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WYOMING GAME AND FISH DEPARTMENT

GAME DIVISION

JUN 23 1976

GAME BIRD SURVEY

FOREST GROUSE

Spot Report

W-50-R

June, 1975

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STATE OF WYOMING

NAME: GAME BIRD SURVEY

PROJECT NO. W-50-R-22

TITLE: Forest Grouse

ABSTRACT

Work on the forest grouse project was minimal in most areas of the State during 1974. The primary activity was distribution work. Harvest information was gathered through the use of wing envelopes in the southern and western portions of the State and brood data was compiled in some areas. The Bird Hunter Questionnaire is the most uniformly used tool although there appears to be some discrepancies, probably due to the sampling errors involved in dealing with a small category of hunters. Population trends appear to be stable or slightly up from 1973. Hunter interest and success is definitely up.

OBJECTIVES

- A. P.S. Objective: To formulate hunting regulations.
- B. Segment Objectives:
 - 1. To collect and analyze harvest data.
 - 2. To analyze factors which influence populations and determine population levels.
 - 3. To determine distribution and movement throughout the year.
 - 4. To determine impact of habitat changes upon the species.

TECHNIQUES

Techniques employed in project work are those outlined in the Wyoming Game and Fish Department's Upland Game Bird Survey Manual.

INTRODUCTION

Work on the forest grouse project varied widely from district to district. Materials are presented on a district by district basis in the narrative and are presented for much larger areas when possible in the tables and figures.

SUMMARY OF FOREST GROUSE ACTIVITIES BY DISTRICT

District 1; Jackson and District 4; Green River.

Blue grouse population trends indicate a slight increase during 1974. Thirty broods observed averaged 4.37 young per brood. The summer age ratio was 1.62 young per adult, a 13 percent increase above 1973 and 6 percent below the 1960-1974 average. Wing envelope sampling during the 1974 season indicated 36 percent of the hunter's bag was composed of adult females. See Table 3 for a complete breakdown of the harvest. Hunting pressure within Districts 1 and 4 underwent a shift from 1973. The 1974 pressure occurred as follows: Jackson Management Area - 15%, Star Valley Management Area - 12%, Upper Green River Management Area - 18%, Seedskafee Management Area - 38%, and Baggs Management Area - 17%. Harvest data

indicated a decrease in hunters but an increase in harvest.

Ruffed grouse populations indicated a slight decrease during 1974. Twenty-five broods observed averaged 4.20 young per brood. The summer age ratio was 2.14 young per adult, a 43 percent decrease from 1973 and a 12 percent decrease from the 1966-1974 average. Wing envelope sampling during the 1974 season indicated that in the Southwestern Management Unit the harvest was composed of primarily adult females. See Table 4 for a complete breakdown of the harvest. Hunting pressure within Districts 1 and 4 occurred as follows: Jackson Management Area - 18%, Star Valley Management Area - 31%, Upper Green River - 13%, Seedskadee Management Area - 31%, Uinta Management Area - 7%. There was an increase in both hunters and harvest.

District 2, Cody.

A limited amount of time was spent on the forest grouse project in District 2. Forest grouse work was primarily aimed toward determining yearly and seasonal distribution of blue grouse. Attempts were made to obtain brood counts but sample size was so small as to be insignificant in determining a trend. Harvest of blue and ruffed grouse was 60% above the 1973 level. Blue grouse composed approximately 95% of the harvest in the Big Horn Basin. The number of hunters increased by 25%. Preliminary investigation into the possibility of controlled burning to produce better blue grouse habitat was initiated.

District 3, Sheridan.

The forest grouse population in District 3 is primarily composed of blue grouse. Brood and distribution work indicated a year of good production. Hunters increased by 38% and the harvest was up 60% from 1973.

District 5, Laramie.

Distribution work was the main activity in the Laramie District during 1974. These efforts were primarily in conjunction with other activities although several special trips were made along the Encampment River Drainage and in the North Hayden Area (Figure 1.). Whenever possible a dog was used to aid in the location of grouse. From forest grouse sightings on file, it seems apparent that males and perhaps broodless females return to high wintering areas early and are available for hunters at these elevations after mid-August. The harvest in District 5 appears to exert the greatest pressure on males, perhaps due to a season later than the rest of the State. Table 5.

