	79.1	10.5
1997	881	79	6.6	73.4	11.2
1998	1,131	125	10.4	109.3	10.5
1999	1,330	101	8.4	110.8	13.2
2000	1,488	104	8.7	124.0	14.3

10-year average is 89 chukars per square mile. 2000 is a 44% increase over average and a 13% increase from 1999.

Table 9. Chukar aerial survey results on Lucky Peak Reservoir in the Southwest Region. The survey area is 10 square miles. The surveys are conducted in a Hiller 12E helicopter.

Year	Chukars Observed	Chukar Groups	Groups per Square Mile	Chukars per Square Mile	Chukars per Group
1984	84	10	1.1	7.6	8.4
1985	132	10	1.2	11.0	13.2
1986	144	15	1.0	9.6	9.6
1987	409	33	3.3	40.9	12.4
1988			No Counts		
1989			No Counts		
1990			No Counts		
1991	115	18	1.1	7.2	6.4
1992			No Counts		
1993	84	10	1.2	7.1	7.4
1994	190	13	1.5	19.0	14.6
1995	212	18	1.8	21.2	11.8
1996			No Counts		
1997	314	29	2.9	31.4	10.8
1998	193	26	2.6	19.3	7.4
1999			No Counts		
2000	241	21	2.1	24.1	11.5

10-year average is 19 chukars per square mile.

Table 10. Chukar aerial survey results on the lower Bruneau River in the Southwest Region. The survey area is 10 square miles. The surveys are conducted in a Hiller 12E helicopter.

Year	Chukars Observed	Chukar Groups	Groups per Square Mile	Chukars per Square Mile	Chukars per Group
1997	196	23	2.3	19.6	8.5
1998			No Counts		
1999			No Counts		
2000			No Counts		

Table 11. Chukar hunter success and harvest in Southwest Region obtained from check stations and the telephone survey, 1985-2000.

Year	Bag and Possession Limit	Hunters	Check Station			Telephone Survey		
			Birds	Birds Per Hunter Day ^a	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1985	5/10	354	177	0.50	9.2	3,987	14,895	0.7
1986	8/16	402	238	1.18	6.3	6,505	46,299	1.9
1987	8/16	327	164	0.51	4.5	7,995	70,379	1.6
1988	8/16	316	168	0.53	11.5	6,957	49,687	1.7
1989	8/16	170	121	0.71	6.9	5,937	42,003	1.4
1990 ^b	8/16	257	420	1.60	2.4	5,793	49,954	1.9
1991	8/16	164	111	0.70	6.6	7,150	52,750	1.6
1992	8/16	136	72	0.05	10.0	6,300	28,900	1.1
1993	8/16	5	2	0.4	7.5	8,500	48,100	5.1
1994	8/16	14	17	1.2	4.6	7,500	59,400	1.6
1995	8/16	7	9	1.3	2.9	10,700	96,700	1.5
1996	8/16	24	15	2.1	2.0	--	--	--
1997	8/16	9	15	1.7	2.4	--	--	--
1998	8/16	4	0	--	--	--	--	--
1999	8/16	5	0	--	--	--	--	--
2000	8/16	374	271	0.7	7.0	--	--	--

^a Total birds checked over total hunter days.

^b Opening weekend harvest data only.

Table 12. Gray partridge production on routes and hunter success from the telephone survey in Southwest Region, 1985-2000.

Year	Routes/ Miles Counted	Production			Telephone Survey		
		Birds Per Mile	N (Birds Counted)	Average Brood Size	Hunters	Birds	Birds Per Hunter Day
1985					1,508	5,566	0.8
1986					1,610	6,645	0.7
1987					2,165	10,906	0.7
1988					1,809	11,951	1.1
1989					946	2,062	0.6
1990					1,835	9,648	1.0
1991	600	0.1	70	ND	2,478	12,804	0.9
1992	660	0.1	55	ND	1,800	6,600	0.9
1993	580	0.1	29	ND	4,900	12,700	2.6
1994	560	0.1	20	ND	4,300	11,000	0.4
1995	580	0.1	43	ND	5,800	19,100	0.6
1996	260	0.1	9	ND	--	--	--
1997	660	0.1	67	ND	--	--	--
1998	640	0.1	42	ND	--	--	--
1999	540	0.2	125	ND	--	--	--
2000	540	0.2	96	ND	--	--	--

Table 13. Turkey harvest in Southwest Region, 1985-2000.

Hunt	Number of Hunts	Permits Available	Hunters	Birds Taken	Days Per Bird	Total Days Hunted
1985						
Controlled	4	20	20	7	7	51
General			158	18	22	404
1986						
Controlled	6	30	30	12	ND	ND
General			228	58	12	700
1987						
Controlled	6	30	30	12	7	85
General			352	78	14	1,119
1988						
Controlled	4	22	22	ND	ND	ND
General			518	72	24	1,757
1989						
Controlled	4	22	22	7	ND	ND
General			280	39	27	1,079
1990						
Controlled	2	10	9	0		42
General			270	33		838
1991						
Controlled	2	10	9	4	ND	28
General			596	61	26	1,587
1992						
Controlled	None					
General			736	93	24	2,200
1993						
Controlled	None					
General			1,491	235	20	4,784
1994						
Controlled	None					
General			1,730	269	20	5,396
1995						
Controlled	None					
General			2,671	385	22	8,428

Table 13. Continued.

Hunt	Number of Hunts	Permits Available	Hunters	Birds Taken	Days Per Bird	Total Days Hunted
1996						
Controlled	1	15	13	10	9	92
General			2,682	494	19	9,397
1997						
Controlled	1	15	10	8	12	92
General			3,064	610	13	8,164
1998						
Controlled	1	30	24	11	10	114
General			3,420	700	14	10,100
1999						
Controlled	1	75	75	38	6	217
General			5,300	1,280	14	18,424
2000						
Controlled	1	75	75	32	10	318
General			6,401	1,276	15	19,555

Table 14. Turkey transplant history for Southwest Region, 1966-2000.

Year	Subspecies ^a	Release Site	Number Birds Released	New or Supplemental Release
1966	M	SF Boise River (Unit 39)	12	New
1967	M	Wildhorse River (Unit 22)	19	New
1970	M	Payette River-Banks (Unit 32)	14	New
1979	M	Pine Creek (Unit 31)	5	New
1982	R	Fort Boise WMA (Unit 38)	24	New
1982	M	SF Salmon River (Unit 25)	18	New
1982	M	Payette River-Banks (Unit 32)	15	Supplemental
1982	M	Hornet Creek (Unit 22)	4	Supplemental
1982	M	Fruitvale (Unit 22)	1	Supplemental
1982	R	Kennedy WMA (Unit 38)	16	New
1982	R	Goodrich Creek (Unit 22)	19	New
1983	M	SF Boise River (Unit 39)	15	Supplemental
1983	M	MF Boise River (Unit 39)	15	New
1983	M	Cottonwood Creek (Unit 39)	14	New
1984	R	Boulder Creek (Unit 40)	27	New
1985	R	Boulder Creek (Unit 40)	2	Supplemental
1986	M	Dead Dog Creek (Unit 39)	17	New
1986	R	C. J. Strike WMA (Unit 40)	14	New
1987	M	Porter Creek (Unit 39)	10	New
1987	M	Harris Creek (Unit 39)	10	New
1988	M	Harris Creek (Unit 39)	10	Supplemental
1988	M	Porter Creek (Unit 39)	7	Supplemental
1988	M	Eagleson Summit (Unit 39)	11	New
1989	R	Boise River-Caldwell (Unit 38)	14	New
1990	M	Cottonwood Creek (Unit 31)	25	New
1990	M	Dukes Creek (Unit 22)	28	New
1990	M	Indian Creek (Unit 22)	28	New
1990	M	WF Brownlee Creek (Unit 31)	28	New
1990	M	Hornet Creek (Unit 22)	13	Supplemental
1990	M	Stack Rock (Unit 39)	20	New
1993	M	Robie Creek (Unit 39)	22	Supplemental
1993	M	Thorn Creek (Unit 39)	24	New
1993	M	Wilderness Ranch (Unit 39)	29	Supplemental
1993	M	Corral Creek (Unit 39)	25	New
1993	M	Ola (Unit 32A)	22	New
1993	M	Squaw Creek (Unit 32A)	46	New
1993	M	Sturgill Creek (Unit 31)	37	New
1993	R	Payette River (Unit 32)	5	Supplemental
1993	R	Boise River (Unit 38)	26	New
1993	R	Boise River (Unit 38)	27	New
1994	R	Boise River (Unit 38)	24	New
1994	R	Boise River (Unit 38)	29	New

Table 14. Continued.

Year	Subspecies ^a	Release Site	Number Birds Released	New or Supplemental Release
1994	M	Ola (Unit 32)	22	Supplemental
1994	M	Squaw Creek (Unit 32)	24	Supplemental
1995	M	Alder Creek (Unit 33)	27	New
1995	M	MF Payette River (Unit 33)	30	New
1996	R	Payette River WMA (Unit 38)	20	New
1997	R	Payette River WMA (Unit 32)	18	New
1997	R	Payette River WMA (Unit 32)	17	New
1997	M	Bunch Creek (Unit 33)	18	New
1997	M	MF Payette River (Unit 33)	33	Supplemental
1997	M	Keithly Creek (Unit 31)	27	New
1997	M	Dennett Creek (Unit 33)	27	New
1998	M	Little Weiser River (Unit 32)	17	New
1998	M	Mann Creek (Unit 31)	19	Supplemental
1998	M	SF Boise River (Unit 39)	17	Supplemental
1998	R	Payette River WMA (Unit 32)	17	New
1998	R	Payette River WMA (Unit 32)	20	Supplemental
1999	R	Letha (Unit 32)	24	New
1999	R	Payette River (Unit 32)	26	New
1999	M	SF Boise River (Unit 39)	17	Supplemental
2000	M	Archer – Snake River (Unit 64)	27	New

^a E - Eastern; M - Merriam's; R - Rio Grande.

Table 15. Mourning dove population trends and harvest in Southwest Region, 1985-2000.

Year	Brood Routes		Telephone Survey		
	Routes/Miles Counted	Birds/Mile	Hunters	Birds	Birds/ Hunter Days
1985			4,326	44,746	2.6
1986			3,226	29,434	2.3
1987			2,635	26,675	2.5
1988			1,878	19,390	2.1
1989			2,490	19,295	2.0
1990			2,578	30,910	3.1
1991	600	4.5	2,410	25,733	2.4
1992	660	1.5	3,200	29,900	2.0
1993	580	0.3	7,100	73,200	2.1
1994	560	4.6	6,100	70,700	2.4
1995	480	2.2	7,200	66,100	2.3
1996	260	2.3	--	--	--
1997	660	2.2	--	--	--
1998	640	1.6	--	--	--
1999	540	3.9	--	--	--
2000	540	3.3	--	--	--

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>4</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME –MAGIC VALLEY REGION

PHEASANT

Abstract

Alfalfa harvest in May and early June contributed to poor pheasant nest success. August roadside surveys yielded 0.20 pheasants/mile (PPM) in 2000, down from 1999 and lower than the 1990-1999 mean of 0.32 PPM. Harvest data for the 2000 season is unavailable for the region. In the long-term, pheasant populations are expected to remain low given current farming practices. Occasional short-term increases will occur during years when the first alfalfa harvest is delayed by rain, allowing increased nesting success.

Population Surveys

Brood Routes

August roadside surveys are used to monitor pheasant population trends and forecast hunting seasons. Using data from 1976-1996, the number of pheasants observed per mile (PPM) is strongly and significantly correlated ($r = 0.90$, $df = 19$, $P < .001$) with harvest estimated from the telephone survey.

The 2000 PPM index of 0.20 was down from 0.27 in 1999 and was lower than the 1990-1999 mean of 0.32 PPM (Table 1). Alfalfa harvest began in mid-May in the western portion of the region and proceeded uninterrupted by precipitation, resulting in poor nest success for pheasants.

Roadside survey data typically reflect higher pheasant densities in the western portion of the Magic Valley Region than the eastern portion. From 1991-2000, the PPM index averaged 0.38 in Jerome; west Twin Falls; and west Lincoln, Gooding, and Elmore counties and 0.15 in Minidoka, Cassia, east Twin Falls, and east Lincoln counties.

October Age Ratios

No data were collected.

Hatching Chronology

No wings were collected from hunter-harvested pheasants in 2000 to allow estimation of hatching chronology.

Winter Sex Ratios

No sex ratio data were collected during the reporting period. The average ratio of hens to cocks observed during winter has increased from 3.1 hens/cock in 1975-1984 to 2.1 hens/cock in 1985-1999, reflecting a decrease in pheasant hunting pressure (Table 1).

Harvest Characteristics

Telephone Survey

No data are available (Table 2).

Check Stations

The check station traditionally operated at Bellevue was discontinued in 1998 (Table 2).

Research

Pheasant research has been ongoing in the region since 1990. Research results are presented in a separate report. Regional involvement with research was limited to assistance with banding and releases.

Management Implications

Pheasant populations in the Magic Valley declined dramatically during the early to mid-1980s following a series of severe winters. Pheasant numbers have remained depressed because of a shortage of winter habitat and lack of undisturbed nesting cover. Current farming practices are not compatible with supporting the higher density of pheasants that occurred in the Magic Valley during the 1950s and 1960s. The widespread use of sprinkler irrigation has resulted in larger field sizes, less linear habitat (fence rows and ditches), and fewer uncultivated weedy areas, reducing the quality and quantity of winter and nesting habitat. In addition, the number of acres of farmland planted to alfalfa has increased to support the needs of the area's growing dairy industry. The increase in alfalfa acres has had negative effects on pheasants because alfalfa is harvested earlier (mid- to late May instead of early June) and more frequently (4-5 cuttings instead of 3) now than it was 15 years ago. The result is that fewer pheasants can nest successfully in alfalfa, which is usually the best nesting cover available.

In the long term, the status of pheasant populations will be closely related to agricultural practices and their effect on habitat. The current trend in intensive clean farming practices is expected to continue and further declines in pheasant habitat quantity and quality will follow. The Magic Valley Region will continue to give priority to habitat improvement (HIP, Pheasant's Forever, BLM/IDFG Cooperative Wildlife Program) in pheasant recovery efforts. Providing adequate nesting habitat is currently viewed as the weak link in our habitat recovery efforts.

QUAIL

Abstract

No population surveys were conducted and no telephone survey harvest data were collected on quail populations. The number of quail harvested per 100 hunters interviewed at check stations increased in 1999 and 2000 after declining to low levels in 1997 and 1998.

Population Surveys

Only 7 of the August 28 survey routes sample quail habitat, resulting in poor predictive capabilities from survey data (Table 3).

Harvest Characteristics

Telephone Survey

There are no data available (Table 3).

Check Stations

The index of quail harvested per 100 hunters interviewed at check stations increased in 1999 and 2000 after declining to low levels in 1997 and 1998 (Table 4).

Transplants, Special Projects

Thirty-eight California quail, captured in southwestern Idaho, were released at the Big Cottonwood Wildlife Management Area (WMA) in January 1996 in an attempt to reestablish a quail population there. No releases have been made since then. A fall population of approximately 50 quail has been observed annually on the WMA since the initial release. Additional quail releases are planned for the future.

Management Implications

California quail in the Magic Valley Region are associated primarily with the Snake River and its tributaries west of U. S. Highway 93. Opportunities to enhance habitat will be pursued through HIP, and through riparian improvement opportunities with BLM, whenever possible.

Increased residential development along the Snake River is a serious threat to quail habitat. Increased attention to zoning and development plans may help slow the loss of habitat.

FOREST GROUSE

Abstract

No population surveys were conducted and no telephone survey harvest data were collected for the 2000-2001 reporting period. At opening weekend sage grouse check stations, the number of blue grouse checked remained high and was only slightly lower than 1999.

Population Surveys

No surveys were conducted during the 2000-2001 reporting period. A small sample of wings (N = 27), collected at check stations, indicated a ratio of 2.86 young/adult.

Harvest Characteristics

Telephone Survey

There are no data available (Table 5).

Check Stations

At 2000 check stations, only a small number of ruffed grouse were checked from Unit 54. The number of blue grouse checked in 2000 remained high and was only slightly lower than in 1999 (Table 4).

Management Implications

Blue and ruffed grouse harvest will be monitored at sage grouse and big game check stations. Ruffed grouse drumming routes, established in Unit 54 to monitor status of the introduced grouse population, have been discontinued.

SAGE GROUSE

Abstract

Sage grouse populations in the Magic Valley Region decreased slightly during the reporting period. The number of males counted on leks in 2000 decreased by 5% from 1999 levels. Sage grouse production in 2000, measured from wing collections, was poor (1.21 young/hen). It is believed that the negative effects of drought on late brood rearing habitat resulted in poor brood survival. At opening weekend check stations, harvest decreased by 10% from 1999 and was only 43% of the average harvest of 2,224 grouse from 1965-1999. The decline in sage grouse

populations has resulted from substantial loss and fragmentation of habitat from large range fires and the effects on habitat of successive years of drought during the late 1980s and early 1990s.

Population Surveys

Lek Routes

The Magic Valley Region conducts 14 lek routes annually to monitor sage grouse population trends. In 2000 the number of active leks and attending males decreased by 5% and 7%, respectively, from 1999 levels. Active leks and attending males were 45% and 88%, respectively, higher than was documented in 1994 when sage grouse numbers reached their lowest level (Fig. 1).

Wing Data

Sage grouse wings (N = 707) were collected at 10 check stations and with wing barrels located at Shoshone Basin, Lily Grade, Brown's Bench, and Kimama. Estimated sage grouse production in 2000 was 1.21 juveniles/adult hen, 32% lower than in 1999 and 41% lower than the 1965-1999 mean of 2.06 juveniles/adult hen. Sage grouse production in the Magic Valley Region has been poor (<2.00 young/adult hen) 11 of the last 15 years (Table 6).

Brood Routes

Sage grouse brood routes are not conducted in the Magic Valley Region.

Harvest Characteristics

Telephone Survey

No telephone survey harvest data were collected for 2000 (Table 7).

Check Stations

Ten check stations are operated annually during opening weekend. Check station data reflect a reduction in hunter participation and harvest in recent years because of declines in sage grouse populations and the implementation of more restrictive hunting seasons. In 2000 opening weekend harvest decreased by 10% from 1999, and was only 43% of the average harvest of 2,224 grouse from 1965-1999. Hunter success declined and the effort expended to harvest a grouse increased in 2000 from 1999. Hunter success of 0.53 birds/hunter in 2000 was lower than the 1965-1998 average of 0.74 birds/hunter, and the effort required to harvest a sage grouse in 2000 (7.91 hours/bird) was higher than the 1965-1999 average (6.62 hours/bird) (Table 7).

Wing Barrels

Wing barrels were placed at Lily Grade, Browns Bench, Shoshone Basin, and Kimama following check stations to increase the wing sample from harvested birds.

Wing barrels were also placed at Balanced Rock and near the Bruneau River on the Clover-Three Creek Road throughout the season to monitor harvest. No wings were collected at the Balanced Rock and Bruneau barrels.

Climatic, Habitat Conditions

Nesting, Brood Rearing

May and June 2000 were generally warm and dry and provided good nesting and early brood-rearing conditions for sage grouse. The dry conditions persisted throughout the summer and fall resulting in degraded late brood-rearing habitat.

Hunting Conditions

The weather preceding the hunting season was very hot and dry. Opening weekend was clear, hot, and dry with temperatures ranging from 90-100 degrees F in the afternoons. Hunters reported large concentration of sage grouse near water sources and meadows.

Management Studies

We conducted an opinion survey of hunters in the Magic Valley Region to provide data that might be useful, or at least interesting, in making future management decisions that benefit sage grouse and Idaho hunters. Hunters were sampled at 10 opening weekend (September 16-17, 2000) check stations in the Magic Valley Region. Thirty-two percent (305/947) of the hunters checked were asked to complete a brief survey designed to 1) learn how long hunters had hunted sage grouse, 2) how hunters viewed long-term sage grouse trends, and 3) what habitat they were finding sage grouse in.

While 60% of the hunters surveyed (N = 305) had hunted sage grouse for more than 10 years, 7.5% of the hunters were first-timers, and 28% of the hunters had hunted 5 or fewer years. Considering that sage grouse hunters have declined by more than 50% in recent years, these data suggest fair-to-good recruitment of young people into the sage grouse hunter ranks.

We expected most hunters to respond that sage grouse numbers were down, over the long-term. To the contrary, less than half (46%) of those surveyed said grouse numbers in the areas they hunt were down. Surprisingly, hunters with the most experience (> 10 years) also had the highest response rate that grouse numbers were up (19%). Sixty-nine percent of the hunters with 2-5 years experience said grouse numbers were either up or unchanged. This result is in agreement with population data showing increasing grouse trends over the past 5 years.

