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Joseph C. Greenley, Director

Project W-170-R-3

JOB PROGRESS REPORT

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July 1, 1978 to June 30, 1979

ANTELOPE

SURVEYS AND INVENTORIES

- Study VIII, Job 1: Herd Composition and Trend Counts
- Study IX, Job 1 : Analyze Big Game Hunter Report Cards
- Job 2 : Analyze Big Game Hunter Questionnaire

Boise, Idaho
September, 1979

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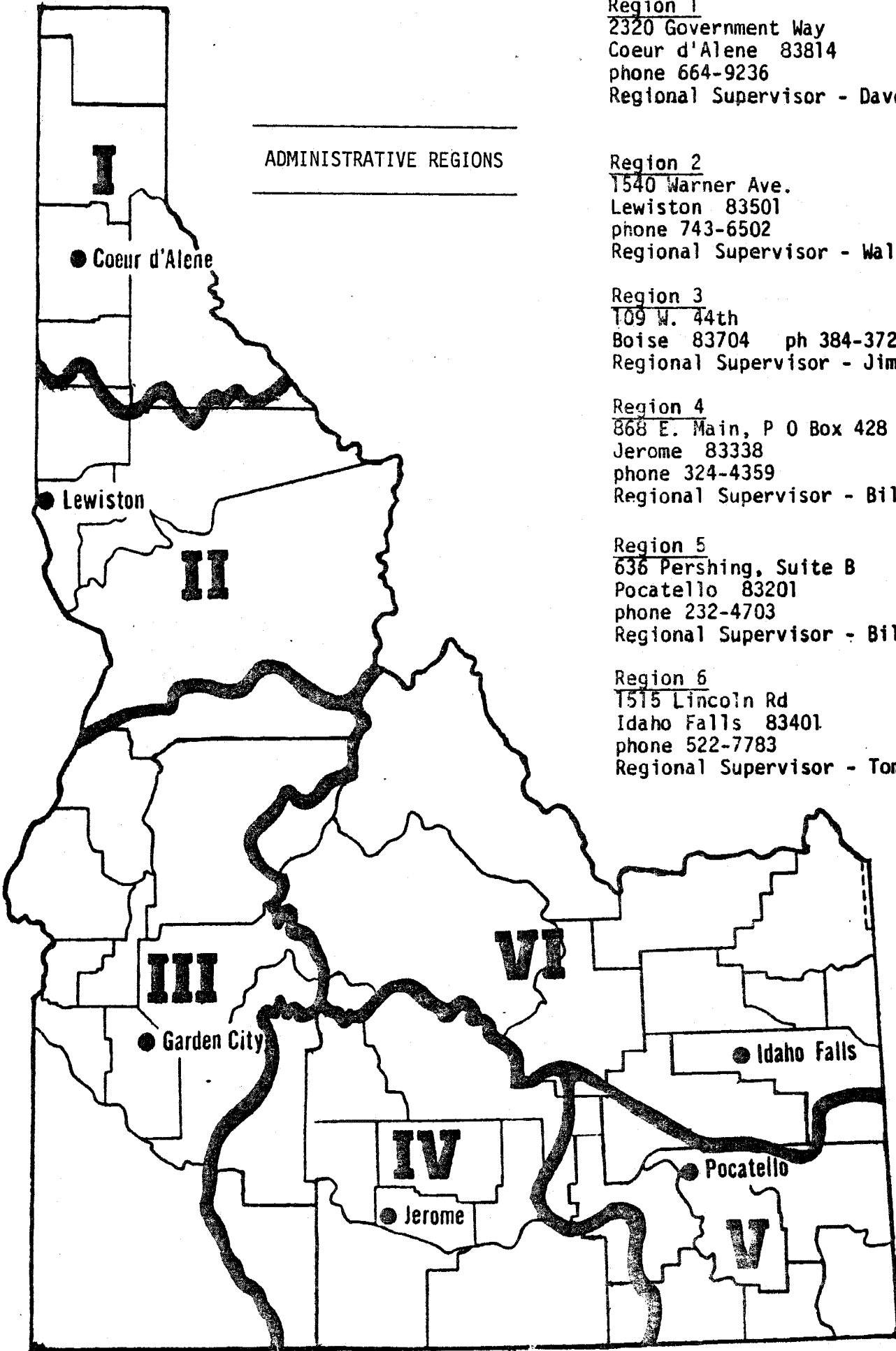
INTRODUCTION

This report covers all antelope survey and inventory work completed in Idaho from July 1, 1978 to June 30, 1979. It is presented in four segments, one each for administrative Regions 3, 4, 5 and 6 (Figure 1). Each segment is further broken down into subsections by controlled hunt areas within management unit(s) (Figure 2).

The job objectives for this study are as follows:

- 1) To determine the composition (buck:doe:fawn ratios) of antelope herds in selected units about mid-August.
- 2) To conduct counts on specified areas or routes to estimate density and trend of selected antelope populations.
- 3) To operate check stations during part of the hunting seasons to collect harvest data and biological samples from hunter-killed antelope.
- 4) To determine antelope harvests by unit or hunt by the use of the Hunter Report Card and the Hunter Questionnaire.

All antelope management data are gathered and evaluated according to directions set forth in the regional antelope management plans. Therefore, other pertinent management information not specifically required under Federal Aid is presented in this report.



ADMINISTRATIVE REGIONS

Region 1
 2320 Government Way
 Coeur d'Alene 83814
 phone 664-9236
 Regional Supervisor - Dave Neider

Region 2
 1540 Warner Ave.
 Lewiston 83501
 phone 743-6502
 Regional Supervisor - Walt Browne

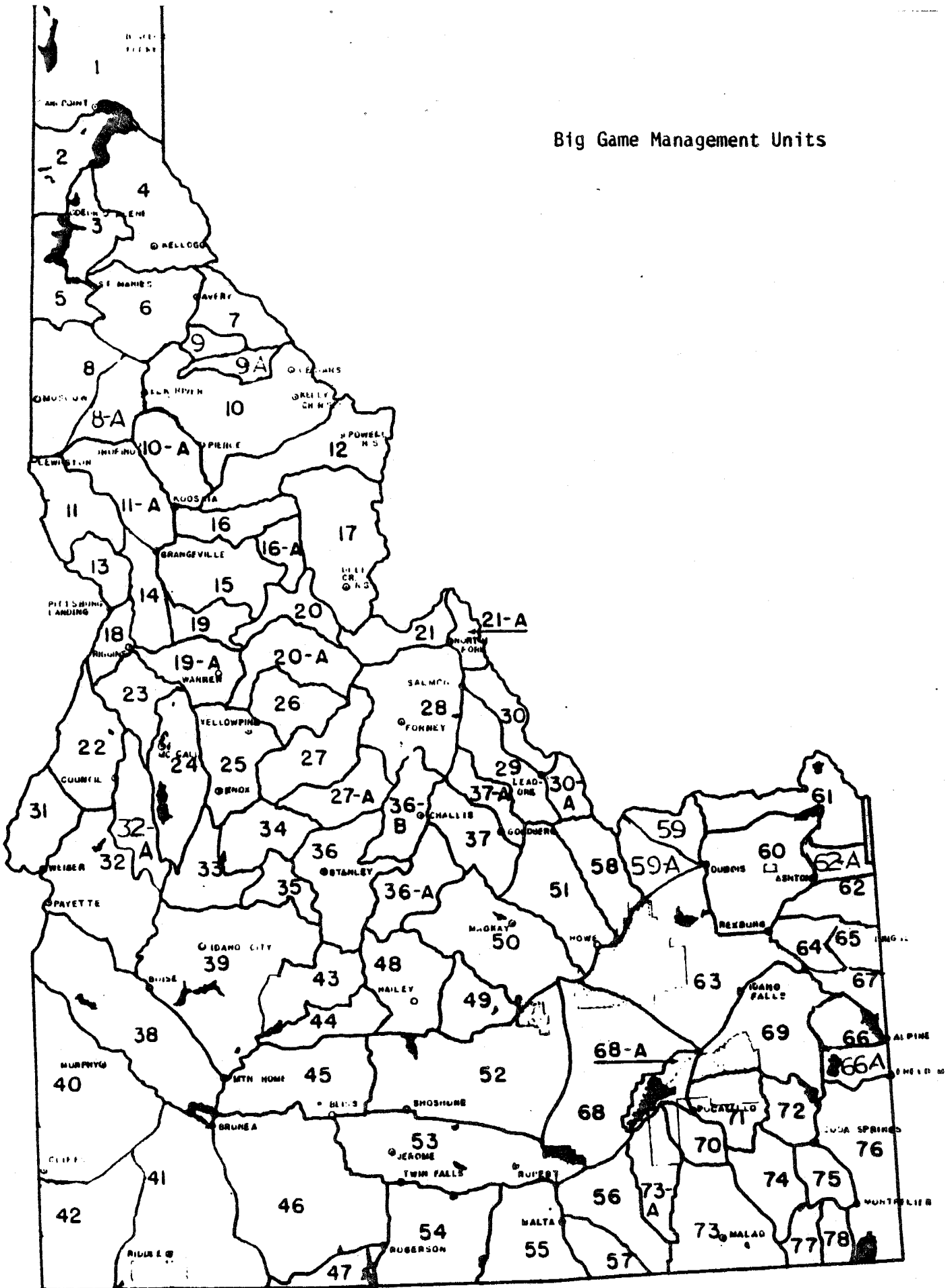
Region 3
 109 W. 44th
 Boise 83704 ph 384-3725
 Regional Supervisor - Jim Keating