Sex and age composition of the harvest as determined by wing envelopes were similar to 1973. Table 3. The harvest trend appears to be stable.

District 6, Lander.

The 1974 forest grouse population in District 6 appeared to be up somewhat from 1973. There is a growing awareness of the ruffed grouse in the district and the possibility of extended ruffed grouse seasons should be explored to better utilize this species. The number of hunters remained stable in 1974 while harvest of forest grouse was up more than 100% from 1973.

DISCUSSION

The forest grouse project has been a minimum operation during 1974 especially in the central and northern portions of the State. Harvest data has been the main indicator of trends and utilization of wing envelopes in southern and western Wyoming has provided an indication of bag composition. In south central Wyoming where a late season has been in operation for many years, there appears to be the possibility of directing the greatest percent of the hunting pressure toward adult males while the younger and female segments of the population are not utilized. Due to possible age and sex segregation during the late summer, an earlier season could possibly be used to equalize the pressure on all segments of the population. There also appears to be a need in south central Wyoming to better ascertain age and sex identification characteristics in blue grouse.

In central Wyoming there appears to be a possibility of increasing the harvest of ruffed grouse by extending the season later in the year when the birds are apparently more available. It was suggested in the southwestern part of the State that there should be separate bag limits for blue and ruffed grouse in order to better utilize each species. Such a procedure may call for a hunter education program to facilitate species identification.

RECOMMENDATIONS

1. Consider the possibility of separate bag limits for blue and ruffed grouse and an educational program to aid hunters in species identification.
2. Consider longer seasons for ruffed grouse.
3. Determine and map annual and seasonal, as well as vertical distribution of forest grouse.
4. Determine the habitat requirements of the forest grouse species.
5. Design seasons to increase utilization of the juvenile segments of the population in the southern portion of the State.

TABLE 1

1974 BLUE GROUSE HUNTER QUESTIONNAIRE DATA

<u>COUNTY</u>	<u>HUNTERS</u>	<u>HUNTER DAYS</u>	<u>HARVEST</u>	<u>BIRDS/ HUNTER</u>	<u>BIRDS/ DAY</u>	<u>DAYS/ HUNTER</u>
Natrona	45	77	77	1.71	1.00	1.70
Laramie	7	54	0	0	0.00	7.71
Sheridan	295	926	1,237	4.19	1.33	3.13
Sweetwater	15	31	7	0.05	0.22	2.06
Albany	194	381	327	1.68	0.85	1.96
Carbon	458	1,510	1,790	3.90	1.18	3.29
Goshen	7	109	77	11.00	0.70	15.57
Big Horn	272	840	988	3.63	1.17	3.08
Fremont	178	419	482	2.70	1.15	2.35
Park	132	397	420	3.18	1.05	0.33
Lincoln	240	996	1,245	5.18	1.25	4.15
Converse	31	31	77	2.48	2.48	1.00
Johnson	85	163	163	1.91	1.00	1.91
Crook	7	7	15	2.14	2.14	1.00
Washakie	108	240	364	3.37	1.51	2.22
Weston	7	15	0	0	0.00	2.14
Teton	186	724	506	2.72	0.69	3.89
Sublette	217	583	638	2.94	1.09	2.68
Totals	2,484	7,503	8,413	3.38	1.12	3.02

TABLE 2

1974 RUFFED GROUSE HUNTER QUESTIONNAIRE DATA

<u>COUNTY</u>	<u>HUNTERS</u>	<u>HUNTER DAYS</u>	<u>HARVEST</u>	<u>BIRDS/ HUNTER</u>	<u>BIRDS/ DAY</u>	<u>DAYS/ HUNTER</u>
Natrona	15	38	46	3.06	1.21	2.53
Sheridan	62	218	77	1.24	0.35	3.51
Sweetwater	54	123	115	2.13	0.93	2.27
Albany	23	46	15	0.65	0.32	2.00
Carbon	108	186	233	2.15	1.25	1.72
Big Horn	23	101	7	0.30	0.07	4.39
Fremont	86	295	233	2.70	0.78	3.43
Park	62	288	140	2.25	0.48	4.64
Lincoln	257	933	1,074	4.17	1.15	3.63
Johnson	39	70	54	1.38	0.77	1.79
Campbell	7	15	31	4.42	2.06	2.14
Crook	7	23	38	5.42	1.65	3.28
Uinta	22	38	0	0.00	0.00	1.72
Washakie	15	15	23	1.53	1.53	1.00
Weston	7	15	23	3.28	1.53	2.14
Teton	226	832	591	2.61	0.71	3.68
Sublette	155	466	458	2.95	0.98	3.00
Totals	1,168	3,702	3,158	2.70	0.85	3.16