Hunters were asked, “*If you believe sage grouse populations have changed over the long-term, what is the most important reason you would give for that change?*” We did not define *long-term* for the purposes of this survey. We received 212 useable responses to the question. Weather and habitat change, combined, comprised 71% of the responses. Only 17% of the hunters surveyed believed predation was the most important reason for changes in sage grouse numbers. While only 7% of those sampled chose hunting as the reason for grouse population changes, we received a number of written comments that suggested many hunters would accept additional restrictions in sage grouse hunting seasons, if necessary. Disease, access, and inaccurate counting were also given as reasons for changes in sage grouse numbers.

Unsurprisingly, hunters found grouse primarily in low sagebrush habitats (sagebrush below the knee) on opening weekend.

Twenty-one additional comments showed support for or were complimentary of current sage grouse management.

Management Implications

Sage grouse populations in the region declined precipitously from 1987 to 1994. Numbers then increased steadily from 1995-1999 before declining slightly in 2000. Habitat loss and fragmentation are the primary cause of long-term sage grouse declines. Fires have consumed more than a million acres of sagebrush-dominated habitat in south-central Idaho during the past 15 years. Combined with drought conditions, these fires have had catastrophic effects on sage grouse nesting, brood-rearing, and winter habitat. The increase in sage grouse numbers from 1995-1999 can be attributed to recovery of sagebrush in burned areas and the return of normal precipitation regimes. Reversing the long-term downward trend in sage grouse numbers is contingent on further reestablishment of sagebrush in burned areas. Regional personnel will continue to review and comment on Bureau of Land Management and U.S. Forest Service land treatment projects affecting sage grouse habitat during the reporting period. Implementation of the Idaho Sage Grouse Management Plan will remain a priority in the upcoming year. The Magic Valley Region will continue to participate in 2 local working groups that are addressing sage grouse management issues in the Shoshone Basin and the Three Creek areas.

SHARP-TAILED GROUSE

Abstract

Sharp-tailed grouse populations in the Magic Valley Region remain strong as a result of abundant habitat provided by lands enrolled in the Conservation Reserve Program. Lek counts suggest a slight increase in grouse numbers in 2000 from 1999. The Shoshone Basin reintroduction project was continued in 2000.

Population Surveys

Sharp-tailed grouse leks were surveyed on established lek routes and in conjunction with trapping efforts. In Power and Oneida counties, mean lek size was 14.6 birds/lek in 2000 (N = 39) and 17.6 males/lek in 1999 (N = 31). On 23 comparable leks, mean lek size declined slightly from 18.7 birds in 1999 to 14.7 birds in 2000. On 8 comparable leks surveyed in Cassia County, mean lek size increased slightly from 9.0 birds/lek in 1999 to 11.6 birds/lek in 2000.

Harvest Characteristics

Sharp-tailed grouse harvest in the Magic Valley Region is primarily from Oneida and Power counties, although an increasing number of grouse are being harvested from eastern Cassia County. Oneida County is the top county in Idaho in terms of sharp-tailed grouse harvest, hunter numbers, and hunter success.

Transplants, Special Projects

From 1992-2000, 631 Columbian sharp-tailed grouse (367 males, 264 females) were trapped in the Curlew, Rockland, Arbon, Malad, and Pocatello valleys and translocated to the Shoshone Basin area of Twin Falls County (358 birds), and to sites in Wallowa County, Oregon (98 birds), Okanagan County, Washington (56 birds), and Elko County, Nevada (119 birds). During April 2000, 20 birds were trapped for release in Washington and 58 grouse were provided to Nevada for reintroduction efforts there. Trap and transplant efforts will continue in 2001.

Radio-monitoring of sharp-tailed grouse in Shoshone Basin continued during the reporting period. Ten sharp-tailed grouse (6 females and 4 males) were trapped and radio-tagged from 3 leks in the Basin. Seven hens, monitored during the nesting season, produced 9 nests of which 4 successfully hatched (44% nest success; 57% hen success).

Management Implications

Columbian sharp-tailed grouse numbers are currently strong as a result of the abundant habitat provided by the Conservation Reserve Program. Databases of sharp-tailed grouse leks have been completed in both the Southeast and Magic Valley Regions, which will facilitate the tracking of lek activity and attendance. Current sharp-tailed grouse population levels justify liberal hunting opportunity. The popularity of sharp-tailed grouse hunting has increased in recent years as both resident and nonresident hunters learn about southeast Idaho's healthy grouse populations. Results of the grouse reintroduction efforts in Shoshone Basin are encouraging. Monitoring of the new grouse population will continue during the 2001-2002 reporting period.

CHUKAR PARTRIDGE

Abstract

No chukar surveys were conducted in the region; however, hunter success measured at opening weekend sage grouse check stations was high, suggesting strong populations.

Population Surveys

No surveys for chukar populations were conducted in the Magic Valley Region during the 2000-2001 reporting period.

Harvest Characteristics

Telephone Survey

No data are available (Table 8).

Check Stations

Chukar harvest and population trend is monitored at 10 opening weekend sage grouse check stations. Chukar partridge checked per 100 hunters in 2000 (8.51) was the highest recorded in the past 15 years and nearly 3 times the 1989-1999 mean of 3.02 (Table 4). Wings from a small sample of hunter-harvested birds yielded a ratio of 1.12 young/adult (N = 66).

Management Implications

No specific chukar population surveys will be undertaken in the region. Riparian habitat improvement in chukar areas will be encouraged, whenever possible, to benefit populations.

GRAY PARTRIDGE

Abstract

Roadside survey and opening weekend check station data suggested average numbers of gray partridge in intensively farmed areas and higher densities of birds where sagebrush and/or CRP lands were an important part of the habitat.

Population Surveys

Roadside survey data suggest little change in gray partridge numbers from 1997-2000 (Table 9); however, these routes do not adequately sample uncultivated partridge habitat. Gray partridge numbers in the Magic Valley Region declined in 2000 after reaching record levels in 1999.

Harvest Characteristics

Telephone Survey

No data are available (Table 9).

Check Stations

Partridge harvest and population trend is monitored at 10 opening weekend check stations. The numbers of gray partridge checked per 100 hunters in 1999 (7.40) and 2000 (7.91) were at the highest levels recorded since 1985 (Table 4).

Management Implications

August roadside surveys and opening weekend check stations will continue to be used to monitor the status of gray partridge populations in the region. From 1997-2000, roadside survey data suggested relatively stable numbers of partridge, but the number of birds checked on opening weekend in 1999 and 2000 increased to well above the long-term average. One possible explanation for the disagreement in these 2 indices is that roadside routes sample primarily farmland habitats while opening weekend check stations sample sagebrush-dominated habitats. Weather-related factors have a substantial effect on short-term population fluctuations, but improving habitat remains the key to sustaining healthy populations in the long term. The Magic Valley Region will continue to give priority to habitat enhancement (HIP, Cooperative Wildlife Program, Pheasants Forever) for gray partridge management.

WILD TURKEY

Abstract

The Magic Valley Region has limited opportunities to establish wild turkey populations. Efforts have been undertaken to establish a small population at the Big Cottonwood WMA. One hundred fifty-two Rio Grande turkeys have been released at Big Cottonwood WMA since 1988 and have dispersed into available habitat on the Sawtooth National Forest. No hunting seasons for turkeys were offered in the region during the reporting period.

Population Surveys

From 1988-2001, 152 Rio Grande turkeys were released at the Big Cottonwood WMA (Table 10). Sightings indicate that some birds have dispersed away from the WMA onto the Sawtooth National Forest. Observations of poults during summer near the WMA indicate that some production is occurring. The goal is to develop a self-sustaining population of 100-200 turkeys that will support some hunting opportunity.

Harvest Characteristics

There was no turkey hunting authorized in the Magic Valley Region in 2000 (Table 11).

Management Implications

Opportunities to establish self-sustaining turkey populations in the Magic Valley Region are limited without supplemental winter feeding. Releases in Units 53 and 55 have failed to establish populations. Turkeys near Pine and Featherville in Unit 43 have essentially disappeared because of the severity of winters and lack of a winter food source. A small population has been established at the Big Cottonwood WMA (Unit 54) and food plots planted to supplement their winter diet.

MOURNING DOVE

Abstract

Doves observed on roadside routes indicate dove abundance in late August 2000 (1.3 doves/mi.) was lower than the 1990-1999 mean of 2.4 doves/mi.

Population Surveys

Call Counts - Department personnel, in cooperation with the U.S. Fish and Wildlife Service (USFWS), collect data on 4 call-count routes in the Magic Valley Region.

Roadside Route Counts - On 2000 roadside surveys, the number of doves observed (1.3 doves/mi.) was lower than the 1990-1999 mean of 2.4 doves/mi. (Table 12).

Wing Data – No data are available.

Harvest Characteristics

No data are available (Table 12).

Management Implications

Roadside survey data suggest that as many as 50% of the doves have migrated out of the Magic Valley area by the opening of the hunting season on September 1. The onset of cooler weather, usually in early September, triggers movement of the remaining doves. Spring coo-count routes and August roadside surveys will be continued to monitor dove trends and abundance.

RABBITS AND HARES

Population Surveys

Cottontail rabbits are counted on the 28 roadside surveys conducted each August in the Magic Valley Region. Only 4 cottontails were observed on 2000 routes; the same number that was observed in 1999.

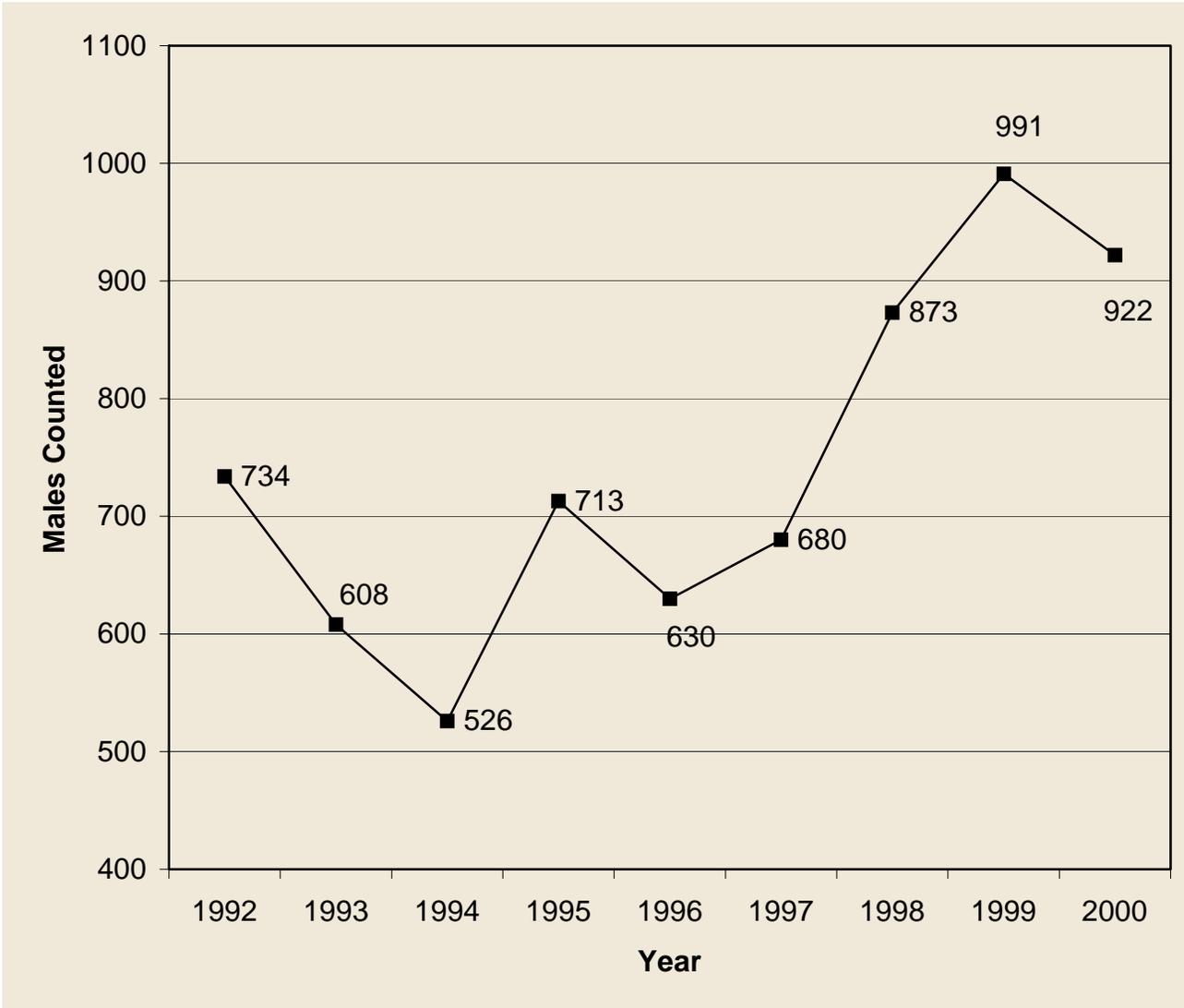
Harvest Characteristics

At opening weekend check stations, no cottontails were checked (Table 4).

Management Implications

Habitat projects implemented for pheasants, gray partridge, and quail through the HIP program and BLM/IDFG Cooperative Wildlife Management Program will benefit rabbits.

Figure 1. Total male sage grouse counted and number of active leks on 14 comparable lek



routes, Magic Valley Region, 1992-2000.

Table 1. Pheasant population characteristics and production in the Magic Valley Region, 1985-2000.

Year	Winter Sex Ratio Hens Per Cock	Brood Routes					Brood Size	
		N	Routes & Miles Counted	Birds Per Mile	Percent Unsucc. Females	Juv.:100 Adult Females	N	Avg.
1985	3.2	359	12 (530)	0.47	11	670	31	6.6
1986	1.6	397	13 (768)	0.36	14	803	50	6.3
1987	1.8	490	13 (789)	0.25	6	631	50	6.1
1988	3.0	809	14 (858)	0.34	13	723	32	5.8
1989	2.1	884	14 (854)	0.27	16	554	24	6.1
1990 ^a	1.9	1,333	14 (854)	0.52	29	742	31	6.2
			28 (575)	0.54	30	447		
1991	ND	ND	28 (575)	0.33	43	529	22	4.9
1992	2.2	1,572	28 (575)	0.42	26	361	19	5.2
1993	1.3	455	28 (575)	0.22	35	465	8	6.9
1994	2.0	757	28 (575)	0.56	14	727	16	5.9
1995	1.9	1,483	28 (575)	0.13	33	683	8	4.8
1996	2.0	741	28 (575)	0.41	17	555	21	5.8
1997	ND	ND	28 (575)	0.12	22	611	7	5.6
1998	ND	ND	28 (575)	0.19	17	741	10	6.0
1999	1.4	271	28 (575)	0.27	13	870	13	6.9
2000	ND	ND	28 (575)	0.20	45	380	11	4.8
1990-99 Average	1.8			0.32	25	590		5.8

^a Survey was modified in 1990. Both the old and new surveys were conducted to allow continuity of trend data.

Table 2. Pheasant hunter success and harvest in the Magic Valley Region, 1985-2000.

Year	Bag and Possession Limit	Bellevue Check Station ^a				Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1985	3-6	79	64	0.80	4.53	14,013	51,330	0.66
1986	3-6	211	167	0.79	4.71	12,288	33,810	0.58
1987	3-6	226	150	0.66	5.02	8,910	25,854	0.59
1988	3-6	142	80	0.56	6.30	6,707	25,278	0.77
1989	3-6	139	113	0.81	4.62	6,037	20,521	0.63
1990	3-6	182	241	1.32	2.75	8,644	36,602	0.84
1991	3-6	168	132	0.78	4.97	7,576	24,411	0.60
1992	3-6	126	136	1.10	3.31	6,603	27,347	0.72
1993	3-6	75	71	0.95	4.28	5,071	24,769	0.65
1994	3-6	101	105	1.04	4.13	3,802	24,629	0.97
1995	3-6	101	56	0.55	4.76	4,975	20,289	0.58
1996	3-6	66	70	1.06	3.91	7,200	17,551	0.55
1997	3-6	47	21	0.45	7.43	ND	ND	ND
1998	3-6	ND	ND	ND	ND	ND	ND	ND
1999	3-6	ND	ND	ND	ND	ND	ND	ND
2000	3-6	ND	ND	ND	ND	ND	ND	ND

^a Check station was operated at Timmerman Hill in 1985, 1986, and 1991.

Table 3. California quail population trends and harvest in the Magic Valley Region, 1985-2000.

Year	Brood Routes		Telephone Survey			
	Routes/Miles Counted	Birds/Mile	Bag and Possession Limit	Hunters	Birds	Birds/Hunter Day
1985			10-20	435	1,375	0.95
1986			10-20	615	4,170	1.75
1987			10-20	342	1,599	2.04
1988			10-20	534	2,685	1.38
1989			10-20	306	2,362	2.35
1990	28/575	0.15	10-20	946	6,446	1.56
1991	28/575	0.15	10-20	688	5,624	1.42
1992	28/575	0.06	10-20	726	3,199	0.82
1993	28/575	0.21	10-20	1,113	5,195	1.58
1994	28/575	0.18	10-20	955	5,300	1.27
1995	28/575	0.14	10-20	1,198	14,215	1.73
1996	28/575	0.08	10-20	1,642	19,003	2.25
1997	28/575	0.08	10-20	ND	ND	ND
1998	28/575	0.13	10-20	ND	ND	ND
1999	28/575	0.19	10-20	ND	ND	ND
2000	28/575	0.04	10-20	ND	ND	ND

Table 4. Trend of upland game species harvested per 100 hunters checked at stations on opening weekend of the grouse, quail, and partridge season, Magic Valley Region, 1985-2000.

Year	Sage Grouse	Blue Grouse	Ruffed Grouse	Chukar Partridge	Gray Partridge	Mourning Dove	CA Quail	Cottontail and Pygmy Rabbits	Number Hunters
1985	59.9	1.9	0.00	0.3	2.4	0.1	0.00	0.04	2,153
1986	77.0	0.4	0.00	1.7	3.7	0.5	0.07	0.11	2,824
1987	85.3	0.3	0.04	2.6	4.4	0.6	1.12	0.61	2,684
1988	85.1	0.1	0.00	2.5	2.6	1.6	1.46	0.41	2,459
1989	78.3	0.4	0.10	1.3	1.2	1.5	0.10	0.40	2,037
1990	118.3	0.6	0.13	1.7	2.6	0.3	0.25	1.88	2,393
1991	62.8	0.2	0.20	1.8	1.7	0.9	0.37	0.00	2,449
1992	47.0	0.3	0.54	1.1	0.9	0.3	1.03	1.08	1,852
1993	42.1	0.4	0.00	0.3	0.2	2.7	0.87	0.00	1,731
1994	72.7	1.10	0.25	1.10	2.03	0.80	4.30	0.00	1,629
1995	35.5	0.63	0.24	1.42	2.21	2.29	1.18	0.00	1,269
1996	55.3	0.81	0.51	6.88	3.74	0.10	6.27	0.10	989
1997	38.7	0.67	0.00	3.63	2.10	1.53	0.38	0.10	1,048
1998	53.0	1.17	0.00	5.12	3.41	0.53	0.00	0.00	938
1999	59.0	2.68	0.00	7.14	7.40	0.45	1.25	0.54	1,121
2000	50.2	2.18	0.30	8.51	7.91	2.57	1.68	0.00	1,011
1990-99 Avg.	58.4	0.86	0.19	3.02	2.53	0.99	1.59	0.37	1,542

Table 5. Forest grouse hunter success in the Magic Valley Region obtained from the telephone survey, 1985-2000.

Year	Bag and Possession Limits	Hunters	Birds	Birds/Hunter Day
1985	4-8	472	768	0.78
1986	4-8	724	2,322	0.83
1987	4-8	634	2,002	0.84
1988	4-8	804	3,243	0.88
1989	4-8	639	2,182	1.07
1990	4-8	765	3,097	0.65
1991	4-8	922	4,357	1.10
1992	4-8	1,102	3,226	0.88
1993	4-8	2,814	4,329	0.39
1994	4-8	1,910	5,544	0.72
1995	4-8	1,990	5,138	0.52
1996	4-8	1,408	5,631	0.96
1997	4-8	ND	ND	ND
1998	4-8	ND	ND	ND
1999	4-8	ND	ND	ND
2000	4-8	ND	ND	ND

Table 6. Sage grouse production in the Magic Valley Region based on wing collections, 1985-2000.

Year	Juv.:100 Females	Juv.:100 Adults	Percent Unsuccessful Females
1985	252	155	48
1986	244	161	37
1987	142	90	43
1988	120	77	56
1989	194	125	50
1990	239	146	48
1991	102	67	80
1992	117	63	78
1993	147	107	50
1994	323	213	76
1995	136	82	60
1996	159	104	61
1997	165	103	65
1998	205	138	65
1999	178	110	60
2000	121	76	68
10-year average (1991-2000)	165	106	66
Percent change from last year	-32	-31	13
Percent change from previous 5-year average	-28	-29	-9

Table 7. Sage grouse hunter success and harvest in the Magic Valley Region obtained from check stations and the telephone survey, 1985-2000.