Region 4
 868 E. Main, P O Box 428
 Jerome 83338
 phone 324-4359
 Regional Supervisor - Bill Webb

Region 5
 636 Pershing, Suite B
 Pocatello 83201
 phone 232-4703
 Regional Supervisor - Bill Davidson.

Region 6
 1515 Lincoln Rd
 Idaho Falls 83401
 phone 522-7783
 Regional Supervisor - Tom Reinecker

Big Game Management Units



ANNUAL REPORT
SURVEYS AND INVENTORY

STATE: Idaho PROJECT NO. W-170-R-3
TITLE: Antelope Surveys and Inventory STUDY: VIII, Job 1
SUBPROJECT: 3 IX, Jobs 1 and 2
PERIOD COVERED: July 1, 1978 - June 30, 1979

ABSTRACT

There were no antelope surveys conducted by Region 3 personnel during the fiscal year 1978-79. Herd composition data were collected by Bob Autenrieth as part of the Statewide Antelope Ecology research project.

Report card returns and telephone surveys indicate that a total of 64 antelope were harvested in Region 3 during the 1978 hunting season. The harvest consisted of 48 bucks and 16 does for a buck:doe ratio of 3.0:1.0 in the harvest. Hunter success was 40%.

This represents a 36% increase in the number of antelope taken in 1977 and a 29% increase in hunter success.

Mrs. Jean Smits is acknowledged for cataloging hunter report cards and YACC's Bob Dougherty and Kathy Means for conducting the followup telephone survey.

SPECIES

Antelope

MANAGEMENT UNIT

432

Description: Unit 432 - Same as 1976.

SEASON REGULATION - 1978

Standard Season:

Controlled, either sex (25 permits)

Season Dates:

September 23 - October 8

Special Season:

None

The present population of antelope in this unit stems from a small transplant on Crane Creek in 1961. The original population disappeared sometime between 1920-30. The unit was first opened to hunting the fall of 1975.

POPULATION CHARACTERISTICS

No herd composition or population trend work was conducted in this unit in 1978-79. To date, very little management information has been collected on this unit.

HARVEST

Report Card and Telephone Survey

Ten antelope were reported harvested during the 1978 hunting season, 4 bucks and 6 does. Table 1 depicts harvest data since the unit first opened in 1975.

The 1975 season was for bucks only, but because of the alleged illegal kill of does and subsequent protests from private landowners, the bucks-only hunt was discontinued and the permit level reduced from 20 to 15. In 1978, the permit level was raised back up to 25 permits.

Table 1. Summary of antelope harvest, Unit 432, 1975-78.

Year	Number Permits	Harvest			% Hunter Success
		Males	Females	Total	
1975*	20	13	0	13	65
1976	15	4	6	10	67
1977	15	3	0	3	20
1978	<u>25</u>	<u>4</u>	<u>6</u>	<u>10</u>	<u>40</u>
TOTAL	75	24	12	36	--
AVERAGE	19	6	3	9	47%

*Bucks only hunt.

MANAGEMENT IMPLICATIONS

Very little management information has been collected on this antelope population. No herd comp or trend information is available. Survey efforts should be intensified to collect this data in order to improve management.

A good portion of unit 32 is private land. Permittees must ask permission to trespass in order to hunt.

Private landowners in the unit appear to be satisfied with population numbers, however, they requested an increase in permit level to achieve additional harvest in 1978.

Reports from field personnel of sightings of antelope in portions of Adams and Payette counties indicate the population may be expanding.

SPECIES

Antelope

MANAGEMENT UNITS

440, 441, 442-1 and 442-2

Description: Hunt 440 - Same as 1976.

Description: Hunt 441 - Same as 1976.

Description: Hunt 442-1 - Same as 1976.

Description: Hunt 442-2 - Same as 1976.

SEASON REGULATION - 1978

Standard Season:

Controlled, either sex

Unit 440 - 50 permits

Unit 441 - 10 permits

Unit 442-1 - 55 permits

Unit 442-2 - 20 permits

Season Dates:

September 23 - October 8

Special Season:

None

These units comprise the bulk of Owyhee County that contain huntable antelope populations.

Owyhee County has a long history of use by antelope. Large herds of antelope were found when the white man first entered southwest Idaho. The mining era of 1860-90 saw the antelope populations reduced to a fraction of their former numbers.

By the 1950's antelope populations had made a dramatic recovery partly due to a transplanting program. A gradual decline since the mid-1960's has resulted in present populations estimated to be only 10-20% of their 1950 levels.

POPULATION CHARACTERISTICS

Herd Composition

Herd composition and late summer distribution information is collected by Bob Autenrieth as part of the statewide Antelope Ecology research project. A Hiller 12E helicopter was used during the first week of August, 1978 on the surveys with a goal of classifying a minimum of 135 adult females in each hunt unit. Results of the 1978 survey and comparisons with past helicopter surveys are found in Table 2. Units 441 (Sheep Creek) and 442-2 (Dry Lakes) have not been surveyed due to low populations. The animals are scattered over large areas and difficult to locate.

Because of variable sample sizes, herd composition data taken from 1973-78 in unit 442-1 may not be comparable. Dramatic fluctuations in sample size, fawn/doe ratios, and buck/doe ratios from one year to the next are most likely the result of sampling errors. However, in 1975, 1977, and 1978 sample sizes were adequate. The observed fawn/doe ratio in 1978 (52/100) is considerably higher than 1975 (34/100) but somewhat lower than 1977 (64/100). It appears that initial mortality during the fawn's first three or four months of life has decreased since 1975.

Sample sizes in unit 440 have been more uniform and the observed fawn/doe ratios have not fluctuated as much. Except for 1976, the observed fawn/doe ratio has been between 57 and 60 fawns/100 does.

During 1977 Idaho experienced a drought of record proportions. However, Autenrieth (personal communication) found water readily available in August, 1977 and antelope distribution unchanged from previous years. Autenrieth (personal communication) also stated that the 1978 fawn/doe ratios offered no evidence that the 1977 drought had any significant effect on antelope production.

Population Trend

Region 3 personnel discontinued the annual fall fixed-wing survey in Owyhee County in 1975 in order to prevent duplicating Autenrieth's work. Late winter fixed-wing surveys to monitor antelope trends on winter ranges were initiated by Region 3 during fiscal year 1977-78.

During the late 40's and early 50's fixed-wing winter trend counts were run to keep track of population fluctuations. In the mid-fifties, both population trend and herd composition data were collected. However, there was little or no continuity from one year to the next on these surveys. The surveys eventually evolved into a late summer distribution census and in 1975 were eliminated.

The region's antelope management plan calls for late winter trend counts to be resumed and flown over similar routes as those established in the 50's and early 60's.