TABLE 3

1974 BLUE GROUSE HUNTER BAG COMPOSITION - WING ENVELOPES

	Southwestern Unit			District 5	
	1974	Change from 1973	Change from 1966-1974 Ave.	1974	Change from 1973
Juveniles	38%	-33%	-26%	42%	-4%
Adults	62%	+44%	+26%	58%	+4%
Males	48%	- 6%	- 8%	65%	-8%
Females	52%	- 6%	+ 8%	35%	+8%
Juv. Males	22%	-27%	-24%	22%	-7%
Adult Males	26%	+24%	+13%	43%	-1%
Juv. Females	16%	-39%	-27%	20%	+3%
Adult Females	36%	+59%	+39%	15%	+5%

TABLE 4

1974 RUFFED GROUSE HUNTER BAG COMPOSITION - WING ENVELOPES

	Southwestern Unit		
	1974	Change from 1973	Change from 1966-1974 Ave.
Juveniles	48%	-16%	- 4%
Adults	52%	+20%	+ 4%
Males	40%	-25%	- 5%
Females	60%	-28%	+ 3%
Juv. Males	23%	-23%	+10%
Adult Males	17%	-26%	-19%
Juv. Females	25%	- 7%	-14%
Adult Females	35%	+75%	+21%

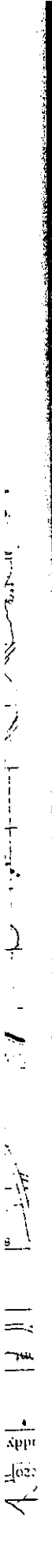
TABLE

SUMMARY OF HABITAT & ELEVATIONS UTILIZED BY BLUE GROUSE
(Based on Blue Grouse Observations for 1973 & 1974)

Month Observed	Broods Observed		Timber Type ¹				Stand Type				Non-Timber Type			Shrub Type ²		2-Year Ave. Elev.						
	Yes	No	LP.	P.	S.	F.	A.	Mat.	Open	Dense	Age	Edge	Forest	Grass	S.		MM.	C.	J.	O.		
May 1973	2	1												1						1	2	8700
May 1974	100	20												100						100	100	8700
Percent			.5											1						1	100	8700
Incidence			.5											1						1	100	8700
June 1973	1	1												1						1	1	8600
June 1974	100	33												100						100	67	8600
Percent			.5											1						1	67	8600
Incidence			.5											1						1	67	8600
July 1973	6	1												4						4	1	8000
July 1974	100	10												100						100	17	8000
Percent			.2											1						1	17	8000
Incidence			.2											1						1	17	8000
Aug. 1973	27	5												6						22	13	8309
Aug. 1974	79	21												75						47	28	8309
Percent			.1											1						1	28	8309
Incidence			.1											1						1	28	8309
Sept. 1973	2	5												1						1	3	8208
Sept. 1974	54	1												3						3	1	8208
Percent			.3											1						1	3	8208
Incidence			.3											1						1	3	8208
Oct. 1973	2	15												1						2	1	
Oct. 1974	88	4												14						40	20	
Percent			.1											1						1	20	
Incidence			.1											1						1	20	

Percent = Observations in each category/total observations in category.
Incidence = Observations in each category/number of times each was reported.