Year	Bag and Possession Limit	Check Stations				Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1985	2-2	2,153	1,290	0.60	7.4	1,788	2,513	0.76
1986	2-4	2,824	2,169	0.77	5.6	2,280	4,158	0.92
1987	2-4	2,359	1,961	0.73	5.3	2,526	6,743	1.18
1988	2-4	2,459	2,092	0.85	5.3	2,969	6,451	0.96
1989	2-4	2,018	1,580	0.69	5.5	2,107	4,548	0.64
1990	3-6	2,375	2,833	1.11	3.9	4,205	20,584	1.47
1991	3-6	2,429	1,525	0.57	7.5	4,121	8,239	0.69
1992	3-6	1,847	870	0.51	9.9	3,256	7,710	0.85
1993	3-6	1,709	729	0.35	11.3	5,288	6,672	0.43
1994	3-6	1,587	1,185	0.70	6.2	4,177	11,331	0.85
1995	3-6	1,313	520	0.38	11.1	4,285	8,062	0.59
1996	1-2, 2-4	936	548	0.56	6.5	6,615	8,269	2.81
1997	1-2, 2-4	1,012	408	0.35	11.9	ND	ND	ND
1998	1-2, 2-4	896	497	0.54	7.2	ND	ND	ND
1999	1-2, 2-4	1,048	661	0.59	6.2	ND	ND	ND
2000	1-2,2-4	957	507	0.51	7.9	ND	ND	ND

Table 8. Chukar partridge harvest and hunter success obtained from the telephone survey in the Magic Valley Region, 1985-2000.

Year	Bag and Possession Limit	Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day
1985	5-10	764	2,092	0.72
1986	8-16	919	3,125	0.95
1987	8-16	1,151	3,394	0.78
1988	8-16	973	1,805	0.64
1989	8-16	594	1,546	1.01
1990	8-16	1,383	4,312	1.11
1991	8-16	721	3,871	1.87
1992	8-16	857	1,487	1.18
1993	8-16	1,763	4,360	0.59
1994	8-16	1,105	3,371	0.88
1995	8-16	1,584	5,788	0.85
1996	8-16	1,408	7,273	1.19
1997	8-16	ND	ND	ND
1998	8-16	ND	ND	ND
1999	8-16	ND	ND	ND
2000	8-16	ND	ND	ND

Table 9. Gray partridge production on routes and hunter success from the telephone survey in the Magic Valley Region, 1985-2000.

Year	Production					Telephone Survey			Birds Per Hunter-Day
	Routes & Miles Counted	Birds Per Mile	No. Birds Counted	Brood Size	N	Bag and Possession Limit	Hunters	Birds	
1985	12 (530)	0.015	12	9.0	2	5-10	923	3,644	0.91
1986	13 (768)	0.20	156	11.8	13	8-16	1,223	4,012	0.67
1987	13 (789)	0.24	192	8.2	22	8-16	1,183	4,427	0.85
1988	14 (858)	0.18	149	8.9	13	8-16	757	2,578	0.73
1989	14 (854)	0.20	170	10.6	13	8-16	628	1,921	0.62
1990 ^a	14 (854)	0.19	157	10.1	15	8-16	1,773	9,361	1.07
	28 (575)	0.35	195						
1991	28 (575)	0.18	111	9.7	9	8-16	1,295	2,805	0.49
1992	28 (575)	0.22	123	7.5	11	8-16	1,038	3,932	0.76
1993	28 (575)	0.13	71	8.4	17	8-16	1,886	6,741	0.89
1994	28 (575)	0.21	112	11.2	10	8-16	1,555	5,188	0.72
1995	28 (575)	0.08	45	11.2	4	8-16	2,092	8,834	0.75
1996	28 (575)	0.41	244	14.6	16	8-16	3,050	22,053	1.12
1997	28 (575)	0.11	62	10.2	6	8-16	ND	ND	ND
1998	28 (575)	0.15	83	11.9	7	8-16	ND	ND	ND
1999	28 (575)	0.11	63	12.2	5	8-16	ND	ND	ND
2000	28 (575)	0.15	86	7.1	8	8-16	ND	ND	ND

^a Survey modified in 1990. Both the old and new surveys were conducted to allow continuity in trend data.

Table 10. Turkey transplant history for the Magic Valley Region, 1982-2001.

Year	Subspecies ^a	Release Site	Number Birds Released	New or Supplemental Release
1982	R	Niagara Springs (Unit 53)	20	N
1983	R, M	Almo (Unit 55)	18R, 1M	N
1984	R	Almo (Unit 55)	10	S
1988	R	Big Cottonwood (Unit 54)	17	N
1994	R	Big Cottonwood (Unit 54)	6	S
1995	R	Big Cottonwood (Unit 54)	14	S
1996	R	Big Cottonwood (Unit 54)	8	S
1998	R	Big Cottonwood (Unit 54)	55	S
1999	R	Big Cottonwood (Unit 54)	12	S
2001	R	Big Cottonwood (Unit 54)	40	S

^a E - Eastern; M - Merriam's; R - Rio Grande.

Table 11. Turkey harvest in the Magic Valley Region, 1985-2000.

Hunt	Number of Hunts	Permits Available	Hunters	Birds Taken	Days Per Bird	Total Days Hunted
1985						
Controlled	2	10	10	4	5.0	20
1986						
Controlled	3	15	15	5	8.4	42
1987						
Controlled	6	21	21	4	15.3	61
1988						
Controlled	6	21	21	9	6.9	62
General	1		93	0	ND	56
1989						
Controlled	6	21	21	9	ND	ND
General	1		31	3	39.6	119
1990						
Controlled	3	6	6	2	3.2	19
General	1		18	1	39.0	39
1991						
General	1	0	58	3	62.7	118
1992						
General	1	0	8	2	4.0	8
1993						
General	1	0	10	0	0.0	118
1994						
	1	0	ND	0	ND	ND
1995						
	1	0	ND	0	ND	ND
1996						
	1	0	ND	0	ND	ND
1997						
Youth Controlled Hunt	1	3	3	3	ND	ND
1998						
(Youth Controlled Hunt Canceled)	0	0	0	0	0.0	0
1999						
	0	0	0	0	0.0	0
2000						
	0	0	0	0	0.0	0

Table 12. Mourning dove population trends and harvest in the Magic Valley Region, 1985-2000.

Year	Brood Routes		Telephone Survey			
	Routes/Miles Counted	Birds/Mile	Bag and Possession Limit	Hunters	Birds	Birds/Hunter Day
1985			15-30	1,593	21,505	2.89
1986	7/413	2.0	15-30	1,703	18,122	3.92
1987	13/788	2.5	10-20	1,384	15,121	2.02
1988	15/911	2.0	10-20	1,003	9,333	2.89
1989	14/854	2.4	10-20	1,273	10,424	3.11
1990 ^a	14/829	4.8	10-20	1,208	17,828	3.43
	28/575	3.1	10-20			
1991	28/575	2.0	10-20	1,290	17,983	3.12
1992	28/575	1.8	10-20	1,303	16,991	4.12
1993	28/575	1.8	10-20	3,680	33,644	1.66
1994	28/575	3.3	10-20	2,266	26,633	3.18
1995	28/575	1.8	10-20	2,802	26,238	2.29
1996	28/575	2.2	10-20	3,262	47,091	2.57
1997	28/575	2.2	10-20	ND	ND	ND
1998	28/575	2.4	10-20	ND	ND	ND
1999	28/575	3.7	10-20	ND	ND	ND
2000	28/575	1.3	10-20	ND	ND	ND

^a Survey was modified in 1990. Both the old and new surveys were conducted to allow continuity in trend data.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>5</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME –SOUTHEAST REGION

PHEASANT

Abstract

Population, hunter effort, and harvest information collection efforts for pheasant have been reduced somewhat from recent years. Subjective evaluation of pheasant numbers indicates relatively stable populations in parts of the Southeast Region, and gradual increases in others. A telephone harvest survey to provide estimates of total regional harvest, effort, and participation was not conducted. Two check stations operating opening weekend suggested a slight decrease in hunter participation and in success compared to 1999.

Population Surveys

Winter sex ratio counts and brood routes were not conducted for pheasants in the Southeast Region in 2000. Due to limited sample sizes and infrequent data collection efforts, little trend information has been provided by winter sex ratio counts or brood route surveys. Breeding territory surveys, conducted for several years in conjunction with pheasant research, were discontinued with the termination of the southeast region portion of that project.

Harvest Characteristics

A slight decrease in hunter numbers (-12%), and in birds harvested (-22%), was seen at the American Falls and Tilden Bridge check stations in 2000 compared to 1999 (Table 2). Birds harvested per hunter day remain stable while hours expended per bird increased (+22%) compared to the previous year.

No regional telephone harvest survey was conducted; therefore, there are no estimates for total regional participation, effort, or harvest.

Analysis of trend information from both check station and telephone survey data in recent years suggests pheasant populations have remained at levels lower than those of 10 to 20 years ago. Check station results, hunter reports, incidental sightings, and other anecdotal information suggest gradual increases over the last 4 to 5 years in areas of good habitat in southeast Idaho.

Climatic Conditions

Precipitation during the critical months of nesting was near average through June 2000; however, hotter than average temperatures and infrequent rainstorms may have impacted late brood rearing.

Precipitation for the 2000-2001 winter was below normal, with snowpack measurements 55% of the 30-year mean for the eastern portion of the Southeast Region. The western portion was significantly below the average, with 60% of the 30-year mean for the area. The entire region averaged 50% of normal snowfall compared to the past 30-year period; however, there was considerable variation in local areas, with most of the snow accumulating on the upper foothills and mountains.

Release of Pen-Reared Pheasants

There were 3,000 fully-grown game farm cocks released on the Sterling WMA during fall 2000. Game farm birds have been released on the WMA historically to provide hunters with additional opportunity. Bag limit for pheasants on the WMA was 2 birds, compared with 3 elsewhere in the region, in order to be consistent with other WMAs, and to more equitably distribute harvest. Hunters hunting on WMAs where game farm pheasants were released were required to obtain a WMA pheasant permit in 2000.

Management Implications

Declining habitat quality due to changes in farming practices has resulted in a decline in pheasant numbers in the Southeast Region from levels of 10 to 20 years ago. Until the quantity and quality of available habitat increases, pheasant numbers will likely remain below historical levels. The U.S. Department of Agriculture's Conservation Reserve Program (CRP) enrolled over 400,000 acres in the Southeast Region during 1985-1995 (25% have potential as pheasant habitat), but its effect on pheasant production is unclear at this time. The CRP was extended for another 10 years beginning in 1997. During the initial 1997 enrollment period, 288,978 acres in the Southeast Region were accepted. It is currently unknown what impact a decrease in CRP acreage in the Southeast Region will have on pheasant populations. The Department's Habitat Improvement Program, begun in 1987, is also contributing toward increasing available cover and forage locally by capitalizing on private land development. A series of average or mild winters has probably contributed to increases in pheasants in favorable habitats over the past 4 to 5 years.

Research

A research project to evaluate effects of intensive habitat management and predator removal on pheasants was initiated in 1995 within selected Bingham County sites (Connelly et. al. 1995). That program was moved to south-central and southwest Idaho in 1998.

Literature Cited

Connelly, J. W., S. Antrim, G. Nohrenberg, and K. P. Reese. 1995. Upland game ecology. Job Prog. Rpt. W-160-R-22. Idaho Dept. Fish and Game, Boise, Idaho, USA.

FOREST GROUSE

Abstract

No regional telephone harvest survey was conducted; therefore, estimates for total harvest, participation, or effort are not available. Wing barrel data suggested increased blue grouse and ruffed grouse harvests.

Population Surveys

Data on age characteristics of forest grouse populations are collected in the Southeast Region from voluntary wing drop barrels placed during hunting season. Fourteen wing barrels were placed throughout the region during 2000. Wide variations in numbers of wings collected make it difficult to draw conclusions about individual year's harvest or populations based on this data.

One hundred fifty-one blue grouse wings were collected in 2000, a 76% increase from 1999, and a 91% increase from the previous 5-year average of 79 wings (Table 3). Juvenile:100 adult ratio for blue grouse was 184.

Five hundred thirty-seven ruffed grouse wings were collected in 2000, 119% more than in 1999 (Table 3). The juvenile:100 adults ratio was 220, which is 26% above the 5-year average.

Harvest Characteristics

In recent years harvest data on forest grouse has been collected from two sources, the telephone survey and voluntary wing drop barrels. Telephone survey data provides information on numbers of hunters, birds harvested, and hunter success. Wing barrels provide more immediate feedback to managers, and information on sex and age of birds harvested.

No telephone harvest survey was conducted in 2000-2001. Refer to the statewide summary for other available information regarding statewide estimates of participation, effort, and harvest.

Climatic Conditions

See Pheasant section.

Management Implications

Management of forest grouse consists largely of data collection and analysis of impacts to habitat. Indications from harvest and production data over the last 15 years suggest a trend in more hunters harvesting a greater number of birds. Populations of forest grouse can vary widely from year to year, based on annual production.

SAGE GROUSE

Abstract

Estimates of sage grouse production in 2000 indicated a continuation of decreases throughout southeast Idaho compared to 1999 levels; however, sample sizes were small. Lek attendance generally was similar to 1999 throughout the region. No regional telephone harvest survey was conducted.

Population Surveys

Lek count routes in recent years have included 4 leks in Bingham and Power counties, 35 leks in Butte and Blaine counties, 3 leks in Bear Lake County, 3 leks in Caribou County, and 10 leks in Oneida County (Tables 5, 6, 7, 8, 9). Overall lek counts have been declining for a period of years.

Ground and helicopter searches identified several previously unknown leks west and east of Bear Lake, north of Soda Springs, and Malad/Curlew Valley areas.

Reproductive information for sage grouse was derived from wing collections on the Curlew National Grasslands (N = 25) and Bear Lake area (N = 9). Due to a closure of hunting on the Big Desert in 1996, no wings were collected from that area. Wings collected from Caribou County were included in the Bear Lake data set. Wing barrels were located in the Curlew National Grasslands at Stone Reservoir, East Juniper, Ireland Springs, Pauline and Rockland; and in Bear Lake at Pegram and Bear Lake Hot Springs.

A total of 34 sage grouse wings were collected in 2000 (Table 10). Overall juvenile:100 adults ratio was 55, below the most recent 5-year average of 103 (Table 10). Sage grouse production decreased at both the Curlew National Grasslands (Table 12) and at Bear Lake (Table 13) compared to 1999.

Harvest Characteristics

Since the Big Desert was closed to sage grouse harvest, no check station was operated at American Falls.

No regional telephone harvest survey was conducted. See statewide summary for estimates of statewide harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Studies

Inactive during this report period.

Management Implications

Production of sage grouse appeared to decline for the third year during 2000. Hunter harvest, success, and/or lek count data suggest populations at low levels. Persistent drought during the late 1980s and early 1990s and long-term declines in habitat quantity/quality may partially explain the downward trend of populations over the years.

An advisory group consisting of representatives of several interest groups and government agencies was formed during 1998 to examine the status and trend of sage grouse and their habitat in the greater Curlew Valley area, and to offer suggestions for future management.

SHARP-TAILED GROUSE

Abstract

Age ratio data of wings indicated a decrease in sharp-tailed grouse production during 2000 compared to 1999. Five lek routes are established in the region to better monitor long-term population trends, although not all were checked in 2000. No regional telephone harvest survey was conducted.

Population Surveys

Wing barrels (see Forest Grouse and Sage Grouse sections) placed throughout the region provide the majority of wings collected. Data analysis of sharp-tailed grouse wings (N = 399) indicated a decrease in juvenile:100 adult ratio (59:100) from 1999 levels (75:100, Table 15). The 2000 ratio was 46% lower than the previous 5-year average.

Two of five established lek routes in the region were surveyed during 2001 (Table 16).

Harvest Characteristics

No regional telephone harvest survey was conducted. See statewide summary for estimates of statewide harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Implications

Currently the single most important factor affecting sharp-tailed grouse populations in the Southeast Region is believed to be the Conservation Reserve Program (CRP). During 1985 to 1997, over 400,000 acres of cropland have been planted with various grass/forb mixtures within present sharp-tailed grouse range. During the 1997 re-enrollment period, 288,978 acres were accepted for another 10 years. Much of this acreage lies within sharp-tailed grouse range. Recent harvest data suggest a substantial increase in populations has occurred in the last decade.

Trapping and Transplanting

See Magic Valley section.

GRAY PARTRIDGE

Abstract

No data were collected on gray partridge populations. No regional telephone harvest survey was conducted.

Population Surveys

Some gray partridge wings are collected in voluntary hunter wing barrels; however, sample sizes are generally small, and have not been analyzed for several years in the Southeast Region.

Harvest Characteristics

Harvest information on gray partridge in the past was collected via the telephone survey. Estimates vary widely from year to year, due primarily to small sample sizes from the region (Table 18). No regional telephone harvest survey was conducted during 2000. See statewide summary for estimates of statewide harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Implications

Management of these populations will be incidental to other upland game bird species. The Conservation Reserve Program has had a positive effect on habitat suitability and presumably gray partridge populations. The telephone harvest data and incidental reports suggest a stable or increasing population over the past decade.

CHUKAR PARTRIDGE

Abstract

Limited data were collected on chukar partridge populations. No regional telephone harvest survey was conducted.

Population Surveys

Few, if any, chukar partridge wings are collected in voluntary hunter wing barrels. Chukars are occasionally sighted incidental to deer and elk surveys during winter. Little suitable habitat and restricted populations exist within the Southeast Region. Areas known to support chukar populations at present are the northeast corner of Unit 70 near Pocatello; the Blackrock area in Unit 71; and several portions of Unit 73 near Malad, including east of Interstate Highway 15 and the Samaria Mountains. Private, unauthorized releases of pen-raised chukars are frequent occurrences. Survival of those birds is believed to be extremely low, with no evidence of self-supporting populations resulting.

Harvest Characteristics

Harvest information on chukar partridge in past years has been collected via the telephone survey. Estimates vary widely from year to year, due primarily to small sample sizes from the region (Table 18). No regional telephone harvest survey was conducted during 2000. See statewide summary for estimates of statewide harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Implications

Management of these populations will be incidental to other upland game bird species. The main source of information on status of populations is currently incidental sightings and reports. Although variable, the telephone harvest data suggests an increasing population over the last 10 years. Lack of suitable habitat will continue to limit populations.

WILD TURKEY

Abstract

Six hunts with a total of 135 permits resulted in an estimated 2000 spring harvest of 64 turkeys. Hunter success varies annually. No ground surveys were conducted.

Population Surveys

Wild turkeys have been transplanted into two general areas in the Southeast Region during the last two decades - the Snake River bottoms upstream from American Falls Reservoir, and along the Bear River in Franklin County.

Winter distribution surveys were conducted along the Snake River during the winters of 1987-1988, 1988-1989, and 1992-1993. These surveys indicated that good quality turkey habitat was limited and that populations had not continued to grow at rates documented earlier, following the initial introduction. Comments from local landowners during the surveys and declining hunter success rates indicated that a decrease in total population size probably occurred after 1984, with little or no recovery to date. No surveys were conducted during 2000. Even under good snow conditions, surveys provide limited useful data.

Incidental reports indicate increasing numbers and expanded range of turkeys in Franklin County, due in part to unauthorized releases of turkeys of unknown origin.

Harvest Characteristics

Following introductions of wild turkeys from South Dakota, 3 consecutive spring hunts with 5 permits each were initiated in Franklin County in 1995, and increased to 20 permits in 1999. In 2000 permits were increased to 30 for each hunt, and a general fall either-sex hunt was initiated. The hunt area was also expanded to include all of Units 73, 74, 75, and 77.

Three consecutive spring hunts (68A-1, 68A-2, 68A-3) with 15 permits each were conducted along the Snake River in Unit 68A in 2000. Three consecutive spring hunts (77-1, 77-1, and 77-3) with 30 permits each were conducted along the Bear River in Units 73, 74, 75, and 77. The 2000 harvest, as estimated by the telephone harvest survey, showed a total of 64 birds estimated taken in the region (Table 19).

The fall general hunt in the Bear River area ran from October 1-31. Three hundred eight-two hunters took 159 turkeys (Table 20).

Climatic Conditions

See Pheasant section.

Management Implications

The telephone survey of hunters and incidental field reports provide the data on populations in the Southeast Region. To obtain additional information increased emphasis has been placed on landowner input and sportsmen contacts.

Trapping and Transplanting

No activity.

MOURNING DOVE

Abstract

Results from mourning dove coo counts in 2001 were 60% below the previous 5-year average. No regional telephone harvest survey was conducted.

Population Surveys

Wing barrels provide only a limited amount of data on mourning doves. Sample sizes are generally too small for analysis.