No surveys were conducted, however, during the 1978-79 fiscal year.

Table 2. Antelope production helicopter surveys, 1973-78, Owyhee County (Autenrieth, 1978).

Year	Sample Size	Bucks	Does	Fawns	Fawns/ 100 Does	Bucks/ 100 Does
<u>Unit 442-1 (Battle Creek)</u>						
1973	38	5	23*	10	44	22
1974	38	9	15*	14	93	60
1975	201	31	127	43	34	24
1976	106	31	41*	34	83	76
1977	200	46	94	60	64	49
1978	<u>361</u>	<u>76</u>	<u>187</u>	<u>98</u>	<u>52</u>	<u>41</u>
TOTALS	944	198	487	259	53	41
<u>Unit 440 (Cow Creek)</u>						
1973	NO DATA	--	--	--	--	--
1974	76	6	44*	26	59	14
1975	13	2	7*	4	57	29
1976	64	8	31*	25	81	26
1977	87	19	43*	25	58	44
1978	<u>90</u>	<u>15</u>	<u>47*</u>	<u>28</u>	<u>60</u>	<u>47</u>
TOTALS	330	50	172	108	63	29

*Sample size is inadequate and the ratios may not be accurate.

HARVEST

Hunter Report Cards and Telephone Survey

Fifty-four antelope were harvested from the Owyhee County antelope units during the 1978 hunting season--44 bucks and 10 does.

A breakdown of the harvest by unit is shown in Table 3 from 1970-78.

Permit levels have remained relatively stable since 1970 and the harvest levels for each unit have also not fluctuated significantly.

Table 3. Summary of antelope harvest in Owyhee County, 1970-78.

Year	Number Permits	Harvest			% Hunter Success
		Male	Female	Total	
<u>Unit 440</u>					
1970	35	9	10	19	54
1971	35	15	6	21	60
1972	50	9	11	20	40
1973	50	17	6	23	46
1974	50	16	1	17	34
1975	50	14	8	22	44
1976	50	13	5	18	36
1977	50	17	4	21	42
1978	50	16	3	19	38
TOTALS	420	126	54	180	--
AVERAGE	47	14	6	20	42
<u>Unit 441</u>					
1970 ¹	35	11	6	17	48
1971 ²	35	19	6	25	71
1972 ²	15	7	1	8	53
1973 ³	10	2	0	2	20
1974 ³	10	2	1	3	30
1975	10	1	1	2	20
1976	10	3	0	3	30
1977	10	3	0	3	30
1978	10	3	0	3	30
TOTALS	145	51	15	66	--
AVERAGE	16	5	2	7	44
<u>Unit 442-1</u>					
1970	55	15	11	26	47
1971	55	19	3	22	40
1972	55	19	6	25	45
1973	55	16	7	23	42
1974	55	17	9	26	47
1975	55	20	12	32	58
1976	55	8	1	9	16
1977	55	18	0	18	33
1978	55	21	6	27	49
TOTALS	495	153	55	208	--
AVERAGE	55	17	6	23	42

(continued)

Table 3. Summary of antelope harvest in Owyhee County, 1970-78. (continued)

Year	Number Permits	Harvest			% Hunter Success
		Male	Female	Total	
<u>Unit 442-2</u>					
1970	20	5	2	7	35
1971	20	5	1	6	30
1972	20	6	2	8	40
1973	20	4	2	6	30
1974	20	5	0	5	25
1975	20	11	0	11	55
1976	20	3	0	3	15
1977	20	1	1	2	10
1978	20	4	1	5	25
TOTALS	180	44	9	53	--
AVERAGE	20	5	1	6	30%

¹ Unit included all of units 46 and 47.

² Unit reduced to include only the west portion of unit 46.

³ Present boundary established.

There has been some speculation that the decline of the Owyhee County antelope population has been due to hunting. It is the opinion of Region 3 personnel that the permit levels have been very conservative compared to antelope hunts in eastern Idaho. The decline has been of such a magnitude that an annual harvest of between 50-80 animals since the late 1960's should not account for population declines of 80-90% of what they were in the 1950's.

The total harvest from Owyhee County since 1970 has been 507 antelope--374 bucks and 133 does. This indicates that hunter caused mortality has been 2.8 times greater on bucks yet there is no evidence that the population is increasing.

Annual fawn mortality must be excessive for this population not to improve. Autenrieth's (1978) data verifies that fawn:doe ratios in the Owyhee units are below average at the end of the summer.

MANAGEMENT IMPLICATIONS

Population levels are 10-20% of what they were in the 1950's. Present management has resulted in little or no increase in herd levels.

Fawn survival appears to be below average at the end of the summer, three months after birth.

It is difficult to get adequate sample sizes on Owyhee County antelope populations for sex and age ratio information.

Winter aerial surveys will be conducted to try and help determine population status.

Harvest data indicates mortality on bucks is 2.8 times greater than on does.

Drought conditions in 1977 did not appear to affect antelope production in 1978 in Owyhee County.

LITERATURE CITED

Autenrieth, R. 1978. Antelope Ecology. Job Prog. Rep. W-160-R-5, Idaho Dept. Fish and Game, Boise, 47 p.

Submitted by:

C. L. Jensen

Chuck Jensen
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Region 3 - Boise, Idaho

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Mike Dunbar

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ANNUAL REPORT
SURVEYS AND INVENTORY

STATE: Idaho PROJECT NO: W-170-R-3
TITLE: Antelope Surveys and Techniques STUDY: VIII, Job 1 and
SUBPROJECT: 5 Study IX, Jobs 1 & 2
PERIOD COVERED: July 1, 1978 - June 30, 1979

ABSTRACT

Antelope were not concentrated sufficiently to make herd composition or population trend observations feasible. The general impression from field personnel is that populations within the Unit 68 portion of the Big Desert are increasing as compared to previous years.

An antelope-train collision near Wapi in 1976 killed 132 and the origin of these animals was assumed to be from Unit 68. There is growing evidence that a large portion of the train kill were from antelope which had migrated from areas outside of Unit 68.

The season was closed in 1976 through 1978 eliminating all legal harvest except for a limited archery hunt in the northern tip of the unit. The closure was initiated as a result of the train accident and loss of the 132 animals.

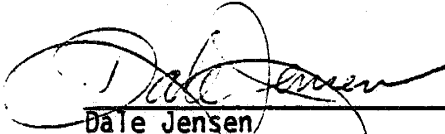
Range conditions are generally good and no significant mortality is known to have occurred during the past winter.

MANAGEMENT IMPLICATIONS

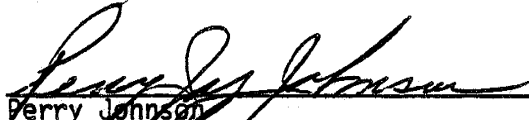
The large expanse of area on the Big Desert presents problems in collecting adequate information. Continued efforts should be made to collect herd structure data.

Increase in herd size can be expected in view of the present closed season. Consideration should be given to the resumption of a limited controlled hunt that appears justified in light of a sizeable summer population.

Submitted by:



Dale Jensen
Regional Wildlife Manager
Region 5 - Pocatello, Idaho



Perry Johnson
Regional Wildlife Biologist

SPECIES

Antelope

MANAGEMENT UNIT

68

Description: Unit 68 - Same as 1976.

Archery Description: Unit 68 - That portion of Unit 68 north of the Quaking Aspen-Big Southern Butte landing strip I.N.E.L. boundary road, except I.N.E.L. Site, closed.

SEASON REGULATIONS - 1978

Standard Season:

Closed

Special Season:

General, either sex archery.

Season Dates:

August 5 - September 3.

This is the area commonly known as the Arco Desert in Unit 68 and is supporting the only antelope population in Region 5. The population is characterized by both resident and transient animals. A historic migration route extends from summer range in the Arco-Howe area south to winter range in the Aberdeen area. Antelope that spend the summer scattered throughout the desert also migrate to winter range located along the fringe where desert meets agricultural lands from Wapi to Tabor.