¹ Timber Type: LP.=Lodgepole, P.=Ponderosa, S.=Spruce, F.=Fir, A.=Aspen
² Shrub Type: S.=Sagebrush, MM.=Mountain Mahogany, C.=Current, J.=Juniper, O.=Other



Incidence = Observations in each category/number of times each was reported.
 1 Timber Type: LP=Lodgepole, P=Ponderosa, S=Spruce, F=Fir, A=Aspen
 2 Shrub-Twome: S=Sagebrush, MM=Mountain Mahoe

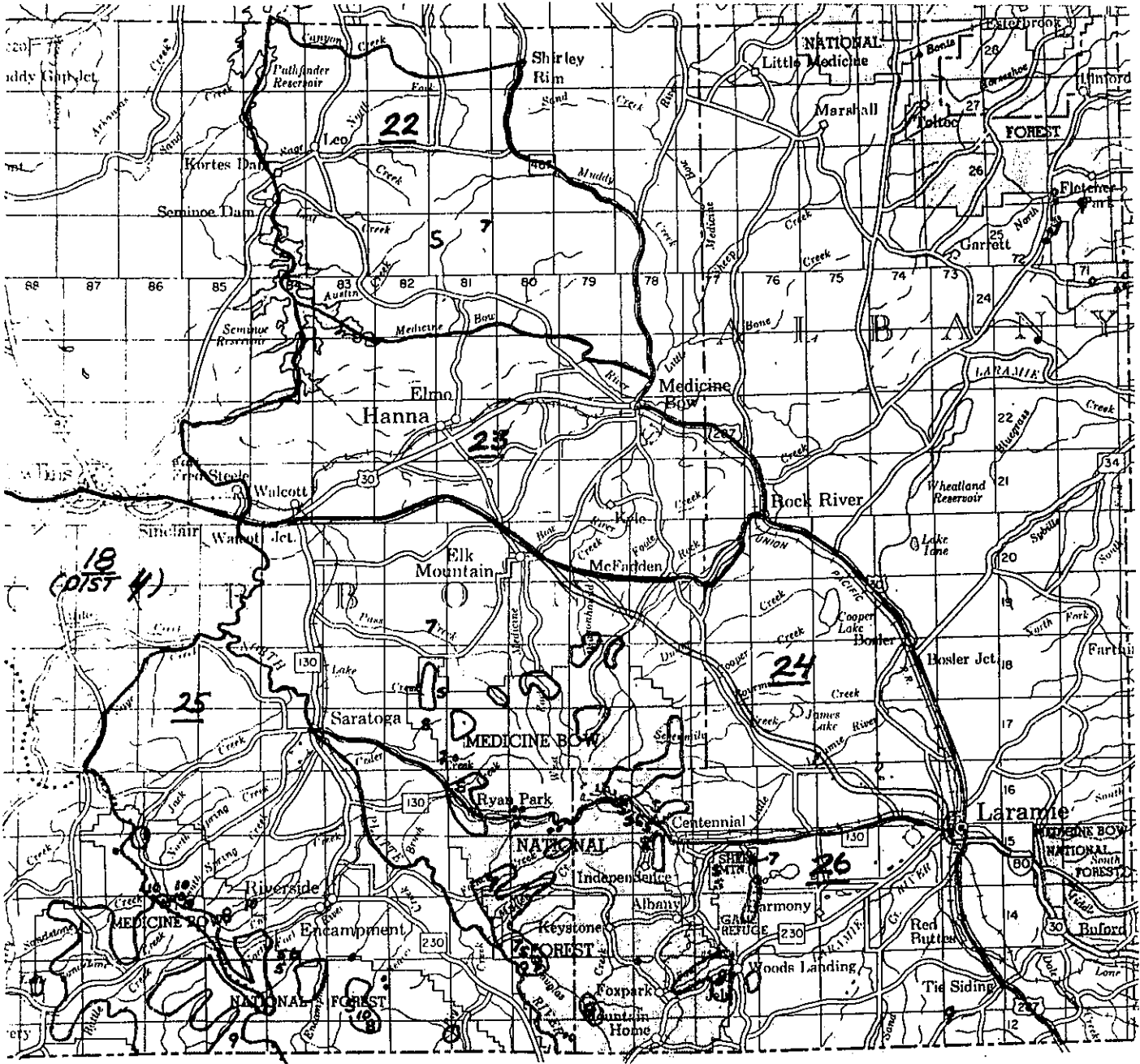


Figure 1. RECORDED GROUSE DISTRIBUTION IN DISTRICTS 4 AND 5.

- No. = Bird Management Section
- 7 = Month of Observation
- S = Approximate Location of 1974 Harvest Locations
- or ● = Recorded Distribution of Grouse Prior to 1974

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