Coo counts are conducted on 3 established routes in the Southeast Region, in conjunction with the U.S. Fish and Wildlife Service. Routes are located in Oneida, Caribou, and Bear Lake counties.

Harvest Characteristics

Harvest information on mourning doves is collected via the telephone survey. No regional telephone harvest survey was conducted during 2000. See statewide summary for estimates of statewide harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Implications

Management decisions rely heavily on population and harvest statistics collected nationwide by the U.S. Fish and Wildlife Service.

RABBITS AND HARES

Abstract

No population surveys are conducted for rabbits or hares in the Southeast Region. No regional telephone survey of rabbit hunters was conducted during 2000.

Population Surveys

No population surveys were conducted in 2000.

Harvest Characteristics

Harvest information for the region has been based on the telephone survey. Sample size tends to be small and estimates of participation and harvest are widely variable. No regional telephone survey was conducted during 2000. See statewide summary for statewide information on harvest, effort, and participation.

Climatic Conditions

See Pheasant section.

Management Implications

In the past limited data on rabbits and hares have been collected in the Southeast Region. It is unlikely that this situation will change; however, continued efforts will be made to consider the habitat requirements of rabbits and hares in land use management.

Table 1. Pheasant population characteristics and production in the Southeast Region, 1984-2000.

Year	Winter Sex Ratio ^a	N ^b	Brood Routes				N	Average Brood Size
			Routes & Miles Counted	Birds Per Mile	Percent Unsucc. Females	Juv.:100 Adult Females		
1984	2.5	2,388	c	c	c	c	7	5.7
1985	3.8	453	c	c	c	c	c	c
1986	4.0	436	c	c	c	c	12	5.2
1987	1.4	81	c	c	c	c	c	c
1988	c	c	c	c	c	c	c	c
1989	c	c	c	c	c	c	c	c
1990	1.9	264	10/200	0.04	50	650	7	3.7
1991	c	c	10/200	0.09	83	180	2	5.5
1992	c	c	10/200	0.28	55	400	5	8.8
1993	1.5	10	10/200	0.01	0	500	1	5.0
1994	1.5	10	10/200	0.005	0	0	0	0.0
1995	c	c	8/160	0.06	0	500	2	5.0
1996	c	c	10/200	0.11	0	566	3	5.7
1997	c	c	c	c	c	c	c	c
1998	c	c	c	c	c	c	c	c
1999	c	c	c	c	50	250	2	5.0
2000	c	c	c	c	c	c	c	c
Previous 5-year Average	--	--	--	--	--	--	--	--
Percent Change From Previous 5-yr Avg.	--	--	--	--	--	--	--	--

^a Hens per cock.

^b Sample size for winter sex ratio determination.

^c No data available.

Table 2. Pheasant hunter success and harvest in the Southeast Region, 1984-2000. Check stations were operated on opening weekend only at American Falls and Tilden Bridge.

Year	Bag and Possession Limit	Check Station				Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day ^a	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1984	3/6	1,234	565	0.5	8.5	907	2,565	0.7
1985	3/6	897	350	0.4	9.5	7,169	18,293	0.5
1986	3/6	495	107	0.2	17.0	5,043	8,133	0.5
1987	3/6	480	161	0.3	10.8	3,319	9,089	0.6
1988	3/6	276	87	0.3	11.7	3,561	11,532	0.6
1989	3/6	456	243	0.5	7.9	2,290	6,688	0.7
1990	3/6	222	141	0.6	6.2	3,485	12,526	0.6
1991	3/6	287	149	0.5	7.5	3,525	15,839	0.8
1992	3/6	263	188	0.7	4.9	4,520	20,368	1.0
1993	3/6	232	76	0.3	11.6	2,628	11,967	0.6
1994	3/6	232	91	0.4	8.6	2,884	10,245	0.7
1995	3/6	240	107	0.5	8.1	2,092	9,402	0.6
1996	3/6	308	177	0.6	6.1	b	b	b
1997	3/6	282	102	0.4	9.8	b	b	b
1998	3/6	300	162	0.5	7.9	b	b	b
1999	3/6	284	176	0.6	5.8	b	b	b
2000	3/6	250	137	0.6	7.1	b	b	b
Previous 5-year Average		283	145	0.5	7.5	--	--	--
Percent Change From Previous 5-year Avg.	-12	-6	+20	-5	--	--	--	--

^a Total birds checked over total hunter days.

^b No data available.

Table 3. Forest grouse production in the Southeast Region based on wing collection, 1984-2000.

Year	Blue Grouse				Ruffed Grouse	
	N	Juv.:100 Adult Females	Juv.:100 Adults	Percent Unsucc. Females	N	Juv.:100 Adults
1984	a	a	a	a	a	
1985	15	a	a	a	215	a
1986	31	a	182	a	242	235
1987	74	a	87	a	505	158
1988	67	291	156	a	204	152
1989	79	a	243	a	186	110
1990	60	a	155	a	170	128
1991	92	268	93	25	119	358
1992	157	368	142	80	216	65
1993	45	520	137	a	29	93
1994	64	717	205	a	340	227
1995	52	a	117	a	97	64
1996	157	915	313	a	461	271
1997	36	a	227	a	162	195
1998	64	a	a	a	238	170
1999	86	a	129	a	245	175
2000	151	a	184	a	537	220
Previous 5-year Average	79	--	197	--	241	175
Percent Change From Previous 5-year Average	+91	--	-7	--	+123	+26

^a No data available.

Table 4. Forest grouse hunter success and harvest in the Southeast Region obtained from hunter report cards and the telephone survey, 1984-2000.

Year	Bag and Possession Limit	Hunter Report Cards				Telephone Survey		
		Hunters	Birds	Birds Per Hunter	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1984	4/8	a	a	a	a	1,621	2,889	0.6
1985	4/8	70	105	1.5	1.3	2,041	7,650	0.7
1986	4/8	142	176	1.2	2.1	2,284	15,739	1.2
1987	4/8	286	450	1.6	2.0	1,986	13,890	1.6
1988	4/8	141	172	1.2	2.7	3,037	16,962	1.0
1989	4/8	107	119	1.1	2.9	2,763	10,490	0.7
1990	4/8	206	276	1.3	2.4	2,916	12,556	0.8
1991	4/8	271	298	1.1	2.4	2,943	14,800	0.9
1992	4/8	481	691	1.4	2.6	4,398	24,897	0.9
1993	4/8	94	57	0.6	6.1	6,927	18,275	0.6
1994	4/8	a	a	a	a	4,664	22,363	0.7
1995	4/8	a	a	a	a	3,232	11,860	0.6
1996	4/8	a	a	a	a	a	a	a
1997	4/8	a	a	a	a	a	a	a
1998	4/8	a	a	a	a	a	a	a
1999	4/8	a	a	a	a	a	a	a
2000	4/8	a	a	a	a	a	a	a
Previous 5-year Average	--	--	--	--	--	--	--	--
Percent Change From Previous 5-year Average		--	--	--	--	--	--	--

^a No data available.

Table 5. Maximum number of male sage grouse counted on leks in Bingham and Power counties, Southeast Region, 1984-2001.

Year	Herriott Lake	Jugalard Lake	Rock Lake	Mosby Well #2
1984	18	0	41	0
1985	31	28	48	0
1986	19	55	66	0
1987	78	96	118	3
1988	71	112	92	0
1989	47	69	68	^a
1990	57	88	93	^a
1991	41	72	60	^a
1992	^a	^a	^a	^a
1993	18	24	39	^a
1994	^a	^a	^a	^a
1995	41	0	49	0
1996	5	0	49	^a
1997	0	0	23	0
1998	15	0	17	0
1999	8	0	12	0
2000	45	0	8	0
2001	46	0	6	0
Previous 5-year Average	15	--	22	--
Percent Change From Previous 5-year Average	+207	--	-73	--

^a No data available.

Table 6. Maximum number of male sage grouse counted on leks in Bear Lake County, Southeast Region, 1984-2001.

Year	Geneva Cemetery	Cow Creek #1	Utah Line	Cow Creek #2
1984	11	a	a	a
1985	14	a	a	a
1986	16	a	a	a
1987	26	a	a	a
1988	17	a	a	a
1989	9	70	8	a
1990	4	80	14	a
1991	a	a	a	a
1992	0	32	a	6
1993	a	a	a	a
1994	0	12	a	0
1995	0	0	a	0
1996	0	0	a	0
1997	a	a	a	a
1998	0	0	a	a
1999	0	0	a	a
2000	a	a	a	a
2001	a	a	a	a
Previous 5-year Average	--	--	--	--
Percent Change From Previous 5-year Average	--	--	--	--

^a No data available.

Table 7. Maximum number of male sage grouse counted on leks in Caribou County, Southeast Region, 1984-2001.

Year	Wooley Valley	Trail Creek	Slug Creek #1	Slug Creek #2	Sage Valley	Corral Creek
1984	2	33	17	a	a	a
1985	0	24	12	a	a	a
1986	0	31	15	a	a	3
1987	0	38	15	a	a	a
1988	0	24	11	a	a	a
1989	a	27	8	a	a	a
1990	a	32	8	10	a	a
1991	a	22	7	26	a	a
1992	a	28	8	24	a	a
1993	a	20	8	5	a	a
1994	a	13	6	10	a	a
1995	a	8	1	0	a	a
1996	a	6	0	0	a	a
1997	a	6	2	3	a	a
1998	a	12	3	4	a	a
1999	a	8	4	2	a	a
2000	a	10	0	0	a	a
2001	a	15	0	0	a	a
Previous 5-yr Average	--	8	2	2	--	--
Percent Change From Previous 5-yr Average	--	+88	-100	-100	--	--

^a No data available.

Table 8. Maximum number of male sage grouse counted on lek routes^a in Butte and Blaine counties, Southeast Region, 1987-2001.

Year	Route #1	Route #2	Route #3	Route #4	Route #5
1987	185	102	155	191	237
1988	137	129	166	145	246
1989	61	52	75	93	92
1990	92	54	96	99	79
1991	51	31	84	103	137
1992	47	11	62	41	63
1993	31	6	30	12	42
1994	20	29	53	8	55
1995	61	10	47	11	54
1996	54	13	71	4	22
1997	54	14	67	2	19
1998	79	15	62	1	19
1999	107	--	20	--	15
2000	149	--	38	--	58
2001	126	--	53	--	62
Previous 5-year Average	89	--	52	--	27
Percent Change From Previous 5-year Average	+42	--	+2	--	+130

^a Route 1 leks: Frenchmans, Detmers Dugout, Watertank, Quaking Aspen Airstrip, Detmers, West Big Lake, Big Lake.
Route 2 leks: East Big Lake, McCarty, Big Lake, Dugout, Rocky Lake.
Route 3 leks: Sunset Lake, Ryegrass, Prairie, South Crossroads, Crossroads, South Big Lake.
Route 4 leks: Reynolds, Lava Bluff, Osborne, Pitfall, Wakkinen, Firebomb, Turnaround, Weather Station.
Route 5 leks: Rattlesnake, Coxs Well, South Coxs Well, East Coxs Well, Silvertank, Antelope Lake, Houghlands Well, South Antelope Lake, Hill #1, Hill #2.

Table 9. Maximum number of male sage grouse counted on lek routes^a in Oneida County, Southeast Region, 1995-2001.

Year	Curlew Route	Rockland Route
1995	^b	^b
1996	16	13
1997	22	6
1998	11	17
1999	30	59
2000	22	99
2001	13	54
Previous 5-year Average	20	39
Percent Change From Previous 5-year Average	-35	+38

^a Curlew Route leks: South 13, North 13, Baker, Little Rock Spring, Ketchum, Huffman Springs, West Huffman. Rockland Route leks: Marble, Exchange, Smith/Pett, South Funk, North Funk, East Jacobson, West Jacobson, North Huffman, West Strong.

^b No data available.

Table 10. Sage grouse production in the Southeast Region based on wing collections, 1984-2000. Big Desert harvest season closed 1996.

Year	N ^a	Juv.:100 Females ^b	Juv.:100 Adults ^c	N ^d	Percent Unsuccessful Females ^b
1984	124	268	202	31	52
1985	942	360	232	183	60
1986	1601	289	184	^e	49
1987	480	199	125	^e	42
1988	934	115	81	362	42
1989	^e	235	151	^e	60
1990	581	256	161	156	41
1991	^e	98	70	^e	72
1992	367	121	79	134	82
1993	163	190	126	30	53
1994	454	305	199	173	79
1995	279	90	60	126	58
1996	46	375	188	^e	100
1997	51	186	104	^e	14
1998	30	140	88	^e	60
1999	37	114	76	^e	43
2000	34	80	55	^e	67
Previous 5-year Average	89	181	103	--	55
Percent Change From Previous 5-yr Average	-62	-56	-47	--	+22

^a Sample size for total wings collected.

^b Females = adults + yearlings.

^c Adults = adults + yearlings.

^d Sample size for total adult and yearling female wings collected.

^e No data available.

Table 11. Sage grouse production in the Power/Bingham (Big Desert) unit of the Southeast Region based on wing collections, 1984-2000.

Year	N ^a	Juv.:100 Females ^b	Juv.:100 Adults ^c	N ^d	Percent Unsuccessful Females ^b
1984	124	268	202	31	52
1985	852	344	224	171	60
1986	^e	302	190	^e	49
1987	^e	200	125	^e	41
1988	818	108	77	331	^e
1989	^e	230	149	^e	^e
1990	378	267	164	88	6
1991	^e	91	62	^e	78
1992	127	84	57	55	84
1993	77	162	103	19	47
1994	307	291	198	60	80
1995	240	85	56	109	60
1996	^e	^e	^e	^e	^e
1997	^e	^e	^e	^e	^e
1998	^e	^e	^e	^e	^e
1999	^e	^e	^e	^e	^e
2000	^e	^e	^e	^e	^e
Previous 5-year Average	--	--	--	--	--
Percent Change From Previous 5-yr Average	--	--	--	--	--

^a Sample size for total wings collected.

^b Females = adults + yearlings.

^c Adults = adults + yearlings.

^d Sample size for total adult and yearling female wings collected.

^e No data available.

Table 12. Sage grouse production in the Holbrook (Curlew) unit of the Southeast Region based on wing collections, 1984-2000.

Year	N ^a	Juv.:100 Females ^b	Juv.:100 Adults ^c	N ^d	Percent Unsuccessful Females ^b
1984	e	e	e	e	e
1985	90	575	329	12	e
1986	e	154	216	e	37
1987	e	165	109	e	44
1988	78	152	95	25	e
1989	e	277	161	e	e
1990	77	183	133	24	e
1991	e	186	130	e	86
1992	135	127	82	48	85
1993	60	138	94	8	63
1994	112	380	211	14	64
1995	20	70	47	10	40
1996	28	229	133	e	100
1997	30	200	114	e	0
1998	22	143	83	e	71
1999	18	275	157	e	50
2000	25	67	47	e	58
Previous 5-year Average	24	183	107	--	52
Percent Change From Previous 5-yr Average	-4	-63	-56	--	+12

^a Sample size for total wings collected.

^b Females = adults + yearlings.

^c Adults = adults + yearlings.

^d Sample size for total adult and yearling female wings collected.

^e No data available.

Table 13. Sage grouse production in the Bear Lake unit of the Southeast Region based on wing collections, 1986-2000.

Year	N ^a	Juv.:100 Females ^b	Juv.:100 Adults ^c	N ^d	Percent Unsuccessful Females ^b
1986	^e	59	93	^e	^e
1987	^e	216	146	^e	15
1988	38	383	153	6	^e
1989	^e	334	191	^e	^e
1990	126	282	168	28	^e
1991	^e	135	93	^e	57
1992	105	177	110	31	74
1993	26	767	767	8	33
1994	35	244	169	5	80
1995	19	186	144	7	43
1996	18	1,400	350	^e	100
1997	14	200	133	^e	25
1998	8	133	100	^e	33
1999	19	50	36	^e	40
2000	9	133	80	^e	100
Previous 5-year Average	16	394	153	--	48
Percent Change From Previous 5-yr Average	-44	-66	-48	--	+108

^a Sample size for total wings collected.

^b Females = adults + yearlings.

^c Adults = adults + yearlings.

^d Sample size for total adult and yearling female wings collected.

^e No data available.

Table 14. Sage grouse hunter success and harvest in the Southeast Region obtained from check stations and the telephone survey, 1984-2000.

Year	Bag and Possession Limit	Check Station				Telephone Survey		
		Hunters	Birds	Birds Per Hunter	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1984	1/1	53	21	0.4	7.7	733	1,817	0.9
1985	3/6	274	113	0.4	11.3	1,550	4,630	1.0
1986	3/6, 2/4 ^a	264	177	0.7	7.6	1,848	7,082	1.3
1987	3/6, 2/4	341	450	1.3	3.4	2,002	6,076	1.3
1988	3/6, 2/4	393	491	1.2	4.3	1,862	7,962	1.1
1989	3/6, 2/4	402	283	0.7	7.1	1,922	4,118	0.7
1990	3/6	344	498	1.4	3.2	2,073	6,004	0.8
1991	3/6	314	153	0.5	9.7	2,063	3,743	0.6
1992	3/6	168	52	0.3	15.1	2,242	5,077	0.6
1993	3/6	112	13	0.1	40.7	3,123	4,332	0.4
1994	3/6	167	109	0.6	7.6	2,528	4,401	0.5
1995	3/6	122	35	0.3	15.5	1,462	2,559	0.5
1996	1/2	b	b	b	b	b	b	b
1997	1/2	b	b	b	b	b	b	b
1998	1/2	b	b	b	b	b	b	b
1999	1/2	b	b	b	b	b	b	b
2000	1/2	b	b	b	b	b	b	b
Previous 5-year Average		--	--	--	--	--	--	--
Percent Change From Previous 5-year Average	--	--	--	--	--	--	--	--

^a From 1986 to 1989, bag and possession limits for areas off the Big Desert were smaller than those on the Desert.

^b No data available.

Table 15. Sharp-tailed grouse production in the Southeast Region based on wing collections, 1986-2000^{a,b}.

Year	Juv.:100 Adults	N
1986	97	130
1987	99	238
1988	76	147
1989	118	219
1990	69	210
1991	105	187
1992	96	382
1993	110	187
1994	173	289
1995	58	190
1996	126	224
1997	163	227
1998	130	379
1999	75	429
2000	59	399
Previous 5-year Average	110	290
Percent Change From Previous 5-year Average	-46	+38

^a Data not available prior to 1986.

^b Included data from Malad City Area and Pocatello Creek.

Table 16. Maximum number of sharp-tailed grouse counted on lek routes^a in Oneida, Power, and Bannock counties, Southeast Region, 1995-2001.

Year	Arbon Route	Curlew Route	Pocatello V. Route	Rockland Route	Downey Route	Columns 3 and 5
1995	92	23	78	50	^b	6
1996	43	46	31	53	84	115
1997	36	57	46	24	68	114
1998	^b	40	46	^b	72	118
1999	^b	^b	108	^b	102	210
2000	^b	^b	76	^b	60	136
2001	^b	^b	64	^b	42	106
Previous 5-year Average	--	--	61	--	77	139
Percent Change From Previous 5-year Average	--	--	+5	--	-45	-24

^a Arbon route leks: Symanthas, Ag, Howe, Cow, 1994.

Curlew route leks: Duffin, Vanderhoff, Hill, Bowen, N-13.

Pocatello Valley route leks: Thorpe, Davis, Jensen, N. Peterson, Peterson, Marble.

Rockland route leks: No Name, Roy, Benson, Quiet, Daryl.

Downey route leks: 1B021, 1B026, 1B027, 1B028, 1B033, 1B036, 1B039

^b No data available.

Table 17. Sharp-tailed grouse hunter success and harvest in the Southeast Region, 1984-2000.

Year	Bag and Possession Limit	Hunter Report Cards				Telephone Survey		
		Hunters	Birds	Birds Per Hunter	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1984	1/1 ^a	b	b	b	b	307	285	0.4
1985	3/6 ^a	b	b	b	b	219	456	1.0
1986	2/2	b	b	b	b	331	495	0.9
1987	2/2	117	157	1.3	2.9	64	2,118	2.0
1988	2/4	99	133	1.3	3.0	361	2,286	1.1
1989	2/4	144	166	1.2	3.1	573	1,448	0.8
1990	2/4	167	238	1.4	2.5	1,152	4,632	1.2
1991	2/4	162	198	1.2	3.2	1,127	4,864	1.1
1992	2/4	284	408	1.4	3.4	1,601	6,198	1.2
1993	2/4	158	184	1.2	3.4	2,721	5,071	0.5
1994	2/4	b	b	b	b	2,042	4,570	0.6
1995	2/4	b	b	b	b	1,706	3,899	0.6
1996	2/4	b	b	b	b	b	b	b
1997	2/4	b	b	b	b	b	b	b
1998	2/4	b	b	b	b	b	b	b
1999	2/4	b	b	b	b	b	b	b
2000	2/4	b	b	b	b	b	b	b
Previous 5-year Average		--	--	--	--	--	--	--
Percent Change From Previous 5-year Average	--	--	--	--	--	--	--	--

^a In aggregate with sage grouse.