Prior to 1965, Unit 68 was combined with units 49 and 52 which resulted in most of the hunting pressure occurring in those areas outside of Unit 68. In 1965, Unit 68 was delineated as a separate hunt and has remained as such to the present. About 50 permits have been issued annually resulting in a hunter success averaging 76 percent.

A freak accident occurred February 17, 1976, near Wapi, in which 132 antelope were killed by a Union Pacific train. The segment of the wintering population killed in this mishap is believed to be a portion that traditionally winters in the American Falls-Aberdeen area. The origin of these animals from summer range is unknown and could extend as far north as Arco and Howe. It was interesting to note that pre-season populations on the desert did not reflect the dramatic loss in the train accident lending credence to the theory that these animals may have migrated long distances. The hunting season was closed in Unit 68 during 1976 pending further evaluation of effects from the train loss on the total population level.

POPULATION CHARACTERISTICS

The antelope are widely scattered over a large expanse of desert and attempts to census the population have proven unsuccessful. Based on general observations by field personnel, it is believed that the population is presently stabilized. A closed season in 1976 through 1978 should result in some population increase.

HARVEST

Questionnaire and Report Cards

The estimated harvest in Unit 68 for the years 1972-1978 is shown in Table 1. No season was allowed in 1976 due to a train mishap in February, 1976, which resulted in the loss of 132 antelope.

Table 1. Summary of Unit 68 Controlled Antelope Hunt, 1972-1978.

Year	Permits	Harvest		Total Kill	% Success
		% Male	% Female		
1972	50	68	32	29	58
1973	50	68	32	31	62
1974	50	78	22	18	36
1975	50	87	13	25	50
1976	Closed	--	--	--	--
1977	Closed	--	--	--	--
1978	Closed	--	--	--	--

ANNUAL REPORT
SURVEYS INVENTORY AND QUESTIONNAIRE

STATE: Idaho PROJECT NO.: W-170-R-3
TITLE: Antelope Surveys Inventory STUDY: VIII, Job 1 and
Questionnaire SUBPROJECT: Study IX, Jobs 1 & 2
6
PERIOD COVERED: July 1, 1978 - June 30, 1979

ABSTRACT

Three aerial surveys were conducted during the fiscal year 1978-79. A total of 8.8 hrs. were flown at a cost of \$481.21. During these surveys 2,116 pronghorns were observed.

Hunter report cards and follow-up phone contacts indicated a total kill of 778 male and 231 female pronghorns for a total legal kill of 1009. The buck:doe ratio was 337 buck:100 does.

Fawn mortality, check station, vegetation, and food habit data are reported in a separate job completion report. The report is presented in thesis form and was used as partial fulfillment of requirements for a Master of Science degree for Walter L. Bodie. An abstract of that report follows.

Submitted by:

Bob Sherwood

Bob Sherwood
Regional Wildlife Manager
Region 6 - Idaho Falls, Idaho

Frank DeShon

Frank DeShon
Regional Wildlife Biologist

Walter L. Bodie

Walt Bodie
Regional Wildlife Biologist

ABSTRACT

Bodie, Walter L., M.S., Spring 1979

Wildlife Biology

Factors Affecting Pronghorn Fawn Mortality in Central Idaho
(90 pp.)

Director: Bart W. O'Gara

Bene

In a study, conducted from September 1975 through September 1978, I used radiotelemetry to determine neonatal histories of 42 pronghorn (Antilocapra americana Ord.) fawns in the upper Pahsimeroi River Drainage in central Idaho. Predation (36%) and starvation-disease (21%) were the major direct causes of mortality of marked fawns and most mortality (92%) occurred during the first 2 weeks of life.

The percentage of predator-killed fawns attributed to each predator species was: Golden Eagles (Aquila chrysaetos) 47, coyotes (Canis latrans) 27, bobcats (Lynx rufus) 13, and small raptors 13.

Fawn survival correlated with habitat selection. Fawns bedding in the tall sage-foothill community type had significantly ($p < 0.01$) higher predator-related mortality than fawns using the short sage-grass community type. Fawns selecting bedding sites in habitats least hunted by eagles and coyotes had the highest survival rate. Predators appeared to select the largest and most precocious fawns.

Pronghorn fawns were subject to losses from weak-fawn syndrome and symptoms were similar to those reported for neonatal cattle (Bos taurus) and domestic sheep (Ovis aries). Does were more likely to abandon fawns during some years than others.

Summer conditions of pronghorns varied depending upon plant moisture content and vegetative condition. Does raising fawns to late summer had lower fat reserves than other age and sex classes and were often emaciated in late September.

SPECIES

Pronghorn Antelope

Region 6

421-A, 429-1, 429-2, 430, 430-A, 436-A, 437-1,
437-2, 437-A, 450-1, 450-2, 450-3, 451-1, 451-2,
438, 459, 460, 461-1, 463-1, 463-2

Description: Hunt 421-A - All of Unit 21-A

Description: Hunt 429-1 - That portion of Unit 29 lying downstream from and including the Hayden Creek drainage on the west side of the Lemhi River and those drainages on the east side of the main Salmon River lying upstream from the mouth of the Lemhi River to and including the Poison Creek drainage.

Description: Hunt 429-2 - That portion of Unit 29 lying upstream from but excluding the Hayden Creek drainage on the west side of the Lemhi River.

Description: Hunt 430 - All of Unit 30.

Description: Hunt 430-A - All of Unit 30-A.

Description: Hunt 436-A - All of Unit 36-A and those portions of Unit 37 withing Warm Springs Creek drainage east of Highway 93A and those drainages on the east side of the main Salmon River from Warm Springs Creek downstream to but excluding the Pahsimeroi River drainage.

Description: Hunt 437-1 - That portion of Unit 37 south of the Double Springs Pass-Goldberg road within the Pahsimeroi River drainage.

Description: Hune 437-2 - That portion of Unit 37 lying north of the Double Springs Pass-Goldberg road within the Pahsimeroi River drainage.

Description: Hunt 437-A - All of Unit 37-A.

Description: Hunt 450-1 - That portion of Unit 50 lying north of Antelope Creek and west of U.S. Highway 93 (Alt.).

Description: Hunt 450-2 - Located in Units 50, 52 and 68. That portion of Unit 50 lying southeast of Antelope and Pass Creeks; that portion of Unit 52 within Butte County, and that portion of Unit 68 lying north of the Quaking Aspen Butte-Big Southern Butte landing strip I.N.E.L. boundary road. CRATERS OF THE MOON NATIONAL MONUMENT AND I.N.E.L. SITE, CLOSED.

Description: Hunt 450-3 - That portion of Unit 50 lying north of Pass Creek and east of U.S. Highway 93 (Alt.).

Description: Hunt 451-1 - That portion of Unit 51 north of Cedar Run Canyon and north of the Wet Creek-Pass Creek Pass road.

Description: Hunt 451-2 - That portion of Unit 51 south of Cedar Run Canyon and south of the Wet Creek-Pass Creek Pass road. I.N.E.L. SITE, CLOSED.

Description: Hunt 458 - All of Unit 58. I.N.E.L. SITE CLOSED.

Description: Hunt 459 - All of Units 59 and 59-A.

Description: Hunt 460 - All of Unit 60.

Description: Hunt 461-1 - Those portions of Units 59 and 61 within the Beaver Creek watershed above Spencer.

Description: Hunt 463-1 - That portion of Unit 63 north of State Highway 88. I.N.E.L. SITE, CLOSED.

Description: Hunt 463-2 - That portion of Unit 63 south of State Highway 88. I.N.E.L. SITE CLOSED.

SEASON REGULATION - 1978

Standard Season:

Limited entry, either-sex

Season Dates:

Unit 421-A & 461-1 Closed

September 22 - October 8, Units 429-1, 429-2, 430, 430-A, 436-A, 437-1, 437-2, 437-2, 450-1, 450-2, 450-3, 451-1, 451-2, 459-1, 460, 463-1, 463-2

September 2 - October 8, Unit 458-2

October 28 - November 12, Units 458-1 & 459-2

Special Seasons:

General, archery only, either-sex

Season Dates:

Unit 21-A, Closed

September 2 - September 17, Units 29, 30, 37, 50-N, 51-N, 59, 59-A, 60, 63

August 5 - September 17, Units 50-S, 51-S

August 5 - September 1, Unit 58

Pronghorn seasons have been managed on a limited entry basis for rifle hunting due to limited numbers of animals and a large demand. All rifle hunting has been on an either-sex basis. In several cases permit levels have been raised to reduce numbers due to depredation complaints. Reduced permit levels have been used to allow for an increase in these populations.

General archery hunts have been used to discourage antelope depredations on private lands. This system has been successful in reducing complaints without reducing pronghorn populations.

POPULATION CHARACTERISTICS

Herd Composition

Composition counts were conducted under Antelope Ecology Project W-160-R-6, Stude I and Study II by Robert E. Autenrieth, Principal Game Research Biologist.

Table 1. Pronghorn production census, Region 6, 1973-78.

Year	Total	Bucks	Does	Fawns	Fawns/100 Does	Bucks/100 Does
Birch Creek						
1973	270	54	132	84	63.6	40.9
1974	364	73	164	127	77.4	44.5
1975	349	58	167	124	74.0	34.7
1976	283	80	127	76	60.0	63.0
1977	270	61	130	79	61.0	45.0
1978	379	80	153	146	95.0	52.0
Big Lost						
1973	163	24	88	51	57.9	27.3
1974	134	7	97	30	30.9	7.2
1975	128	35	74	19	25.7	47.3
1976	272	37	159	76	48.0	23.0
1977	656*	138	388	130	33.5	35.6
1978	637*	119	337	181	54.0	35.0
Little Lost						
1973	450	90	235	125	53.2	38.3
1974	238	43	109	86	80.0	39.0
1975	319	64	159	96	60.0	40.3
1976	340	97	145	98	68.0	66.0
1977	571	113	288	170	59.0	39.2
1978	664	107	354	203	57.0	30.0
Lemhi						
1973	230	44	127	59	46.5	34.6
1974	248	39	128	81	63.3	30.5
1975	304	43	161	100	62.1	26.7
1976	188	16	137	35	26.0	12.0
1977	553	75	282	198	69.5	26.6
1978	689	101	385	203	53.0	26.0
Pahsimeroi						
1973	400	64	238	98	41.2	26.9
1974	283	77	136	70	51.5	56.6
1975	463	76	283	104	36.7	26.9
1976	668	94	386	188	49.0	24.0
1977	607	99	315	193	61.3	31.4
1978	758	137	370	251	68.0	35.0
Copper Basin						
1973	205	46	113	46	40.7	40.7
1974	261	68	141	52	36.9	48.2
1975	218	40	148	30	20.3	27.0
1976	216	35	132	49	37.0	27.0
1978	No Data					

Table 1 continued.

Year	Total	Bucks	Does	Fawns	Fawns/100 Does	Bucks/100 Does
Medicine Lodge						
1974	192	23	91	78	85.7	25.3
1975	272	63	132	77	58.3	47.7
1976	453	110	189	154	81.0	58.0
1977	357	105	158	94	71.0	53.0
1978	461	86	202	173	86.0	43.0
Challis (36-A)						
1976	228	54	154	20	13.0	35.0
1977	152	27	114	11	10.0	24.0
1978	269	30	188	51	27.0	16.0

*Includes Copper Basin counts

Fawn:doe ratios are highly variable between units and between years in the same units. This project was P.R. covered during 1978-79 and a thesis was submitted as a final report during the 1978-79 reporting period.

Herd composition counts were conducted during August by helicopter. Areas were strip flown at one-half mile intervals. Animals were classified as bucks, does and fawns.

Age Distribution of the Harvest

See Fawn Mortality Job Completion report W-170-R-3, VIII Jobs 1, 2, 3.

Pronghorn Weights

See Fawn Mortality Job Completion report W-170-R-3, VIII Jobs 1, 2, 3.

Horn Growth Data

No data gathered

Fetal Rates

No data gathered

Pellet Group Counts

No data gathered

Population Trends (Aerial Surveys)

Winter population trend surveys were flown during February and March of 1978. Known pronghorn wintering areas were strip flown and numbers of pronghorns observed were recorded. Two trained observers were used. The following personnel were involved with these flights: Walt Bodie, Bill Rudd, Al Tetz and BLM personnel.

Table 12. Compares past winter trend surveys with the results from 1978-79 for Salmon District units.

Year	Units						Total
	421-A	429	430	437	437-A	436-A	
1974	35	252	94	585	191	506	1,663
1975	-	-	-	448	220	-	668
1976	33	160	132	509	218	520	1,572
1977	-	-	-	107	268	455	830
1978	44	278	-	523	349	884	2,078
1979	73	240	90	522	379	813	2,117

Wintering conditions were normal and aerial surveys indicate an upward population trend in most units.

HARVEST

Report Cards

In 1978, 778 bucks and 231 does were reported killed in Region 6. The reported buck:doe ratio in the harvest was 337 bucks:100 does.

Check Station

See Fawn Mortality Job Completion report W-170-R-3.

Other Mortality

See Fawn Mortality Job Completion report W-170-R-3.

TRAPPING AND TAGGING

No data

RANGE CONDITIONS

See Fawn Mortality Job Completion report W-170-R-3.

CLIMATIC FACTORS

Snow pack levels for the winter of 1978-79 were normal. This should result in excellent carryover and increased body weight of preparturient does.

Spring and summer moisture has been excellent. This should mean an increase in fawn survival and larger healthier fawns going into the coming winter.

Climatic conditions have been excellent for antelope during the past year.

MANAGEMENT IMPLICATIONS

An increase in herd size is desirable in most units. If increases are allowed other methods of depredation control will be necessary. The general archery season can be expanded to assist in depredation complaints. A buck-only hunt may be desirable in some units where population growth is desirable and a high buck:doe ratio exists.


Low doe:fawn ratios significantly reduce growth potential and harvestable surplus.

Compiled by:

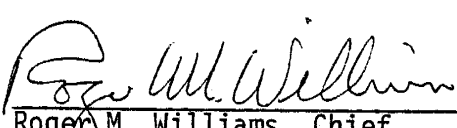
Kenneth D. Norrie
Staff Biologist
Bureau of Wildlife

Approved by:

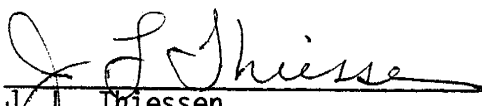
IDAHO DEPARTMENT OF FISH AND GAME



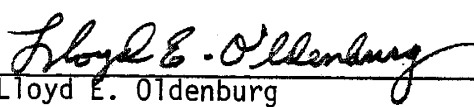
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Wildlife Research Supervisor
Federal Aid Coordinator

Submitted by:

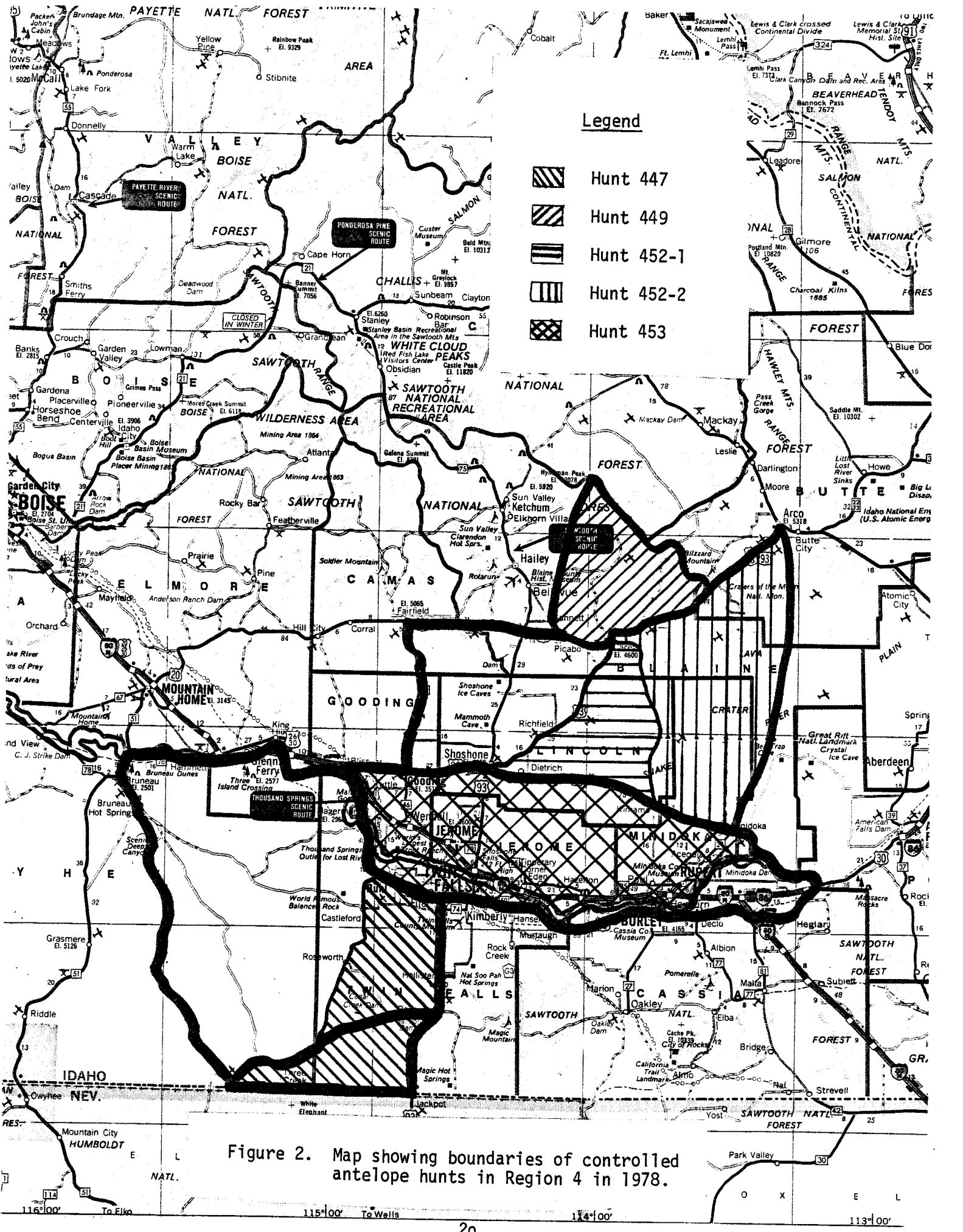
Walter L. Bodie

Walter L. Bodie
Regional Wildlife Biologist

Column															
1	*SPECIAL ENTRY:														
2-4	SPECIES:														
5	ANIMAL CLASS: A=Bir; B=Mam; C=Amp; D=Rep:														
6-7	COUNTY: B1=04; B0=08; Cm=13; Cs=16; E1=20; Gd=24; Jr=27; Li=32; Mi=34; On=36; Ow=37; PO=39; TF=42														
8-9	MGMT. UNIT:														
10-17	LOCATION: TRS (ex. 14N17W01):														
18	SCALE: A=1/4"; B=1/2"; C=1"/15m; D=7/8m; E=4000"; F=Air P;														
19-20	TEN-ACRE MAP GRID NO. (L-R & Top-Bot.)														
21-22	HABITAT CLASS:														
23-26	*SPECIAL ENTRY:														
27-30	TOTAL ANIMALS OBSERVED:														
31-34	NO. ADULT MALES:														
35-38	NO. ADULT FEMALES:														
39-42	NO. YR. MALES:														
43-46	NO. YR. FEMALES:														
47-50	NO. JUV. MALES (under 1 yr.):														
51-54	NO. JUV. FEMALES (under 1 yr.):														
55-56	+NO. ADULTS - SEX UNKNOWN:														
57-58	+NO. JUVS. - SEX UNKNOWN (ex. fawns, broods):														
59	ALIVE OR DEAD: A=alive; B=dead; C=unkn.:														
60	SIGN OBSERVED:														
61	GROUND COND.: A=dry; B=wet; C=hvy frst; D=ice; E=patch snow; F=0-12"; G=13-24"; H=25-48"; I=48+":														
62-65	SPECIAL ANIMAL MARKER NO.:														
66	SPECIAL ANIMAL MARKER COLOR:														
67	OBSERV. FROM: A=veh; B=ft; C=bt; D=hr; E=sm; F=tm; G=fw; H=h; I=ph; J=ra; K=har; L=rk; M=ik; N=Bow; P=Trap														
68-70	OBSERVER:														
71	AGENCY:														
72-77	DATE OF OBSERVATION (ex:062075):														
78-79	NO. HUNTERS CHECKED:														
80-82	NO. HOURS HUNTED (to nearest hour):														
83-84	ACTIVITY OF WILDLIFE:														
85-86	NO. EGGS:														
87	NEST FATE:														
88-91	TIME (ex: 1301):														
92-105	NO. BIG GAME ANIMALS BY POINTS-RIGHT SIDE:														
	<table border="1"> <thead> <tr> <th>1 PT.</th> <th>2 PT.</th> <th>3 PT.</th> <th>4 PT.</th> <th>5 PT.</th> <th>6 PT.</th> <th>7 PT. +</th> </tr> </thead> <tbody> <tr> <td>92 93</td> <td>94 95</td> <td>96 97</td> <td>98 99</td> <td>100 101</td> <td>102 103</td> <td>104 105</td> </tr> </tbody> </table>	1 PT.	2 PT.	3 PT.	4 PT.	5 PT.	6 PT.	7 PT. +	92 93	94 95	96 97	98 99	100 101	102 103	104 105
1 PT.	2 PT.	3 PT.	4 PT.	5 PT.	6 PT.	7 PT. +									
92 93	94 95	96 97	98 99	100 101	102 103	104 105									
106-114	SS. NO.														
115-123	LIC. NO.														
124-132	TAG NO.														
133-141	PER. NO.														
142-150	LEG/EAR TAG NO.:														
151-152	SUB-MGMT. UNIT OR HUNT NO.:														

Signature

Figure 1. Region 4 Wildlife Observation Form.



Legend

-  Hunt 447
-  Hunt 449
-  Hunt 452-1
-  Hunt 452-2
-  Hunt 453

Figure 2. Map showing boundaries of controlled antelope hunts in Region 4 in 1978.

Table 5. Summary of Hunt 447 applications for antelope permits and probability of drawing, 1969-1978.

Year	Permits Authorized	First Choice Applicants	Probability Of Drawing	Applicants		Successful Applicants		Permits Not Filled
				Res.	Nonres.	Res.	Nonres.	
1969	35	190	0.18	189	1	35	0	0
1970	35	296	0.12	296	0	35	0	0
1971	35	178	0.20	177	1	35	0	0
1972	30	137	0.22	137	0	30	0	0
1973	25	194	0.13	194	0	25	0	0
1974	25	197	0.13	197	0	25	0	0
1975	25	225	0.11	225	0	25	0	0
1976	35	237	0.15	237	0	35	0	0
1977	35	403	0.09	400	3	35	0	0
1978	20	391	0.05	391	0	20	0	0

HARVEST

Telephone Hunter Survey

A telephone survey was conducted from the Region 4 office in January and February by YACC (Young Adult Conservation Corps) enrollees to ascertain hunter success. Nineteen of the 20 permittees were contacted. The projected harvest was 14 males and three females (Table 6). A summary of telephone surveys from 1973 to 1978 appears in Table 7.

Table 6. Estimated controlled hunt area 447 antelope harvest and hunter success during the 1978 season as determined from a January and February, 1979, telephone survey.

Parameter	Sample Size	Percent	Projected Estimate
Permits authorized	20	100	20
Permittees contacted	19	95	20
Antelope harvested (433 males:100 females)	16	-	17
Males harvested	13	81	14
Females harvested	3	19	3
Permittees that hunted	18	95	19
Permittees that did not hunt	1	5	1
Success of those who hunted.	-	89	-
Success, based on all permits authorized .	-	85	-
Hunting days expended (\bar{x} = 1.8 per hunter).	33	-	35
Antelope seen (\bar{x} = 43.8 per hunter)	789	-	833

Table 7. Summary of telephone surveys for hunting success for antelope hunt 447, 1973-1978.