^b No data available.

Table 18. Gray and Chukar partridge harvest information in the Southeast Region, 1984-2000. Results are from telephone surveys.

Year	Gray Partridge			Chukar Partridge		
	Hunters	Birds	Birds Per Hunter Day	Hunters	Birds	Birds Per Hunter Day
1984	a	a	a	a	a	a
1985	564	2,416	0.1	339	463	0.3
1986	414	1,257	0.4	400	1,164	0.7
1987	445	933	0.5	139	243	1.9
1988	582	4,938	1.1	266	854	0.8
1989	388	933	1.1	374	366	0.5
1990	944	3,854	0.8	400	1,164	0.7
1991	1,200	8,622	1.4	294	822	0.8
1992	1,204	6,500	1.1	430	2,540	1.0
1993	1,946	6,308	0.7	835	2,010	0.6
1994	1,180	4,814	0.9	656	1,592	0.6
1995	1,076	3,737	0.7	568	1,442	0.5
1996	a	a	a	a	a	a
1997	a	a	a	a	a	a
1998	a	a	a	a	a	a
1999	a	a	a	a	a	a
2000	a	a	a	a	a	a
Previous 5-year Average	--	--	--	--	--	--
Percent Change From Previous 5-yr Average	--	--	--	--	--	--

^a No data available.

Table 19. Controlled hunt turkey harvest information in the Southeast Region obtained from telephone survey, 1984-2000^a.

Hunt	No. of Hunts	Permits	Hunters	Birds Taken	Total Days Hunted	Success Rate	Days Per Bird
1984	2	20	20	4	84	20%	21
1985	2	20	15	3	106	20%	35
1986	6	20	14	2	35	14%	69
1987	9	45	45	11	132	24%	12
1988	9	45	32	6	139	13%	23
1989	9	45	39	5	^b	11%	^b
1990	5	30	20	6	154	20%	26
1991	2	10	10	3	45	30%	15
1992	2	10	10	4	40	40%	10
1993	2	10	10	1	45	10%	45
1994	2	20	20	6	72	30%	8
1995	6	30	30	6	100	20%	6
1996	6	30	30	15	100	50%	12
1997 ^c	6	60	44	32	110	73%	3
1998	8	175	154	86	^b	56%	3
1999	8	205	178	116	581	65%	5
2000	6	135	113	64	349	57%	5

^a No data for Hunt #68A-3

^b No data available.

^c No data for Hunt #68A-3.

Table 20. Fall general hunt turkey harvest information in the Southeast Region, Units 73,74,75 and 77, obtained from telephone survey, 2000.

Year	Hunters	Total Days Hunted	Birds Taken	Days Per Bird
2000	382	1,168	159	7.3

Table 21. Turkey transplant history for the Southeast Region, 1982-2000.

Year	Subspecies ^a	Release Site	Number Birds Released	New or Supplemental Release
1982	R	Snake River	36	New
1984	R	Snake River	28	New
1990	M	Snake River	14	Supplemental
1993	M	Bear River	20	New
1994	M	Snake River	64	Supplemental
	M	Bear River	32	Supplemental
1999	Unknown	Deep Creek, Bear River	15	Supplemental
2000	Unknown	Oneida Narrows	50	Supplemental

^a E - Eastern; M - Merriams; R - Rio Grande.

Table 22. Mourning dove population trends and harvest, Southeast Region, 1984-2001.

Year	Coo Count Routes		Telephone Survey		
	Routes	No. Doves Heard/Mile	Hunters	Doves	Doves/Hunter Day
1984	3	1.5	455	824	1.8
1985	2	0.4	452	1,358	0.7
1986	3	0.4	221	453	1.3
1987	2	0.6	292	1,030	1.0
1988	3	0.9	97	122	1.5
1989	2	1.0	266	708	1.4
1990	1	0.8	908	9,865	1.8
1991	2	0.8	397	1,733	1.9
1992	3	2.0	882	15,061	2.1
1993	3	0.7	2,628	25,326	2.2
1994	3	0.9	2,060	16,313	2.7
1995	3	0.6	1,848	15,150	2.1
1996	3	0.4	a	a	a
1997	3	0.7	a	a	a
1998	3	0.5	a	a	a
1999	3	0.5	a	a	a
2000	3	0.4	a	a	a
2001	3	0.2	a	a	a
Previous 5-yr. Average	3	0.5	--	--	--
Percent Change From Previous 5-yr. Average	0	-60	--	--	--

^a No data available.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys</u>
PROJECT:	<u>W-170-R-25</u>		<u>and Inventories</u>
SUBPROJECT:	<u>6</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME –UPPER SNAKE REGION

PHEASANT

Population Surveys

General observations suggest pheasant populations remain extremely low in the region. Two pheasant rooster crowing routes were established in 1996 (Table 2). One route was within the Region's special pheasant habitat management area (Lewisville-Menan area) and the other route was in the Labelle area. Initially these routes were established to evaluate pheasant population response to habitat projects in the special pheasant habitat management area with the Labelle route used as a control. However, in 2000 management direction changed and pheasants were released onto the Lewisville-Menan area. Therefore, the data can no longer be used to monitor the effects of habitat improvement on pheasant populations. Methodology follows Trautman (1982 pg. 70-71). Routes were counted three times at approximately weekly intervals from 45 minutes before sunrise to 30 minutes after sunrise. Each route has 20 stops approximately one mile apart. At each stop the number of rooster pheasant heard crowing during a 2-minute listening period is recorded. Table 2 presents the average number of crows heard per stop for the peak count.

Harvest Characteristics

Four pheasant hunters were checked at the Sage Junction check station during Sunday of the opening weekend of the pheasant season in 2000; none of the hunters had harvested or seen any pheasants (Table 3).

The statewide telephone survey provided data on pheasant harvest and hunting effort from 1983 through 1996. No telephone survey has been conducted since the 1996 season. (Table 3).

Habitat Conditions

Pheasants are distributed at low densities on and around agricultural land in the Upper Snake Region. Pheasant habitat is marginal due to periodic severe winters and agricultural practices inconsistent with quality pheasant habitat. There are patches of habitat supporting a few pheasants scattered throughout the area, including Howe, Montevue, Mud Lake WMA, Market Lake WMA, and the agricultural lands associated with the Snake River Plain. Habitat is restricted to fence rows, irrigation ditches, riparian areas, and waste areas. A common practice is to burn these patches of cover in the spring prior to nest initiation. Hence, available nesting cover occurs as widely dispersed small patches of residual cover, hay fields, and fall-seeded small grain.

No habitat improvement projects for pheasants were contracted for during this reporting period. Instead, emphasis has been placed on releasing wild and game farm pheasants in southern Idaho.

Pheasant Research

Research was initiated in southern Idaho in the spring of 2000 to evaluate the response of translocated wild and pen-reared pheasant and to determine the cost effectiveness of these techniques as management tools. Two study sites (Lewisville-Menan area and Madison County) were located in the Upper Snake Region. On each study site wild and pen-reared pheasant were released. Some of the pheasant were radio marked. The radio-marked pheasant were monitored to determine their fate, movements, and habitat use. Results from this study will be reported in a separate upland game ecology report.

Release of Pen-Reared Pheasants

Seven hundred twenty-five game farm pheasant cocks were released at Mud Lake WMA, 700 were released at Market Lake WMA, and 372 were released at Cartier WMA during the 2000 hunting season. There were five releases during the hunting season starting October 22 and continuing through November 19. Hunters hunting on WMAs where game farm pheasants were released were again required to obtain a WMA pheasant permit in 2000. The Department requested that hunters return the cards after the season closed; however, the return rate was too low to estimate harvest on released pheasants.

Management Implications

Pheasant habitat quantity and quality in the Region has diminished since the 1950s and 1960s due to changing agriculture practices. Loss of habitat combined with periodic severe winters and low recruitment restrict pheasant numbers in the Upper Snake Region. Although some winter habitat improvement projects have been implemented in the region, little has been done to improve nesting habitat.

Pheasant populations have been low since 1983. Harsh winters in 1983-1984 and 1984-1985 started the decline. Although several winters since then have been unusually mild, populations

have not recovered. Low recruitment, winter mortality, and limited habitat are the most likely factors holding densities to low levels. Research needs to be done in the Upper Snake Region to identify what can be done to increase recruitment.

FOREST GROUSE

Population Surveys

Forest grouse populations are not intensively sampled in the Upper Snake Region because populations are patchy in distribution, making it difficult to efficiently obtain adequate sample sizes from enough areas to be meaningful.

Wings were examined to estimate forest grouse production. Thirty-nine blue grouse wings and 39 ruffed grouse wings were collected at check stations, wing barrels, or turned in to the Department during the 2000 season. Examination of these gave a young:adult ratio of 58:100 blue grouse and 225:100 ruffed grouse. However this sample size is too small to provide meaningful information throughout the region.

Harvest Characteristics

Harvest information had been collected from the statewide telephone survey and from check stations operated during the opening weekend of the sage grouse season. Forest grouse checked at check stations are taken in conjunction with sage grouse hunting. Drastic reductions in sage grouse hunting opportunity occurred beginning in 1996 as a result of research-induced regulation changes. Consequently 2000 hunter numbers were again only a fraction of historical levels. Twenty-three blue grouse and 5 ruffed grouse were checked at sage grouse check stations in 2000 (Table 4). Check station data have been used to calculate an index of forest grouse per 100 hunters checked on the opening weekend of sage grouse season. The number of forest grouse in the bag of sage grouse hunters provides a rough index to their abundance in or near areas inhabited by sage grouse. The number of forest grouse per 100 hunters in 2000 was well above the ten-year average. Historical telephone survey harvest data are presented in Table 4. However no telephone survey has been conducted since the 1996 season.

Climatic Conditions

Spring weather conditions during 2000 were warm and dry. Precipitation was below average from March through May. Favorable brood rearing conditions should have been available for nesting, but dry summer conditions may have reduced chick survival. Limited wing data indicated poor blue grouse production (58 young:100 adult) and only fair ruffed grouse production (225 young:100 adult).

Management Implications

The forest grouse harvest has fluctuated widely in the past 10 years (Table 4). The number of birds checked has varied between 8 and 50 with a mean of 27. Both the check station and

telephone survey (prior to 1997) data indicate that forest grouse numbers fluctuate; however, the two data sets do not correspond in annual fluctuations (Table 4).

SAGE GROUSE

Distribution Surveys

Sage grouse are distributed throughout the Upper Snake Region in sagebrush grasslands. In 1994 the region set up a schedule to begin conducting lek distribution surveys. However that schedule could not be maintained while continuing to count lek routes for sage and sharp-tailed grouse. Therefore, since 1998 the region has encouraged other agencies to count some of the lek routes and also conduct ground searches for additional leks. This effort has resulted in additional leks being located in the Big Lost valley, Medicine Lodge area, the Idaho National Engineering and Environmental Laboratory (INEEL), and the Sand Creek desert.

Population Trend

Seventeen lek routes were counted in 2000. Two of these routes were new in 1997 and 2 were new in 1998. Of the nine traditional routes, 5 had more grouse than 1999 (Table 5). The number of grouse counted on routes fluctuates from year to year due to previous year's production and other factors relative to counting. Although most routes are showing an increase in grouse since the early 1990s, two routes, lower Birch Creek and upper Birch Creek, have consistently had fewer grouse than historical counts. The reduced number of grouse counted on the Birch Creek routes may be due to a reduction in winter habitat caused by land conversion to agricultural crops in the Reno Point to Montevue area. The Lidy route is also being impacted by agricultural encroachment. Eight of the 16 leks on the Lidy route have been cleared of sagebrush since the early 1980s; the leks are now in alfalfa or fallow. The Jacoby route, which lost all the leks that existed in 1983, has had an increase of grouse since 1993. This suggests that the sagebrush habitat in the area lost in the extensive 1982 Sheep Station wildfire is beginning to meet sage grouse nesting/brood rearing needs.

Production

The juvenile to adult female ratio is determined from hunter-harvested sage grouse wings. These data indicate below average production again in 2000 (Table 6); however, sample size since 1996 has been inadequate to get a good estimate of production.

Seasons

The sage grouse season was changed in 1996 from what had existed the previous 5 years; since 1996 the season has remained the same. Beginning in 1990 the sage grouse season was 30 days long with a 3-sage grouse bag limit and 6-sage grouse possession limit. In 1996 three different season structures occurred in the region. Area 1: Bonneville County west of Interstate 15, Butte County south of US Highways 20/26 and 22/33 and east of the Arco-Minidoka Road, the entire Birch Creek drainage, Clark County within the Birch Creek Drainage, Jefferson County west of

Interstate 15 and south of State Highway 33, and Lemhi County within the Birch Creek drainage were closed to all sage grouse hunting; Area 2: Bonneville County east of Interstate 15, Clark County EXCEPT that portion within the Birch Creek drainage, Fremont County, Jefferson County east of Interstate 15 and that part north of State Highway 33 and west of Interstate 15, Madison County, and Teton County had a seven-day season with a 1-sage grouse bag and 2-sage grouse possession limit; and Area 3: Butte County south of Highway 20/26 and west of the Arco-Minidoka Road, Butte County north of US Highway 20/26 and State Highway 33 not within the Birch Creek drainage, and Custer County EXCEPT that portion within the Salmon River drainage upstream from and including Valley Creek had a 23-day season with a 2-sage grouse bag and 4-sage grouse possession limit.

The reasons for these season changes were to 1) implement research to evaluate whether hunting mortality is compensatory or additive, 2) evaluate the effects of habitat fragmentation on recruitment, 3) identify causes for low recruitment, and 4) address public concern about declining sage grouse numbers.

Harvest Characteristics

Three check stations monitor harvest characteristics. Wing barrels in the Tex Creek area have not collected an adequate sample from this harvest area. Check station data since 1995 reflects the reduced bag/possession limits with fewer hunters afield and fewer grouse harvested on opening weekend (Table 7). Birds per hunter day decreased a little and hours per bird harvested increased a little from 1999, indicating more difficult hunting conditions in 2000 compared to 1999 (Table 7).

Climatic Conditions

The spring weather conditions in 1999 were warmer and dryer than normal. This weather pattern provided for difficult nesting and brood rearing conditions. These conditions are reflected in the low chick recruitment in 2000 (Table 6).

Habitat Conditions

Sage grouse habitat continues to be lost to agriculture, wildfire, and prescribed fire throughout the region. Wildfires were a significant problem again in 2000. Extensive acreage of sagebrush has been lost to wildfires on and around the INEEL since the summer of 1996. Reduced numbers of sage grouse resulting from these habitat losses are expected to occur for the next several years.

Management Studies

A research project was initiated in August 1997 to identify and evaluate causes of juvenile sage grouse mortality. Information gained from this research will be published in a research progress report.

Management Implications

Sage grouse populations fluctuate from year to year relative to weather conditions and, over longer time, from habitat alterations. Harvest is dependent upon hunting conditions on opening weekend, bag and possession limits, season length, and grouse populations. Although lek distribution surveys had not been conducted in the region for several years, a schedule to begin surveying sagebrush habitats was started in 1994; however, limited funding and workloads have prevented continuing these on an annual basis. The Bureau of Land Management, US Forest Service, and INEEL have assisted the Department in conducting lek surveys in recent years. Long-term monitoring trends show population declines throughout the Region. Both quantity and quality of habitat have declined due to agriculture encroachment, sagebrush manipulation, loss of wetlands, and livestock grazing. Regional personnel are actively involved with other agencies and private landowners in planning sagebrush manipulation projects to minimize impacts to sage grouse habitat; however, continued population declines indicate more needs to be done to reduce sagebrush conversion and fragmentation and to improve grazing management.

A Local Working Group of federal and state agency personnel, sportsmen, ranchers, and landowners from the Upper Snake Region was formed in November 1998 to address sage grouse declines. Initially fifty to sixty members met on a bi-monthly or monthly basis, but this number has dwindled to 15 to 20 over the past year. During the past year-and-a-half the members have identified potential action issues and prioritized these issues.

SHARP-TAILED GROUSE

Population Surveys

Two sharp-tailed grouse lek routes are surveyed in the Upper Snake Region (Table 9). The number of grouse attending leks in 2000 increased compared to 1999 and was above the 10-year average for both routes.

Harvest Characteristics

Check Stations

Trends in harvest of sharp-tailed grouse have historically been monitored through the Red Road check station on opening weekend of the sage and sharp-tailed grouse seasons (Table 10). However, in 1998 the sharp-tail opener was delayed by two weeks to October 1. Consequently no check station-derived harvest data was obtained on sharp-tailed grouse in 1998 or 1999. However, in 2000 a check station was operated on the Sand Creek road from 0930 to 1430. Weather conditions were unfavorable and only 39 hunters were checked with 19 sharp-tailed grouse.

Production

Wings were collected at wing barrels from the Sand Creek and Tex Creek areas throughout the season and a check station was operated on Sand Creek road on opening day of the sharp-tailed season. Analysis of wings indicated that the 2000 production was 67% below the 5-year average (Table 8).

Climatic Conditions

Weather conditions during the 2000 production season were warm and dry. These conditions are not favorable to good sharp-tailed grouse production in the Upper Snake Region, which is reflected in the low recruitment in 2000 (Table 8).

Habitat Conditions

Lands enrolled in the Conservation Reserve Program (CRP) in Bonneville, Bingham, Teton, Madison, and Fremont counties may be providing some benefits to sharp-tailed grouse. Increased distribution of sharp-tailed grouse is being documented during the lekking season and winter in areas enrolled in CRP, especially in Fremont, Madison, and Teton counties.

Management Implications

Sharp-tailed grouse production and/or recruitment were very low from 1992 through 1994. Unfavorable weather conditions may have been responsible. Drought conditions prevailed throughout the spring and summer in 1992, while 1993 and 1994 were abnormally cool and wet. Production, based on wing analysis, improved markedly from 1995 through 1998, but dropped again in 1999 and 2000. These fluctuations may be the result of small sample size or weather related. Birds attending leks on the Sand Creek and Grassy routes increased again in 2000, up from the extremely low numbers observed in 1997. The current lack of any meaningful harvest data is a concern.

Additions to Department-owned parcels of habitat are being sought for the Sand Creek and Tex Creek WMAs. Lands enrolled in CRP may continue to provide additional habitat in the future; however, population response has not been as dramatic as noted in some other Regions.

CHUKAR PARTRIDGE

Population Surveys

No production data were collected during this reporting period. Chukar and gray partridge numbers were observed while conducting 2000 big game winter surveys in the lower Big Lost and Little Lost River valleys and the Reno Point area, but in lower number than the past couple years.

Harvest Characteristics

Table 11 presents the chukar harvest through opening weekend check stations (check stations are operated primarily for sage grouse hunters) for the past ten years. A telephone survey has not been conducted since the 1996 season.

Management Implications

Chukar partridge are not numerous in the Upper Snake Region. Habitat is limited by snow depth, duration of snow cover, and water availability. Chukar have been more numerous and widely distributed in the past, but severe winters have reduced populations and restricted distribution to the most favorable sites. Remnant populations occur in the lower Big Lost, lower Little Lost, and lower Birch Creek valleys. These populations are well established but are susceptible to periodic weather-related declines, particularly in the Big Lost River valley.

Although operated primarily to check sage grouse hunters, opening weekend check stations also provide minimal trend information on chukar harvest (Table 11). Results indicate more birds harvested in 2000 than the past few years, but still relatively few chukars are harvested in the Upper Snake Region. In mid-September birds are often well dispersed and difficult to find. Early winter snowstorms can concentrate birds along roads and around ranches, creating social problems with continued hunting.

GRAY PARTRIDGE

Population Surveys

No population trend data were collected for this reporting period. Incidental hunter reports indicated fewer birds around the agriculture land west of Interstate 15 than the previous couple years. Fewer gray partridge were also observed during 2000 big game winter surveys. Gray partridge population trends are indexed by the number harvested per hunter on the opening weekend. Twelve gray partridge were checked in 2000 at check stations designed to sample sage grouse harvest (Table 12).

Harvest Characteristics

Harvest information is gathered from check stations operated at Sage Junction, Highway 20, and Red Road during opening weekend of the sage grouse season. Table 12 shows the trend in gray partridge checked in the Upper Snake Region. However it should be noted that there has been a dramatic reduction in hunter participation since 1996 as a result of severely restricted sage grouse hunting opportunity in the region.

Habitat Conditions

Gray partridge are distributed at lower elevations throughout the Upper Snake Region, but densities are relatively low. In drier years the birds concentrate around moist areas and hay

fields, but have a more general distribution in years with normal precipitation. Nesting occurs in and around hay or grain fields. Although gray partridge are capable of surviving winter conditions better than chukar partridge, severe winters cause increased mortality.