Parameter	Projected Estimate					
	1973 ^a	1974 ^a	1975 ^a	1976	1977	1978
Permits authorized	25	25	25	35	35	20
Permittees contacted	-	-	-	33	30	20
Antelope harvested	17	11	12	15	26	17
Males harvested	12	0	0	10	21	14
Females harvested	5	-	-	5	5	3
Permittees that hunted.	-	-	-	33	33	19
Permittees that did not hunt.	-	-	-	2	2	1
Success of those who hunted	68	53	58	45	79	89
Success, based on all permits authorized.	68	44	48	43	74	85
Hunting days expended per hunter.	-	-	-	4.0	1.8	1.8
Antelope seen per hunter	-	-	-	23.5	16.7	43.8

a Data obtained from hunter questionnaires and some telephone calls.

Check Stations

No data available.

RANGE CONDITIONS

No data available.

CLIMATIC FACTORS

Weather conditions were near average throughout the fiscal year.

MANAGEMENT IMPLICATIONS

Hunting permits were reduced in 1978 from 35 to 20 to encourage herd growth. Fragmentary data collected during the fiscal year suggested that the population had declined during the preceding year. Further adjustments in the harvest may be necessary in 1979 if the population does not respond favorably.

Age Distribution of the Harvest

Age distribution data from the harvest are not available. Special mailer bags for returning antelope incisors were not issued to hunters in 1978 because of changes in postal regulations.

Antelope Weights

No data available.

Horn Growth Data

No data available.

Fetal Rates

No data available.

Pellet Group Counts

No data available.

Population Trends (Aerial Surveys)

Helicopter surveys in Unit 49 have been made by Robert Autenrieth, Wildlife Research Biologist, in conjunction with August herd composition surveys. The 1978 data, along with data from previous years are summarized in Table 8.

Table 8. Summary of antelope aerial trend surveys in Unit 49, 1969-1978.

Summer	Antelope Counted	Summer	Antelope Counted
1969	48 ^{ad}	1974	36 ^c
1970	NS ^b	1975	46 ^c
1971	NS	1976	195 ^c
1972	110 ^{ad}	1977	251 ^c
1973	NS	1978	310 ^c

a Surveyed from fixed-wing aircraft; all others from helicopter.

b Not surveyed.

c August herd composition and trend count by Robert Autenrieth, Wildlife Research Biologist.

d Fall survey.

Controlled Hunt Applications and Drawing

In 1978, 30 either-sex antelope permits were authorized for Hunt 449. A total of 479 hunters submitted first choice applications, of which 476 were from residents and three were from nonresidents. A summary of applications received and probability of drawing for the past ten years appears in Table 8a.

Table 8a. Summary of Hunt 449 applications for antelope permits and probability of drawing, 1969-1978.

Year	Permits Authorized	First Choice Applicants	Probability Of Drawing	Applicants		Successful Applicants		Permits Not Filled
				Res.	Nonres.	Res.	Nonres.	
1969	75	342	0.22	339	3	72	3	0
1970	75	334	0.22	331	3	75	0	0
1971	75	303	0.25	299	4	72	3	0
1972	75	305	0.25	305	0	75	0	0
1973	75	542	0.14	536	6	74	1	0
1974	50	512	0.10	509	3	50	0	0
1975	25	423	0.06	422	1	25	0	0
1976	10	210	0.05	210	0	10	0	0
1977	10	253	0.04	253	0	10	0	0
1978	30	479	0.06	476	3	30	0	0

Telephone Hunter Surveys

A telephone survey was conducted from the Region 4 office in January and February by YACC (Young Adult Conservation Corps) enrollees to ascertain hunter success. Twenty-four of the 30 permittees were contacted. The projected harvest was 29, 19 males and ten females (Table 9). Telephone surveys from 1973 to 1978 are summarized in Table 10.

Table 9. Estimated controlled hunt area 449 antelope harvest and hunter success during the 1978 season as determined from a January and February, 1979 telephone survey.

Parameter	Sample Size	Percent	Projected Estimate
Permits authorized	30	100	30
Permittees contacted	24	80	30
Antelope harvested	23	-	29
Males harvested	15	65	19
Females harvested	8	35	10
Permittees that hunted	24	100	30
Permittees that did not hunt	0	0	0
Success, of those who hunted	-	96	-
Success, based on all permits authorized.	-	97	-
Hunting days expended (\bar{x} = 1.8 per hunter)	42	-	53
Antelope seen (\bar{x} = 53.6 per hunter) . . .	1288	-	1610

Table 10. Summary of telephone surveys for hunting success for antelope hunt 449, 1973-1978.

Parameter	1973 ^a	Project Estimate				
		1974	1975 ^a	1976	1977	1978
Permits authorized	75	50	25	10	10	30
Permittees contacted	-	-	-	8	9	30
Antelope harvested	43	27	15	6	7	29
Males harvested	-	-	9	3	7	19
Females harvested.	-	-	6	3	0	10
Permittees that hunted	-	-	-	7	10	30
Permittees that did not hunt	-	-	-	3	0	0
Success of those who hunted	-	-	-	80	100	96
Success, based on all permits authorized.	57	54	60	60	67	97
Hunting days expended per hunter	-	-	-	2.2	1.6	1.8
Antelope seen per hunter	-	-	-	-	17.6	53.6

a Data obtained from hunter questionnaires and some telephone calls.

Check Stations

No data available.

RANGE CONDITIONS

No data available.

CLIMATIC FACTORS

Weather conditions were near normal throughout the fiscal year.

MANAGEMENT IMPLICATIONS

The Unit 49 antelope population has increased steadily since 1976, well within the goals and objectives of the Unit Management Plan.

SPECIES
Antelope
MANAGEMENT UNIT

52

Description: Same as 1976.

Hunt 452-1: That portion of Unit 52 east of Highway 93A and west of Kimama-Carey road (Fig. 2).

Hunt 452-2: That portion of Unit 52 east of Highway 93A and east of the Kimama-Carey road. CRATERS OF THE MOON NATIONAL MONUMENT, CLOSED (Fig. 2).

SEASON REGULATIONS - 1978

Standard Seasons

Controlled, either-sex. Hunt 452-1, 10 permits; Hunt 452-2, 20 permits.

Season Dates

September 23-October 8.

Special Seasons

General, either-sex archery: That portion of Unit 52 within Butte County EXCEPT CRATERS OF THE MOON NATIONAL MONUMENT, CLOSED: August 5 - September 3; remainder of Unit 52 EXCEPT CRATERS OF THE MOON NATIONAL MONUMENT, CLOSED: September 2-September 17.

Antelope hunting seasons in Unit 52 have been regulated on a controlled hunt basis for many years and seasons were established to maintain static populations and provide quality hunting for trophy animals. The 1976, 1977 and 1978 hunting seasons were designed to encourage population growth.

All data collected during the fiscal year were recorded on the special Region 4 computerized field observation form (Fig. 1).

POPULATION CHARACTERISTICS

Herd Composition

Robert Autenrieth, Wildlife Research Biologist, conducted herd composition surveys by helicopter in Unit 52 during the month of August. He classified 141 antelope for a ratio of 23 bucks and 65 fawns per 100 does. A summary of herd composition data from 1975 to 1978 appears in Table 11.

Table 11. Summary of pre-hunting season antelope herd composition surveys in Unit 52, 1975-1978.

Summer	Date	Hunt Area	Number Classified	Bucks:100:Does	Fawns/100 Adults
1975 ^{ab}	August	452	20 ^d	100:100:50	25
1976 ^{ab}	August	452-1	NS ^c		
	August	452-2	13	--:100:--	--
		Total	13	--:100:--	--
1977 ^{ab}	August	452-1	33 ^d	425:100:71	57
	August	452-2	0	--:100:--	--
		Total	33 ^d	425:100:71	57
1978	August	452-1	45	36:100:68	50
	August	452-2	96	17:100:64	55
		Total	141	23:100:65	53

a Data collected by Robert Autenrieth, Wildlife Research Biologist.

b From helicopter.

c Not surveyed.

d Sample size is inadequate and ratios may not be accurate.

e Censused but no antelope found.