Management Implications

Habitat improvement projects sponsored through the HIP program and Pheasants Forever indirectly benefit gray partridge. Cost-share seeding of grass/forb mixtures provided by the CRP also benefit gray partridge in some locations.

WILD TURKEY

Population Surveys

There were no population surveys done in 2000. However some landowners have reported seeing turkeys in the area between Leslie Buttes and Mackay in Unit 50.

Harvest Characteristics

There was no hunt in the region in 2000.

Climatic Conditions

The 2000-2001 winter was relatively mild with below normal snow. Spring nesting conditions should have provided good nesting conditions.

Habitat Conditions

Turkey habitat in the Region may be marginal for winter foraging, but no studies have been done to evaluate habitat quality.

Turkey Releases

Three turkey (Merriam subspecies) releases were made in Unit 63A during this planning period. Two releases with a total of 46 turkeys from the Panhandle and Clearwater Regions were made in the Archer area. Another 45 turkeys from the Southwest Region were released near Deer Parks WMA. No monitoring of the turkeys has been done but incidental observations by Department personnel and landowners are common.

Management Implications

Fifty-nine turkeys (Merriam's) were released on the Big Lost River below Mackay in February and March 1999. Local landowners and Department personnel report seeing turkeys in this area, but there was no survey conducted during 2000-2001.

Turkeys were again released at two locations in Unit 63A. These releases were in the same general vicinity as the turkeys released during 1984 and 1988. The previous transplants were numerically small (12–16) and involved the Rio Grande subspecies. These previous transplants were unsuccessful in establishing a population and some evidence indicated that inadequate winter food was the primary limiting factor.

Research is critically needed on the ecology, recruitment, habitat needs, and movements of the introduced river bottom turkeys in southeast Idaho. Some of the introduced populations have shown similar trends of not establishing viable populations or increasing for a few years and then becoming extinct.

MOURNING DOVE

Population Characteristics

Data from dove coo count routes are reported directly to the U.S. Fish and Wildlife Service.

Harvest Characteristics

Three doves were checked at the Sage Junction, Red Road, and Highway 20 check stations on the opening weekend of the 2000 sage grouse season. A telephone survey has not been conducted since the 1996 dove season.

Management Implications

The mourning dove is one of the most common nesting game birds in the Upper Snake Region. However in many years the majority of birds have left the area prior to the season opening on September 1.

Management efforts are aimed at reducing sportsmen/landowner conflicts, and improving habitat indirectly through HIP windbreaks, guzzlers, and CRP plantings. We will continue to take advantage of harvest opportunities as allowed by federal regulations.

RABBITS AND HARES

Rabbits are a low priority species in the Upper Snake Region. No telephone survey has been conducted since the 1996 rabbit season. In addition to the recreational opportunity provided by hunting, rabbits also serve as a prey base for predators. No production or population information is collected on rabbit or hare populations.

CROWS

Crows are not managed in the Upper Snake Region. No population, production, or harvest data are collected. Hunting pressure is virtually nonexistent.

LITERATURE CITED

Trautman, Carl G. 1982. History, ecology and management of the ring-necked pheasant in South Dakota. Bulletin No. 7. South Dakota Department of Game, Fish and Parks, Pierre, South Dakota, USA.

Table 1. Pheasant population and production in the Upper Snake Region, 1991-2000.

Year	Winter Sex Ratio ^a	N ^b	Brood Routes				N	Average Brood Size
			Routes & Miles Counted	Birds Per Mile	Percent Unsucc. Females	Juv.:100 Adult Females		
1991	N/C		3/60	0				
1992	N/C		3/60	0				
1993	N/C		3/60	0				
1994	N/C		3/60	0				
1995	N/C		3/60	0				
1996	N/C		N/C	-				
1997	N/C		N/C	-				
1998	N/C		N/C	-				
1999	N/C		N/C	-				
2000	N/C		N/C	-				

^a Hens per cock.

^b Sample size.

Table 2. Peak pheasant crow count comparison trend for the Lewisville and Labelle routes.

Year	Average Number of Calls/Stop	
	Lewisville	Labelle
1996	0.50	0.50
1997	1.20	0.40
1998	0.95	0.45
1999	1.15	0.50
2000	1.10	0.10 ^a

^a Only one count made.

Table 3. Pheasant hunter success and harvest in the Upper Snake Region obtained from the Sage Junction check station (opening weekend) and the telephone survey, 1991-2000.

Year	Check Station				Telephone Survey ^a		
	Hunters	Birds	Birds Per Hunter Day ^b	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day ^b
1991	10	0	-	-	765	1,441	0.57
1992	18	2	0.11	27.8	856	273	0.21
1993	8	0	-	-	588	928	0.43
1994	3	0	-	-	356	487	0.33
1995	2	0	-	-	487	487	0.26
1996	0	0	-	-	450	0	0.00
1997	7	0	-	-	- ^c	-	-
1998	2	0	-	-	- ^c	-	-
1999	2	0	-	-	- ^c	-	-
2000 ^d	4	0	-	-	- ^c	-	-
10-Year Average	6	0.2	-	-	-	-	-

^a Data from Bonneville, Butte, Clark, Fremont, Jefferson, Madison, and Teton counties.

^b Total birds checked over total hunter days.

^c Telephone survey data were not collected on the 1997, 1998, 1999, or 2000 seasons.

^d Check station operated only on Sunday of opening weekend.

Table 4. Forest grouse hunter success and harvest in the Upper Snake Region obtained from check stations on opening weekend of the sage grouse season and the telephone survey 1991-2000.

Year	Check Stations				Forest Grouse Per 100 Hunters	Telephone Survey ^a		
	Hunters	Number of Grouse		Total		Hunters	Birds	Birds Per Hunter Day
		Blue	Ruffed					
1991	2,250	38	0	38	1.69	1,917	7,102	1.28
1992 ^b	1,561	7	7	14	0.90	2,055	12,914	0.89
1993 ^c	1,565	4	4	8	0.51	4,639	12,029	0.55
1994	1,634	14	12	26	1.59	4,027	16,239	0.75
1995	1,048	20	0	20	1.91	3,432	11,474	0.52
1996	364	24	2	26	7.14	1,642	4,927	0.58
1997	455	15	5	20	4.40	- ^d	-	-
1998	524	47	3	50	9.54	- ^d	-	-
1999	526	37	4	41	7.79	- ^d	-	-
2000	573	23	5	28	4.89	- ^d	-	-
10-Year Average	1,050	23	4	27	2.57	-	-	-

^a Data from Bonneville, Butte, Clark, Fremont, Jefferson, Madison, and Teton counties.

^b A toxic chemical spill on I-15 on opening day 1992 resulted in some hunters being rerouted and missed by the Sage Junction check station.

^c New telephone survey methodology employed beginning in 1993 (results not directly comparable to previous results).

^d Telephone survey data were not collected on the 1997, 1998, 1999, or 2000 seasons.

Table 5. Male sage grouse counted on Upper Snake Region lek routes 1991-2000.

Route	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	10-Year Average
L. Birch Cr.	56	28	18	29	18	6	16	25	37	30	26
Red Road	61	106	34	53	40	69	74	52	168	153	81
Jacoby	38	35	49	71	77	90	67	159	125	104	82
Med. Lodge	71	67	25	67	50	35	32	96	129	159	73
Little Lost	126	87	57	57	79	48	77	67	131	157	89
Lidy	230	67	100	80	62	26	72	71	110	210	103
Plano	296	182	144	79	106	48	106	131	80	122	129
U. Birch Cr.	3	0	0	0	4	8	13	11	17	19	7
Crooked Cr.	106	90	58	120	105	61	120	112	132	181	109
Market Lake	N/C	N/C	N/C	N/C	N/C	N/C	26	31	30	19	27
Sheep Station ^a					83	88	131	110	162	213	131
Table Butte ^b							70	185	129	165	137
Stibal Road ^b							57	96	143	116	103
INEEL ^a					18	15	26	58	117	70	51
Tractor Flat ^a					75	54	77	103	113	135	93
Lower Big Lost ^c								62	74	50	62
Antelope Cr. ^c								31	24	29	28
Totals	987	662	485	556	717	548	964	1,400	1,721	1,932	1,331
Average per route counted	110	74	54	62	60	46	64	82	101	114	78

^a New routes established in 1995.

^b New routes established in 1997.

^c New routes established in 1998.

Table 6. Sage grouse production in the Upper Snake Region based on wing collections, 1991-2000.

Year	Juveniles:100 Females	Juveniles:100 Adults
1991	168	103
1992	155	106
1993	224	150
1994	200	136
1995	138	106
1996 ^a	673	246
1997 ^a	212	164
1998 ^a	281	178
1999 ^a	209	130
2000 ^a	171	127
5-Year Average	309	169
Percent Change From Last Year	-18	-2

^a Inadequate sample sizes.

Table 7. Sage grouse hunter success and harvest in the Upper Snake Region obtained from check stations and the telephone survey, 1991-2000.

Year	Check Station					Telephone Survey		
	Bag and Possession Limit	Hunters	Birds	Birds Per Hunter Day	Hours Per Bird	Hunters	Birds	Birds Per Hunter Day
1991 ^a	3-6	2,250	1,944	0.86	5.51	4,385	10,593	1.07
1992 ^{a,b}	3-6	1,561	1,121	0.72	7.10	3,660	4,990	0.63
1993 ^a	3-6	1,565	889	0.57	8.66	6,586	10,979	0.58
1994 ^a	3-6	1,634	1,131	0.69	7.22	3,765	8,728	0.76
1995 ^a	3-6	1,133	492	0.43	10.74	3,148	5,422	0.60
1996 ^c	1-2 & 2-4	432	202	0.47	7.56	1,543	2,536	0.59
1997 ^c	1-2 & 2-4	455	248	0.55	7.28	- ^d	-	-
1998 ^{c,e}	1-2 & 2-4	524	336	0.64	6.53	- ^d	-	-
1999 ^{c,e}	1-2 & 2-4	526	424	0.81	4.54	- ^d	-	-
2000 ^{c,e}	1-2 & 2-4	573	387	0.68	5.58	- ^d	-	-
10-Year Average		1,065	717	0.67	7.07			

^a Season extended from 16 to 30 days.

^b A toxic chemical spill on I-15 on opening day 1992 resulted in some hunters being missed at the Sage Junction check station.

^c Season closed area 1; 7-day season area 2, bag-possession limits 1-2; 23-day season area 3, bag-possession limits 2-4. Refer to Appendix I for area description.

^d Telephone survey data were not collected on the 1997, 1998, 1999, or 2000 seasons.

^e Numbers do not include sharp-tail hunters because the sharp-tail season opened later (October 1) than the sage grouse season.

Table 8. Sharp-tailed grouse production in the Upper Snake Region based on wing collections, 1991-2000.

Year	Juveniles:100 Adults	N
1991	270	122
1992	39	124
1993	39	38
1994	103	59
1995	285	50
1996	242	65
1997	338	92
1998	221	77
1999	176	243
2000	68	89
5-Year Average	209	113
Percent Change From Prior Year	-61	-63
Percent Change From Previous 5-Year Average	-67	-21

Table 9. Sharp-tailed grouse lek route counts, Upper Snake Region, 1991-2000.

Year	Route – Maximum Count	
	Sand Creek	Grassy
1991	22	11
1992	N/C	26
1993	17	5
1994	24	5
1995	18	4
1996	22	4
1997	5	3
1998	39	13
1999	32	32
2000	43	28
10-Year Average	25	13

Table 10. Sharp-tailed grouse hunter success and harvest in the Upper Snake Region obtained from the Red Road check station and the telephone survey, 1991-2000.

Year	Bag and Possession Limit	Check Station				Telephone Survey		
		Hunters	Birds	Birds Per Hunter Day	Hours Per Bird ^a	Hunters	Birds	Birds Per Hunter Day
1991	2-4	826	94	0.11	6.4	555	653	0.6
1992	2-4	645	65	0.10	8.8	393	967	1.4
1993 ^b	2-4	537	8	0.01	23.2	2,041	1,856	0.2
1994	2-4	496	22	0.04	7.9	1,423	1,723	0.4
1995	2-4	406	28	0.07	11.7	1,239	1,076	0.3
1996	2-4	199	6	0.03	9.3	1,543	1,433	0.3
1997	2-4	213	33	0.15	7.2	- ^c	-	-
1998 ^d	2-4	-	-	-	-	- ^c	-	-
1999 ^d	2-4	-	-	-	-	- ^c	-	-
2000 ^e	2-4	39	19	0.49	6.4			
10-Yr. Avg.	2-4	420	34	0.13	10.1			

^a All species (not just sharp-tailed grouse).

^b New telephone survey methodology employed beginning in 1993 (results not directly comparable to previous results).

^c Telephone survey data were not collected on the 1997, 1998, or 1999 seasons.

^d No check station data collected because the sharp-tail season opened later (October 1) than the sage grouse season.

^e Check station operated October 1 only from 0930 to 1430.

Table 11. Trend in chukar partridge checked at Upper Snake Region check stations (Sage Junction, Red Road, and Highway 20) on opening weekend of sage grouse season, 1991-2000.

Year	Hunters	Chukar Partridge
1991	2,250	29
1992 ^a	1,561	10
1993	1,565	0
1994	1,634	9
1995	1,133	13
1996	432	9
1997	455	10
1998	524	19
1999	526	6
2000	573	15
10-Year Average	1,065	12

^a A toxic chemical spill on I-15 on opening day 1992 resulted in some hunters being rerouted and missed by the Sage Junction check station.

Table 12. Trend in gray partridge checked at Upper Snake Region check stations (Sage Junction, Highway 20, and Red Road) on opening weekend of sage grouse season, 1991-2000.

Year	Hunters	Gray Partridge	Birds Per Hunter
1991	2,250	28	.0124
1992 ^a	1,561	18	.0115
1993	1,565	7	.0045
1994	1,634	13	.0080
1995	1,133	2	.0018
1996	432	7	.0162
1997	455	11	.0242
1998	524	7	.0134
1999	526	26	.0494
2000	573	12	.0209
10-Year Average	1,065	13	.0162

^a A toxic chemical spill on I-15 on opening day 1992 resulted in some hunters being rerouted and missed by the Sage Junction check station.

**PROGRESS REPORT
SURVEYS AND INVENTORIES**

STATE:	<u>Idaho</u>	JOB TITLE:	<u>Upland Game Surveys and</u>
PROJECT:	<u>W-170-R-25</u>		<u>Inventories</u>
SUBPROJECT:	<u>7</u>	STUDY NAME:	<u>Upland Game and</u>
STUDY:	<u>II</u>		<u>Waterfowl Population</u>
JOB:	<u>1</u>		<u>Status and Trends</u>

PERIOD COVERED: April 1, 2000 to March 31, 2001

UPLAND GAME –SALMON REGION

PHEASANT

Population Surveys

Inactive. Pheasant populations in Custer and Lemhi counties are restricted to small areas along major river bottoms. The limited populations have not been systematically surveyed in the past.

Harvest Characteristics

Telephone Survey

In addition to low overall numbers, pheasants exist primarily on private lands with limited public hunting access, so harvest rates are low (Table 1). The data in Table 1 are based on small sample sizes, so confidence intervals are large. Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Inactive.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Pheasant habitat in Custer and Lemhi counties exists along the lower Lemhi and Pahsimeroi rivers and the main Salmon River near Challis and Salmon. The habitat complex consists primarily of riparian areas, cattails, hay meadows, and cattle pastures. Cereal cropland is uncommon. This habitat complex has been stable from year to year and relatively unaffected by annual weather variations or changes in grain commodity markets. Rural residential housing has been increasing, resulting in increased land clearing and more feral pets.

Management Implications

Pheasants in the Salmon Region occur in limited geographic areas with stable habitat conditions, and they receive light hunting pressure. Although opportunities exist for minor habitat improvements, overall pheasant distribution and numbers are not likely to change significantly in the foreseeable future. Harvest is currently limited by restricted access to private land, which is also unlikely to change.

Abstract

Small populations of pheasants exist in limited but stable habitats in the Salmon Region. Hunting pressure and harvest are relatively light.

QUAIL

Population Surveys

Inactive.

Harvest Characteristics

Hunting season is closed.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Little is known of Gambel's quail habitat in the region. However there do not appear to be any major land use changes occurring that threaten current quail habitat conditions.

Management Implications

A small, introduced population of Gambel's quail exists in isolated pockets within a few miles of the town of Salmon, Idaho. Little is known about this un hunted population. A few broods are usually reported each year; the population appears stable. Although limited in distribution, the population could likely support harvest. Opportunity and harvest would be primarily limited to access to private property. Although biologically justified, establishing a season on this population of exotic game birds may meet with public resistance because of its relatively small size and concerns of local people, many who feed quail on their property.

Abstract

The small, exotic Gambel's quail population near Salmon appears to be at carrying capacity, indicating harvest could be initiated at a level near annual production.

FOREST GROUSE

Population Surveys

No systematic surveys such as established brood routes or drumming counts are maintained for forest grouse species. Information on forest grouse production has been obtained in the past from incidental brood counts made by Department personnel. However sample sizes were small, and effort expended and areas sampled varied considerably between personnel and years. Because resulting data had little management value, incidental brood counts were discontinued in 1988.

Harvest Characteristics

Telephone Survey

As a group, forest grouse account for more hunters, more hunter days, and more birds harvested than any other upland game species (Table 2). Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

No check stations are maintained specifically for forest grouse. A few birds are checked incidentally in the field and at big game check stations.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Although forest grouse habitat may be altered by natural (fire, forest diseases) or human-related (logging, mining, and grazing) forces, the scale of such changes in the Salmon Region is generally not large enough to significantly impact overall grouse populations. Large scale wildfires during summer 2000 that set back succession in large areas of units 27 and 28 may lead to future increases in forest grouse populations.

Management Implications

Forest grouse populations in the Salmon Region are primarily controlled by weather conditions rather than by habitat changes or hunter harvest. During 1986 the hunting season length was increased from 72 to 100 days. Despite this increase, the forest grouse harvest declined from 1985 to 1986. After the mild winter and spring of 1987, the 1987 harvest increased by 50%, suggesting a substantial population increase apparently unaffected by the 1986 increase in season length.

Given that populations are relatively unaffected by harvest, management strategy should emphasize maximum recreational opportunity and minimal data collection efforts.

Abstract

Forest grouse populations, hunter effort, and harvest are primarily controlled by weather conditions during nesting and brood rearing. Minimal effort is therefore expended on production, habitat, or harvest data collection.

SAGE GROUSE

Population Surveys

Salmon Region personnel have significantly increased sage grouse lek data collection efforts in recent years, increasing the number of leks visited from 1 in 1979 through 1981 to a peak of 21 leks in 1988. Data from individual leks or groups of leks show no clear pattern in terms of maximum male sage grouse attendance (Figures 1). Spring lek counts in and of themselves are apparently not good indicators of fall harvest in the Salmon Region.

Ten radio transmitters were attached to sage grouse at leks in the upper Lemhi River valley in the spring of 1997. Data collected on 4 female and 6 male sage grouse revealed high mortality rates in yearlings and adults. This may, however, be an artifact of small sample size. Female home ranges were smaller than male home ranges. In January 2 females left their winter ranges after a severe winter storm; 1 migrated 39 km to Lemhi, Idaho, and the other 80 km to the northern edge of the Snake River Plain. Both females showed high lek fidelity and successfully nested in spring 1998.

Sage grouse production in the Salmon Region is highly variable depending upon spring weather conditions (Table 3). No sage grouse brood route counts have been conducted since 1988.

Harvest Characteristics

Telephone Survey

Hunter days and harvest reached a recent low in 1997 (Table 4). Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Some hunters and birds from the Salmon Region are checked through the Howe and Sage Junction check stations (Table 4). In addition, roving field checks are made of sage grouse hunters during opening weekend (Table 5). Data from both types of field checks and from telephone surveys are somewhat correlated. No hunter checks were conducted in the Salmon Region in 2000.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Documented loss of sage grouse habitat in the Salmon Region has been minimal in recent years. Habitat losses that occur generally are caused by sagebrush conversion on private lands, via desert land entry on public lands, or via wildfire.

Management Implications

The Lemhi and Pahsimeroi Valleys are the most productive sage grouse areas in the region. The Lemhi Valley summer population is comprised of resident grouse and birds that migrate from wintering/breeding areas in lower Birch Creek to summer range in the Lemhi Valley (Canaille 1982). We do not know if a similar condition exists in the Pahsimeroi Valley.

During 1986 and 1987, 196 sage grouse were translocated into the Sawtooth Valley where populations had declined but there was no apparent significant habitat loss. Reproduction was documented among these birds. No further translocations are planned for this area. Isolated reports of sage grouse were received during the summers of 1994 and 1996, and fall 1997, but the Sawtooth Valley population does not appear to be thriving.

Sage grouse production is strongly dependent upon spring weather. Cold and wet conditions during hatching and brooding can significantly decrease production. Most sage grouse nesting habitat throughout the Salmon Region can be subject to severe spring weather. This is a normal phenomenon for relatively high elevation sage grouse range. A 1- to 2-year decline in productivity (indicated by harvest and lek counts) due to weather is not necessarily indicative of a declining population. Harvest management has little direct impact on populations.

Abstract

Sage grouse lek counts and harvest were down in 1992 and continued a downward trend through 1996. Harvest has continued to remain low through 1998. Several leks showed an increase in the number of birds in attendance 1997 through 2000.

CHUKAR

Population Surveys

Inactive.

Harvest Characteristics

Telephone Survey

Chukar harvest and hunter participation varies dramatically from year to year depending upon weather conditions and the real or perceived availability of birds (Table 6). Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Inactive.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Chukar habitats in the Salmon Region are generally stable. However, some areas may be threatened by spotted knapweed (Centaurea maculosa) invasion. Other habitats may be created or altered by wildfire. In areas where water may be limiting, Idaho Department of Fish and Game personnel have cooperated with the Bureau of Land Management and the Forest Service to install guzzlers, primarily directed at other wildlife species but probably benefiting chukars as well.

The drought years of 1988-1994 may have exacerbated problems with domestic livestock grazing in riparian areas used by chukar for brood rearing. The Department is continuing to work on cooperative agreements to fence such sites on public lands.

Management Implications

Chukar populations in the Salmon Region are primarily weather dependent. Hunting pressure varies dramatically depending upon chukar population levels. However hunting has little, if any, direct impact on chukar populations.

Management direction should be to offer maximum recreational opportunity with minimal population monitoring efforts. Some habitat enhancement may be possible by fencing livestock out of selected riparian areas and working cooperatively with land management agencies to control noxious weeds.

Abstract

Chukar numbers and hunting pressure are strongly weather dependent. Some potential still exists for habitat enhancement by fencing selected riparian brood-rearing areas.

GRAY PARTRIDGE

Population Surveys

Inactive.

Harvest Characteristics

Telephone Survey

Gray partridge represent a minor portion of the upland game hunter effort and bag in the Salmon Region (Table 7). Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Inactive.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Although widely distributed, gray partridge habitat is not abundant in the Salmon Region. Nor is it likely to significantly increase because most agricultural lands are marginal for cereal crops and are better suited for livestock pasture or hay meadows.

Management Implications

Information on distribution, population level, and harvest of gray partridge in the Salmon Region is minimal. Extensive efforts to collect more data are probably not justified.

Abstract

Gray partridge comprise a minor portion of the Salmon Region's upland game birds. Due to limited, scattered habitat, gray partridge are not expected to increase significantly.

WILD TURKEY

Population Surveys

Small populations of wild turkeys have become established along the Lemhi and Salmon rivers near Salmon and Challis. However, no systematic trend counts or brood route counts are conducted.

Harvest Characteristics

No hunting is authorized in the Salmon Region.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Enough potential wild turkey habitat exists to support modest populations in the deciduous river bottoms along the Salmon River in the vicinity of Salmon, Challis, and North Fork. Virtually all of this habitat is privately owned.

Depredations

None reported.

Trapping and Transplanting

Merriam's wild turkeys were released in the Wagonhammer area of Unit 21A in 1970 and 1973. Although some production was reported, population dwindled and disappeared. Twenty-five Merriam's turkeys (12 females, 13 males) were released in the Fourth of July Creek drainage of Unit 21A on February 20, 1993. Since the release wild turkeys have been reported in Unit 21A from Gibbonsville to Carmen Creek and some brood production occurred.

Rio Grande wild turkeys were first released on March 2, 1983, near Shoup Bridge in Unit 28. Sixteen females were released but no males were included. On March 31, 1983, 2 male and 3 female Merriam's turkeys were also released in this area because male Rio Grande turkeys could not be obtained. This population was supplemented with 5 male Rio Grande turkeys on March 7, 1985. An additional 15 Merriam's turkeys (12 females, 3 males) were also released in the area on January 31, 1991. There are consistent sightings near the release site and a small flock has been reported in the lower Lemhi River valley.

On January 31, 1991, 25 Merriam's turkeys (21 females and 4 males) were released along the Salmon River in Unit 36B 3 miles northeast of Challis. An additional 10 Merriam's turkeys (4 females, 6 males) were released in the same area on February 20, 1993. This population appears to be maintaining and may be slowly expanding.

In January 1999, 50 Merriam's (sex ratio unknown) turkeys were released along the Salmon River in Unit 37, 3 miles southeast of Challis. Fourteen (sex ratio unknown) Merriam's turkeys were also released along the Salmon River in Unit 28, 4 miles south of Salmon.

Management Studies

Inactive.

Management Implications

Current population levels cannot yet sustain recreational harvest.

Abstract

Small populations of turkeys are established near Challis and south of Salmon but they are not yet hunted. Forty Merriam's turkeys were released in 1991 to supplement the existing population near Salmon and to initiate a new population near Challis. An additional 35 birds were released in 1993 to supplement the Challis population and establish a population in Unit 21A. In 1999 an additional 50 birds were released near Challis and 14 near Salmon to supplement existing populations.

MOURNING DOVE

Population Surveys

The Salmon Region contains a breeding population of mourning doves. The only population information is obtained from a call count in the southern portion of the Lemhi Valley. During 1985, 1986, and 1987, a total of 4 mourning doves were seen or heard along the route (Table 8). In 1988 the southern half of the route was relocated 3 miles to the east. The 1988 count on the old route was 1 mourning dove call and on the new route the count was 4 calls plus 9 birds seen. However, only 8 birds have been seen or heard annually since 1988. Beginning in 2000 the western portion (approximately 7 miles) of the route on highway 28 was relocated to the north and east. The new section follows the Lemhi Back Road from Leadore to Eightmile Creek.

Harvest Characteristics

Telephone Survey

During years in which mourning doves delay their migration slightly, Salmon Region hunters are able to harvest moderate numbers of birds. In most years the harvest is low (Table 8). Due to small sample sizes, telephone survey harvest data are imprecise at the county level. Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Inactive.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Mourning doves are common but not abundant throughout the region, indicating that perhaps suitable habitat is limited. Most dove use is located in riparian willow habitats associated with cattle ranching operations; these habitats are relatively stable.

Management Implications

The extended season (60 days) from 1983 to 1986 had little effect on harvest because many doves move out of the area soon after the September 1 opening date. Similarly, the 30-day season initiated in 1987 due to a general decline in mourning dove numbers in the western United States probably did not affect harvest in our area.

Abstract

Mourning doves breed in moderate numbers in the Salmon Region but are usually only lightly harvested here due to migration timing.

RABBITS AND HARES

Population Surveys

Inactive.

Harvest Characteristics

Telephone Survey

The Salmon Region contains huntable populations of both cottontails and pygmy rabbits. However, they appear to be of only incidental interest to sportsmen. Harvest apparently varies greatly from year to year, depending upon rabbit populations (Table 9). Due to

small sample sizes, telephone survey harvest data are imprecise at county and perhaps regional levels. Since 1996 telephone surveys have estimated only statewide harvests.

Check Stations

Inactive.

Climatic Conditions

Summer 2000 was dry with extensive wildfires in parts of the Salmon Region. Vegetation cured early in the growing season, but above-average October rainfall prompted autumn green-up that partly replaced forage removed by fires. Winter temperatures were mild, seldom dropping below 0°F, and snow accumulation was minimal. Therefore, upland game should have experienced relatively high overwinter survival. Snowpack was well below average (30-55% of normal) and snowmelt occurred 2-4 weeks earlier than normal. Water-year precipitation has been well below average so drought conditions prevailed through the end of the reporting period.

Habitat Conditions

Little is known of habitat conditions across the region. There may be a slight downward trend as overall range conditions improve and sagebrush is converted to grassland.

Management Implications

Rabbits and hares are generally of low interest to sportsmen; recreational opportunity still greatly exceeds demand. Very little management data is collected nor is it anticipated this effort will increase.

Abstract

Rabbits and hares receive little emphasis from sportsmen or wildlife managers in the Salmon Region.

Table 1. Pheasant hunter success and harvest estimated from telephone survey, Salmon Region, 1986-1995.

Year	Bag and possession limit	Hunters	Hunter days	Birds	Birds/hunter day
1986	3/6*	315	528	387	0.7
1987	3/6*	339	797	497	0.6
1988	3/6*	175	340	244	0.7
1989	3/6*	289	642	231	0.4
1990	3/6	235	570	284	0.5
1991	3/6	155	985	200	0.2
1992	3/6	286	442	490	1.1
1993	3/6	340	1,422	804	0.6
1994	3/6	225	1,180	1,555	1.3
1995	3/6	223	569	223	0.4

*2/2 first five days.

Table 2. Forest grouse hunter success and harvest estimated from telephone survey, Salmon Region, 1986-1995.

Year	Bag and possession limit	Hunters	Hunter days	Birds	Birds/hunter day
1986	4/8	835	3,354	3,086	0.92
1987	4/8	907	3,329	4,628	1.39
1988	4/8	956	5,411	4,762	0.88
1989	4/8	962	5,004	4,356	0.87
1990	4/8	930	5,453	3,708	0.68
1991	4/8	803	3,150	2,205	0.70
1992	4/8	1,378	10,042	9,647	0.96
1993	4/8	2,350	12,864	5,566	0.43
1994	4/8	3,184	21,277	11,557	0.54
1995	4/8	3,574	20,775	12,834	0.62

Table 3. Sage grouse production based on wing collections, Salmon Region, 1986-2000.

Year	Juv:100 females	Juv:100 adults	Unsuccessful females (%)
1986	247	159	45
1987	126	61	53
1988	143	72	
1989	177	98	
1990	175	116	
1991	168	100	69
1992	150	70	70
1993	149	100	56
1994	133	83	57
1995	78	40	
1996	320	155	47
1997	257	189	43
1998	520	347	60
1999	325	173	63
2000	149	100	51
5-year average	314	193	53
Percent change from last year	-54	-42	-19
Percent change from previous 5-year average	-50	-45	-4

Table 4. Sage grouse hunter success and harvest estimated from telephone survey and hunter checks, Salmon Region, 1986-2000.

Year	Bag and possession limit	Check station*				Telephone survey			
		Hunters	Birds	Birds/hunter day	Hours/bird	Hunters	Hunter days	birds	Birds/hunter day
1986	3/6	106	147	1.4	4.5	390		911	1.89
1987	3/6	117	265	2.3	3.0	625		2,852	2.01
1988	3/6	120	276	2.3	3.0	727		2,326	0.84
1989	3/6	125	192	1.5	3.6	560		974	0.69
1990	3/6	155	167	1.1	3.9	519		1,842	1.13
1991	3/6	91	153	1.7	4.1	760	2,588	2,122	0.82
1992	3/6	93	105	1.1	7.0	913	2,188	941	0.43
1993	3/6	84	48	0.6	13.1	1,670	4,731	2,620	0.55
1994	3/6	74	64	0.9	7.1	1,236	4,795	4,327	0.90
1995	3/6	79	25	0.3	23.9	1,117	4,874	2,132	0.44
1996	2/4	68	31	0.5	9.2				
1997	2/4	42	19	0.5	11.1				
1998	2/4	62	29	0.5	7.5				
1999	2/4	56	50	0.9	4.1				
2000	2/4								

*Howe and Sage Junction check stations.

Table 5. Opening weekend field checks of sage grouse hunters, Salmon Region, 1986-2000.

Area	Hunters	Sage grouse	Birds/hunter	Hours/bird
Lemhi				
Long-term average ^a	120±51	174±111	1.3±0.5	3.5±1.8
1986	104	120	1.2	4.3
1987	97	134	1.4	4.2
1988	67	94	1.4	3.9
1989	34	30	0.9	5.1
1990	23	31	1.3	2.7
1991			1.3	3.6
1992	101	77	0.8	6.2
1993				
1994	59	58	1.0	4.6
1995	18	12	0.7	5.2
1996				
1997	6	0		
1998	18	11	1.6	7.2
1999	19	22	1.2	3.5
2000				
Pahsimeroi				
Long-term average	36±24	44±33	1.2±0.5	3.6±2.5
1986	22	43	2.0	3.1
1987	44	57	1.3	
1988	25	21	0.8	1.7
1989	33	38	1.2	1.7
1990	15	12	0.8	4.7
1991				
1992	21	16	0.8	3.0
1993				
1994	19	8	0.4	8.0
1995	2	1	0.5	6.0
1996	0	0	0	0
1997	13	5	0.4	4.4
1998	2	4	2.0	3.5
1999				
2000				

^a Mean ± standard deviation for 1967 through 1993.

Table 6. Chukar partridge hunter success and harvest estimated from telephone survey, Salmon Region, 1986-1995.

Year	Bag and possession limit	Hunters	Hunter days	Birds	Birds/hunter day
1986	8/16	166		263	1.06
1987	8/16	569		2,097	1.59
1988	8/16	529		2,548	1.09
1989	8/16	444		1,139	0.78
1990	8/16	499	1,460	4,964	3.46
1991	8/16	276	1,435	1,837	0.86
1992	8/16	713	3,725	7,809	2.11
1993	8/16	495	3,216	1,886	0.59
1994	8/16	862	3,765	4,027	1.07
1995	8/16	812	4,346	3,980	0.92

Table 7. Gray partridge hunter success and harvest estimated from telephone survey, Salmon Region, 1986-1995.

Year	Bag and possession limit	Hunters	Hunter days	Birds	Birds/hunter day
1986	8/16	49		35	1.84
1987	8/16	112		848	0.91
1988	8/16	38		38	0.58
1989	8/16	64		125	2.72
1990	8/16	89		96	0.76
1991	8/16	100		275	0.48
1992	8/16	45			
1993	8/16	278	1,051	278	0.27
1994	8/16	318	1,704	1,292	0.76
1995	8/16	426	1,868	508	0.27

Table 8. Mourning dove population trends and harvest, Salmon Region, 1986-2000.

Year	Call counts		Telephone survey			
	Routes/miles counted	Birds/mile	Hunters	Hunter days	Birds	Birds/hunter day
1986	1/20	0.00	114		1,037	3.6
1987	1/20	0.10	42		943	10.0
1988	1/20	0.05	68		431	3.2
1988	1/20*	0.55				
1989	1/20	0.10	0		0	0
1990	1/20	0.05	31		4	1.0
1991	1/20	0.00	0		0	0
1992	1/20	0.05	0		0	0
1993	1/20	0.05	186		3,092	3.1
1994	1/20	0.05	150	524	1,274	2.4
1995	1/20	0.10	223	853	833	1.0
1996	1/20	0.00				
1997						
1998	1/20	0.00				
1999	1/20	0.00				
2000	1/20*	0.00				

*Route relocated.

Table 9. Cottontail harvest and harvest estimated from telephone survey, Salmon Region, 1986-1995.

Year	Bag and possession limit	Hunters	Hunter days	Harvest	Bag/hunter day
1986	8/16	126		38	0.53
1987	8/16	0		0	
1988	8/16	19		75	1.34
1989	8/16	0		0	
1990	8/16	117		757	6.47
1991	8/16	59		203	1.00
1992	8/16	64	11	31	2.84
1993	8/16	928	6,679	18,894	2.83
1994	8/16	880	4,851	23,150	4.77
1995	8/16	670	4,833	4,366	0.90

	L-3	L-5
1968	19	
1969	57	
1970	43	
1971	41	
1972	14	
1973	11	
1974	0	
1975	0	
1976	0	
1977	10	
1978	10	
1979	2	29
1980	10	
1981	0	
1982	20	45
1983	18	21
1984	23	25
1985	30	35
1986	22	44
1987	1	31
1988	26	41
1989	18	22
1990	9	12
1991	16	42
1992	0	0
1993	0	0
1994	0	0
1995	0	0
1996	0	0
1997	14	17
1998	16	16
1999	0	0
2000	0	0

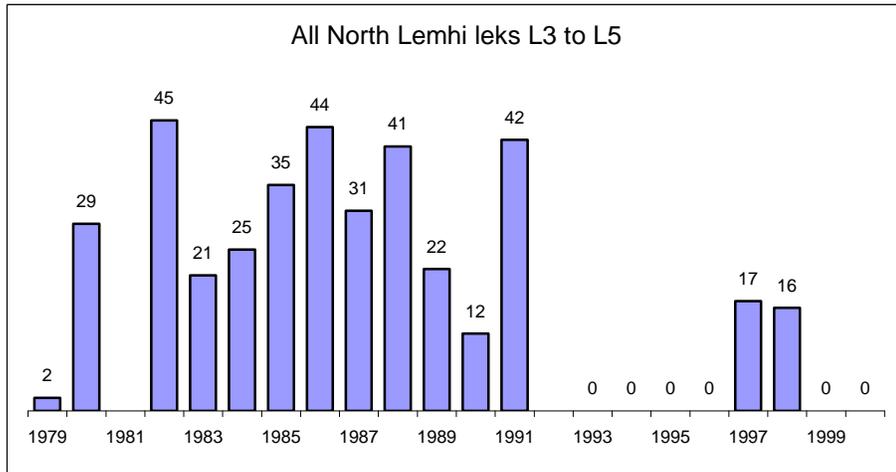
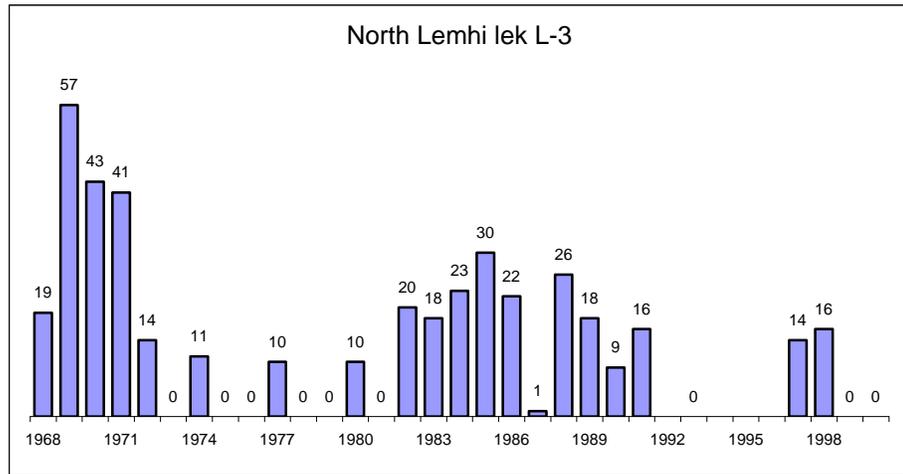


Figure 1. North Lemhi sage grouse lek counts.

APPENDIX I

PHEASANTS — All Varieties



AREA 1

Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lewis, Nez Perce, and Shoshone Counties.

Seasons

2000 — October 14 through December 31
2001 — October 13 through December 31

Daily Bag Limit 3 cocks
Possession Limit After First Day of Season 6 cocks

AREA 2

Bannock, Bear Lake, Bingham, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Clark, Custer, Franklin, Fremont, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Power, Teton, and Twin Falls Counties.

Seasons

Area 2 seasons begin at noon on opening day and are as follows:

2000 — October 21 through November 30
2001 — October 20 through November 30

Daily Bag Limit 3 cocks
Except Market Lake and Mud Lake WMA's in Jefferson ..
County, Cartier WMA in Madison County and Sterling
WMA in Bingham County 2 cocks
Possession Limit After First Day of Season 6 cocks
Except Market Lake and Mud Lake WMA's in Jefferson ..
County, Cartier WMA in Madison County and Sterling
WMA in Bingham County 4 cocks

AREA 3

Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington Counties (including all islands in the Snake River except Patch and Porter Islands).

Seasons

Area 3 seasons begin at noon on opening day and are as follows:

2000 — October 21 through December 31
2001 — October 20 through December 31

Patch and Porter Islands: Seasons begin on the dates shown above. Closing dates will correspond with those set by the Oregon Fish and Game Commission. Check with Southwest Region Office. (208) 465-8465, or see Oregon small game regulations.

Daily Bag Limit 3 cocks
Except Fort Boise WMA (including Gold Island) in
Canyon County, C.J. Strike WMA in Owyhee County,
Birding Island segment of the Payette River WMA in
Payette County and Montour Management Area in Gem
County 2 cocks

Possession Limit After First Day of Season 6 cocks
Except Fort Boise WMA (including Gold Island) in
Canyon County, C.J. Strike WMA in Owyhee County,
Birding Island segment of the Payette River WMA in
Payette County and Montour Management Area in Gem
County 4 cocks

WMA Pheasant Permit Requirement: Any person hunting for or having a pheasant in his or her possession on any of the Wildlife Management Areas where game farm pheasants are released (i.e., Market Lake, Mud Lake, Cartier, Sterling, Fort Boise, C.J. Strike, Birding Island segment of Payette River WMA, or Montour) must have a valid WMA Pheasant Permit in his or her possession. See page 9.

Bag Limit: The daily bag limit on these WMAs continues to be two (2) cocks, with a four (4) cock possession limit. Each WMA Pheasant Permit is valid for up to six (6) cocks. Additional permits may be purchased. Limit outside the designated WMAs is unchanged.

YOUTH PHEASANT SEASON

The Youth Pheasant Season is open statewide and begins on the first weekend of October and lasts 2 days. In Areas 2 and 3 the season begins at noon. It is open for all licensed hunters fifteen years of age or younger. All youth hunters must be accompanied by an adult eighteen years or older. The daily bag limit is 1 cock. The possession limit after the first day of the season is 2 cocks.

Nonresident Hunting Licenses: The nonresident small game hunting license (\$73.50) is not valid during the first 5 days of the pheasant season. Nonresidents must have a general hunting license (\$128.50) to hunt pheasants during the first 5 days of the pheasant season.

Distribution and Habitat Use: Shaded area(s) show general distribution of this species. The ring-necked pheasant is widely distributed in agricultural areas. Important habitat needs are grassy areas or other dense nesting cover at least 18 inches high, permanent cover that provides protection from winter weather, and abundant water and food (especially grain). Pheasants are common in this type of habitat along the Snake River Plain from the Oregon border to central Idaho. They are present in lower densities in agricultural habitats below 5,000 feet in eastern Idaho and below 4,000 feet in northern Idaho from Benewah County south to Whitebird.



**FOREST GROUSE —
Blue, Ruffed, And Spruce**



**ENTIRE STATE
OPEN**

Seasons

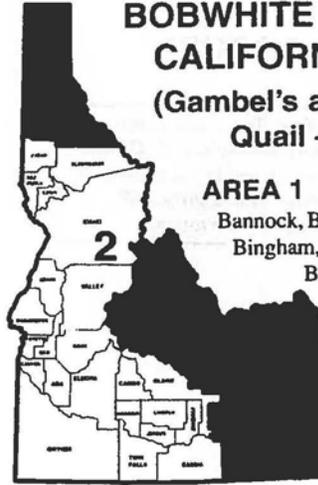
2000 — September 1 through December 31
2001 — September 1 through December 31

Daily Bag Limit 4 of any kind
Possession Limit After
First Day of Season 8 of any kind

Distribution and Habitat Use: Shaded area(s) show general distribution of this species. Idaho's three species of forest grouse are all native to the state. In northern Idaho, ruffed grouse are the most common forest grouse. Good populations are also found in the mountains of central and eastern Idaho and southeastern Idaho west to the Sublett Mountains. Riparian habitats and other moist mountain brush areas are commonly used by these birds. Blue grouse are more common than other grouse in most southern Idaho mountains. They favor high elevation sagebrush and mountain shrub areas for nesting, springs and stream banks for rearing young and rely heavily on Douglas fir for fall and winter food and cover. The sparsely-distributed spruce grouse are found in dense conifer forests, generally from the Salmon and Payette river drainages north.



**BOBWHITE QUAIL AND
CALIFORNIA QUAIL
(Gambel's and Mountain
Quail — Closed)**



AREA 1

Bannock, Bear Lake, Benewah, Bingham, Bonner, Bonneville, Boundary, Butte, Caribou, Clark, Custer, Franklin, Fremont, Jefferson, Kootenai, Lemhi, Madison, Oneida, Power, Shoshone, and Teton Counties; **CLOSED.**

AREA 2

Ada, Adams, Blaine, Boise, Camas, Canyon, Cassia, Clearwater, Elmore, Gem, Gooding, Idaho, Jerome, Latah, Lewis, Lincoln, Mimidoka, Nez Perce, Owyhee, Payette, Twin Falls, Valley, and Washington Counties.

Seasons

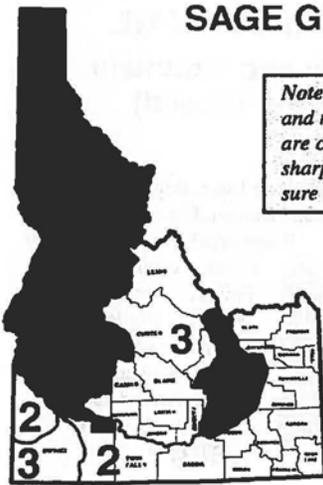
2000 — September 16 through December 31
2001 — September 15 through December 31

Daily Bag Limit 10 of any kind
Possession Limit After
First Day of Season 20 of any kind

Distribution and Habitat Use: Shaded area(s) show general distribution of this species. There are three introduced and one native species of quail in Idaho. The California (valley) quail, which occurs from Twin Falls west to the Oregon border and north to the Palouse Prairie, is the most common. Good populations live along rivers, streams and other areas of abundant water and brushy cover below about 3,500 feet elevation. The bobwhite quail was introduced to Idaho in the 1880s and still exists in small, scattered populations in agricultural areas of the Boise Valley. The Gambel's quail was introduced near Salmon in 1917, and a small population still exists there. The season is **CLOSED** on Gambel's quail. The mountain quail, a native bird, exists in small, scattered populations in dense mountain brush fields usually associated with riparian areas. It is rare in the mountains from Boise to Bennett Mountain, the Owyhee Mountains, and along the Little Salmon River, Main Salmon, and lower Snake River. The season is **CLOSED** on mountain quail.



SAGE GROUSE



Note: Twin Falls County and most of Cassia County are closed to the hunting of sharp-tailed grouse. Be sure of your target!

AREA 1

Ada, Adams, Bannock County north of Interstate 86 and west of Interstate 15, Benewah, Bingham and Bonneville Counties west of Interstate 15, Blaine County within the Salmon River drainage and east of the Arco-Minidoka Road, Boise, Bonner, Boundary, Butte County that part south of US Highways 20/26 and 22/33 between Mud Lake and the Arco-Minidoka Road and the entire Birch Creek drainage, Canyon, Clark County within the Birch Creek drainage, Clearwater, Custer County within the Salmon River drainage upstream from and including Valley Creek, Elmore County EXCEPT that portion south and east of US Highway 20 and north of Interstate 84, Gem, Idaho, Jefferson County west of Interstate 15 and south of State Highway 33, Kootenai, Latah, Lemhi County within the Birch Creek drainage, Lewis, Nez Perce, Payette, Power County north of Interstate 86, Shoshone, Valley, and Washington Counties; CLOSED.

AREA 2

Bannock County except that portion north of Interstate 86 and west of Interstate 15, Bear Lake, Bingham and Bonneville Counties east of Interstate 15, Caribou, Cassia, Clark County EXCEPT that portion within the Birch Creek drainage, Franklin, Fremont, Jefferson County east of Interstate 15 and that part north of State Highway 33 and west of Interstate 15, Madison, Oneida, Owyhee County north of the Juniper Mountain/Mud Flat/Poison Creek roads and Highway 78 to Grandview and the Snake River, Owyhee County east of the Bruneau River, Power County south of Interstate 86, Twin Falls and Teton Counties.

Seasons

2000 — September 16 through September 22

2001 — September 15 through September 21

Daily Bag Limit 1
 Possession Limit After First Day of Season 2

AREA 3

Blaine County EXCEPT that part within the Salmon River drainage and that part east of the Arco-Minidoka Road, that part of Butte County north of US Highway 20/26 and State Highway 33 not within the Birch Creek drainage, and that part south of U.S. Highway 20/26 west of the Arco-Minidoka Road, Camas, Custer County EXCEPT that portion within the Salmon river drainage upstream from and including Valley Creek, Elmore County south and east of US Highway 20 and north of Interstate 84, Gooding, Jerome, Lemhi County EXCEPT that portion within the Birch Creek drainage, Lincoln, Minidoka, Owyhee County south of the Juniper Mountain/Mud Flat/Poison Creek roads and Highway 78 to Grandview and the Snake River and west of the Bruneau River.

Seasons

2000 — September 16 through October 8

2001 — September 15 through October 7

Daily Bag Limit 2
 Possession Limit After First Day of Season 4

Sage/Sharp-tailed Grouse Permit Validation:

Any person hunting sage or sharp-tailed grouse must have in possession their license with a sage/sharp-tailed grouse permit validation. See page 10.

Distribution and Habitat Use: Shaded area(s) show general distribution of this species. This native grouse is widely distributed in areas with large blocks of sagebrush habitat throughout southern Idaho. Sagebrush is a crucial winter food for sage grouse and also provides them with nesting and roosting cover during the rest of the year. Wet places, including agricultural lands, are important feeding areas for hens with chicks and are heavily used by sage grouse during the fall in dry years.



SHARP-TAILED GROUSE



Note: Sharp-tailed grouse have recently been introduced into historical range south of Twin Falls. The area remains closed to hunting for sharptails to protect this population.

Distribution and Habitat Use: Shaded area(s) show general distribution of this species. Columbian sharp-tailed grouse were once distributed in grassland/mountain brush habitats throughout southern and western Idaho north to the Palouse Prairie. Habitat changes due to agricultural development and livestock grazing, however, have reduced this grouse's range to areas mostly in southeastern Idaho.

Good populations still exist from Fremont County south to Utah in grasslands associated with chokecherry, sagebrush, hawthorn, serviceberry, bitterbrush and other brushy cover. The season is closed on a small remnant population north of Weiser and a newly transplanted population in Shoshone Basin, south of Twin Falls.



AREA 1

Ada, Adams, Bannock County west of Interstate 15 and north of Interstate 86, Benewah, Bingham County west of Interstate 15, Blaine, Boise, Bonner, Bonneville County west of Interstate 15, Boundary, Butte, Camas, Canyon, Cassia County west of Interstate 84 north of the Malta-Sublett Road and west of the Malta-Strevell Road, Clark County west of Interstate 15, Clearwater, Custer, Elmore, Gem, Gooding, Idaho, Jefferson County west of Interstate 15, Jerome, Kootenai, Latah, Lemhi, Lewis, Lincoln, Minidoka, Nez Perce, Owyhee, Payette, Power County north of Interstate 86, Shoshone, Twin Falls, Valley, and Washington counties; CLOSED.

AREA 2

Clark County east of Interstate 15, Franklin, Fremont, Jefferson County east of Interstate 15, Madison, and Teton counties, Bonneville County east of Interstate 15, Bannock County east of Interstate 15 and south of Interstate 86, Bear Lake, Caribou, Cassia County east of Interstate 84 and that portion west of Interstate 84 south of the Malta-Sublett Road and east of the Malta-Strevell Road, Clark County east of Interstate 15, Franklin, Oneida, and Power County south of Interstate 86.

Seasons

2000 — October 1 through October 31

2001 — October 1 through October 31

Daily Bag Limit 2
 Possession Limit After First Day of Season 4

Sage/Sharp-tailed Grouse Permit Validation:

Any person hunting sage or sharp-tailed grouse must have in possession their license with a sage/sharp-tailed grouse permit validation. See page 10.

CHUKAR PARTRIDGE — GRAY PARTRIDGE

ENTIRE STATE
OPEN



Seasons

2000 — September 16 through January 15, 2001

2001 — September 15 through January 15, 2002

Daily Bag Limit 8 Chukar and 8 Gray Partridge

Possession Limit After First

Day of Season 16 Chukar and 16 Gray Partridge

Distribution and Habitat Use:

Shaded area(s) show general distribution of this species.

Chukar partridge were introduced into Idaho from Asia. They are common in suitable habitat along the Salmon, Snake and Boise rivers, and along other river drainages of southern and central Idaho up to an elevation of about 5,000 feet. Chukar habitat consists of steep, rocky canyons with grassy and brushy vegetation.



Gray partridge, another introduced species, are most common in agricultural regions, but can also be found in sagebrush/ grassland areas. They are hardy birds able to withstand severe winter weather if adequate food is available. Gray partridge are widely distributed, but are most common in the state's agricultural valleys.

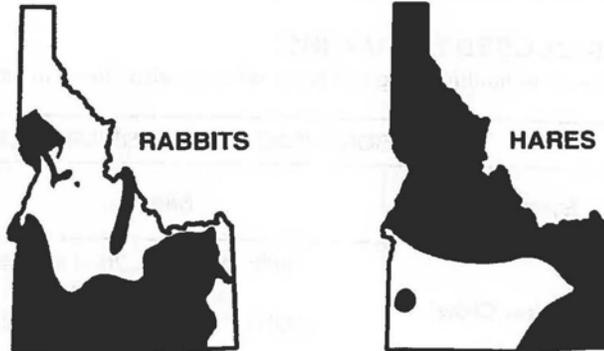
UPLAND GAME ANIMALS — COTTONTAIL AND PYGMY RABBITS, AND SNOWSHOE HARES

UNLAWFUL METHODS OF TAKE

No person shall take upland game animals:

- From one-half hour after sunset to one-half hour before sunrise.
- With a trap, snare, net, or shotgun using shotgun shells exceeding three and one-half (3 1/2) inches in length.
- From boats or other craft having a motor attached UNLESS the motor is completely shut off and forward progress has ceased, or the boat is drifting naturally, or it is propelled only by paddle, oars, or pole, or it is beached, moored, or resting at anchor.
- By the use or aid of any electronic call.

Shaded area(s) show general distribution of these species.



AREAS CLOSED TO HUNTING

Hunting, killing, or molesting upland game animals is prohibited in the following areas:

- Craters of the Moon National Monument in Blaine and Butte counties.
- Harriman State Park Wildlife Refuge in Fremont County.
- Idaho National Engineering and Environmental Laboratory (INEEL) site in Bingham, Bonneville, Butte, Clark and Jefferson Counties.
- Nez Perce National Historical Park in Clearwater, Idaho and Nez Perce Counties.
- That portion of Ada County within Veterans Memorial Park and the area between State Highway 21 and the New York Canal from the New York Canal Diversion Dam downstream to the Boise City limits.
- Yellowstone National Park in Fremont County.
- On any of those portions of federal refuges, State game preserves, State wildlife management areas, bird preserves, bird refuges, and bird sanctuaries for which bird hunting closures have been declared by legislative or Commission action.

SEASONS, BAG AND POSSESSION LIMITS - STATEWIDE			
Species	Season	Daily Bag Limit	Possession Limit (After 1st day of season)
Cottontail and Pygmy Rabbits	2000: September 1, 2000 through February 28, 2001.	8 of any kind.	16 of any kind.
	2001: September 1, 2001 through February 28, 2002.		
Snowshoe Hares	2000: September 1, 2000 through March 31, 2001.	8	16
	2001: September 1, 2001 through March 31, 2002.		

AMERICAN CROWS

UNLAWFUL METHODS OF TAKE

No person shall take American crows:

- From one-half hour after sunset to one-half hour before sunrise.
- With trap, snare, net, rifle, pistol or a shotgun using shells exceeding three and one-half (3 1/2) inches maximum length.
- From boats or other craft having a motor attached UNLESS the motor is completely shut off and forward progress has ceased, or the boat is drifting naturally or it is propelled only by paddle, oars, or pole, or it is beached, moored, or resting at anchor.

AREAS CLOSED TO HUNTING

Areas closed to hunting of upland game birds are also closed to hunting of American crows. See page 10.

SEASONS, BAG AND POSSESSION LIMITS - STATEWIDE		
Species	Season	Daily Bag and Possession Limits
American Crow	2000: October 1, 2000 through January 31, 2001. 2001: October 1, 2001 through January 31, 2002.	No limits.

FALCONRY

GENERAL INFORMATION

Birds of Prey or Raptors: All falcons, hawks, owls and eagles.

Falconry: The sport of taking quarry by means of a trained bird of prey.

Species from the following families may be used for falconry:

- Accipitridae (except the bald eagle).
- Falconidae.
- Strigidae (Great horned owl only).

Upland game birds and upland game animals may be taken by falconry during firearms seasons established for those species. During these seasons, falconers may take regular bag and possession limits. During extended falconry seasons, special limits apply.

Migratory game birds may be taken by falconry during firearms seasons established for those species. However, during firearms seasons and extended falconry seasons, special bag and possession limits apply.

Falconers are now required to have state permits for raptor captive breeding, falconry, falconry capture (nonresidents only), falconry in-state transfer, and falconry meet (nonresidents only). See page 4 for license, tag and permit fees.

There are special requirements regarding the capture, possession, transfer and use of birds of prey in Idaho. Complete rules are available from: IDFG, P.O. Box 25, Boise, ID 83707.

SPECIAL RESTRICTIONS ON HUNTING WITH BIRDS OF PREY

Anytime a hunting bird of prey kills quarry that may not be taken under established rules, seasons, bag limits, or license requirements, the falconer must leave the dead quarry where it lies. EXCEPT that the bird of prey may feed upon the quarry before leaving the kill site.

Any person hunting by falconry shall have in possession a valid Idaho falconry permit, hunting license of the proper class, and appropriate validations. The permit cost is \$26.50 and is available at all IDFG offices.

No person may carry a firearm or be accompanied by any person carrying a firearm while hunting by falconry.

Submitted by:

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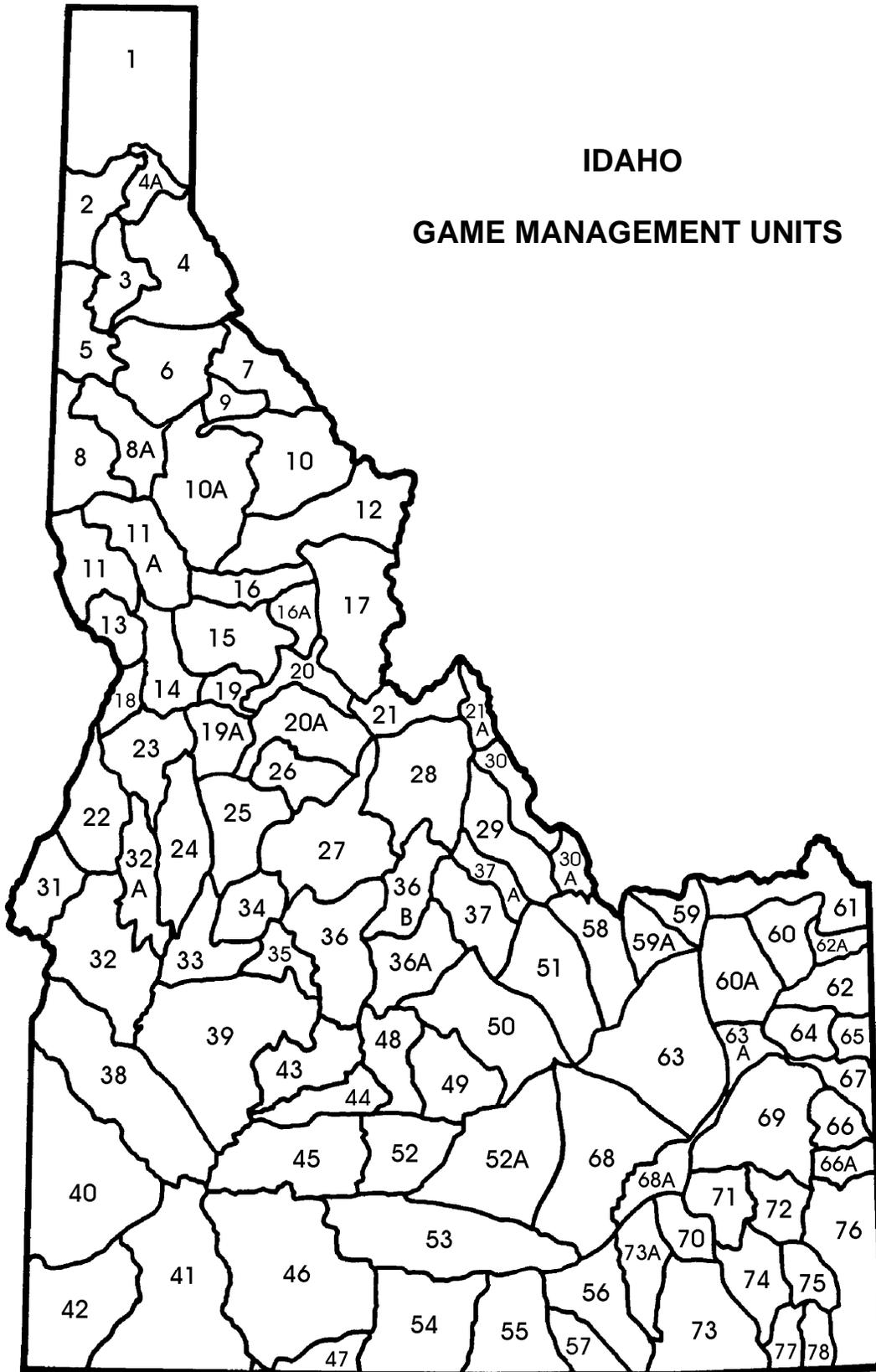
Approved by: IDAHO DEPARTMENT OF FISH AND GAME

Wayne Melquist
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State Nongame Wildlife Manager
Federal Aid Coordinator

Steven M. Huffaker
Steven M. Huffaker, Chief
Bureau of Wildlife

IDAHO

GAME MANAGEMENT UNITS



FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.