Age Distribution of the Harvest

Age distribution data from the harvest are not available. Special mailer bags for returning antelope incisors were not issued to hunters in 1978 because of changes in postal regulations.

Antelope Weights

No data available.

Horn Growth Data

No data available.

Fetal Rates

No data available.

Pellet Group Counts

No data available.

Population Trends (Aerial Surveys)

Helicopter trend surveys in Unit 52 have been made by Robert Autenrieth, Wildlife Research Biologist, in conjunction with August herd composition counts. His data, along with previous trend counts, are summarized in Table 12.

Table 12. Summary of antelope aerial trend surveys in Unit 52, 1969-1978.

Summer	Antelope Counted	Summer	Antelope Counted
1969 ^{ad}	136	1974	NS
1970	NS ^b	1975 ^c	20
1971	NS	1976 ^c	13
1972 ^{ad}	83	1977 ^c	33
1973	NS	1978 ^c	141

a Surveyed from fixed-wing aircraft; all other counts from helicopter.

b Not surveyed.

c August herd composition and trend count by Robert Autenrieth, Wildlife Research Biologist.

d Fall count.

HARVEST

Controlled Hunt Applications and Drawing

In 1978, 30 either-sex antelope permits were authorized for hunts 452-1 and 452-2. A total of 925 hunters submitted first choice applications. These included 922 from resident hunters and three from nonresident hunters. A summary of applications received and probability of drawing from 1972 to 1978, for hunts 452-1 and 452-2, appears in Tables 13 and 14, respectively.

Table 13. Summary of Hunt 452-1 applications for antelope permits and probability of drawing, 1972-1978.

Year	Permits Authorized	First Choice Applicants	Probability Of Drawing	Applicants		Successful Applicants		Permits Not Filled
				Res.	Nonres.	Res.	Nonres.	
1972	10	154	0.06	153	1	10	0	0
1973	15	184	0.08	179	5	14	1	0
1974	15	233	0.06	233	0	15	0	0
1975	15	245	0.06	245	0	15	0	0
1976	20	275	0.07	275	0	20	0	0
1977	20	351	0.06	350	1	20	0	0
1978	10	307	0.03	304	3	10	0	0

Table 14. Summary of Hunt 452-2 applications for antelope permits and probability of drawing, 1972-1978.

Year	Permits Authorized	First Choice Applicants	Probability Of Drawing	Applicants		Successful Applicants		Permits Not Filled
				Res.	Nonres.	Res.	Nonres.	
1972	35	121	0.29	120	1	35	0	0
1973	30	338	0.09	335	3	30	0	0
1974	30	308	0.10	304	4	30	0	0
1975	40	528	0.08	528	0	40	0	0
1976	45	404	0.11	403	1	45	0	0
1977	45	858	0.05	855	3	45	0	0
1978	20	618	0.03	618	0	20	0	0

Telephone Hunter Surveys

Telephone surveys were conducted from the Region 4 office in January and February by YACC (Young Adult Conservation Corps) enrollees to ascertain hunter success. An attempt was made to contact all permittees. In Hunt 452-1 the projected harvest was seven males and three females (Table 15). In Hunt 452-2 the projected harvest was 13 males (Table 16). Telephone surveys from 1973 to 1978 for Hunts 452-1 and 452-2 appear in Tables 17 and 18, respectively.

Table 15. Estimated controlled hunt area 452-1 antelope harvest and hunter success during the 1978 season as determined from a January and February, 1979, telephone survey.

Parameter	Sample Size	Percent	Projected Estimate
Permits authorized	10	100	10
Permittees contacted	7	70	10
Antelope harvested	5	-	7
Males harvested	3	60	4
Females harvested	2	40	3
Permittees that hunted	7	100	10
Permittees that did not hunt	0	0	0
Success, of those who hunted	-	71	-
Success, based on all permits authorized	-	70	-
Hunting days expended (\bar{x} = 1.6 per hunter).	11	-	16
Antelope seen (\bar{x} = 11.0 per hunter)	77	-	110

Table 16. Estimated controlled hunt area 452-2 antelope harvest and hunter success during the 1978 season as determined from a January and February, 1979, telephone survey.

Parameter	Sample Size	Percent	Projected Estimate
Permits authorized	20	100	20
Permittees contacted	18	90	20
Antelope harvested	12	-	13
Males harvested	12	100	13
Females harvested	0	0	0
Permittees that hunted	16	89	18
Permittees that did not hunt	2	11	2
Success, of those who hunted	-	75	-
Success, based on all permits authorized	-	65	-
Hunting days expended (\bar{x} = 2.3 per hunter)	36	-	41
Antelope seen (\bar{x} = 16.4 per hunter)	263	-	296

Table 17. Summary of telephone surveys for hunting success for antelope hunt 452-1, 1973-1978.

Parameter	Project Estimate					
	1973 ^a	1974 ^a	1975 ^a	1976	1977	1978
Permits authorized	15	15	15	20	20	10
Permittees contacted	-	-	-	15	18	10
Antelope harvested	7	9	9	11	9	7
Males harvested	6	7	8	9	9	4
Females harvested	1	2	1	2	0	3
Permittees that hunted	-	-	-	17	18	10
Permittees that did not hunt	-	-	-	3	2	0
Success of those who hunted	-	-	-	76	50	71
Success, based on all permits authorized	47	60	60	55	40	70
Hunting days expended per hunter	-	-	-	2.8	2.5	1.6
Antelope seen per hunter	-	-	-	-	11.9	11.0

a Data obtained from hunter questionnaires and some telephone calls.

Table 18. Summary of telephone surveys for hunting success for antelope hunt 452-2, 1973-1978.

Parameter	Projected Estimate					
	1973 ^a	1974 ^a	1975 ^a	1976	1977	1978
Permits authorized	30	30	40	45	45	20
Permittees contacted	-	-	-	29	41	20
Antelope harvested	13	18	23	33	26	13
Males harvested	-	-	-	27	23	13
Females harvested	-	-	-	6	3	0
Permittees that hunted	-	-	-	42	40	18
Permittees that did not hunt	-	-	-	3	5	2
Success of those who hunted	-	-	-	78	72	75
Success, based on all permits authorized	43	60	58	73	64	65
Hunting days expended per hunter	-	-	-	1.9	2.1	2.3
Antelope seen per hunter	-	-	-	-	27.7	16.4

a Data obtained from hunter questionnaires and some telephone calls.

Check Stations

No data available.

Archery Season

Archery seasons held in Unit 52 over the past ten years are summarized in Table 18a. Although a special archery stamp has been required during the past two years and provided the Department with hunter telephone numbers for use in special surveys, insufficient data are available to estimate hunting pressure and harvest by Region or management unit.

Table 19. Summary of pre-hunting season antelope herd composition surveys in Unit 53, 1974-1978.

Summer	Date	Number Classified	Bucks:Does:Fawns	Fawns/100 Adults
1974 ^{ab}	August	22 ^C	--:100:--	--
1975 ^{ab}	August	36 ^C	77:100:100	57
1976 ^{ab}	August	82	33:100:62	46
1977 ^{ab}	August	132	61:100:45	28
1978 ^{ab}	August	89	46:100:66	68

a Data collected by Robert Autenrieth, Wildlife Research Biologist.

b From helicopter.

c Sample size is inadequate and ratios may be inaccurate.

Age Distribution of the Harvest

Age distribution data from the harvest are not available. Special mailer bags for returning incisors were not issued to hunters because of changes in postal regulations.

Antelope Weights

No data available.

Horn Growth Data

No data available.

Fetal Rates

No data available.

Pellet Group Counts

No data available.

Population Trends (Aerial Surveys)

Helicopter trend surveys in Unit 53 from 1975 through 1978 were made by Robert Autenrieth, Wildlife Research Biologist, in conjunction with August herd composition surveys (Table 20).

Table 20. Summary of antelope trend surveys in Unit 53, 1975-1978.

Summer	Antelope Counted
1975 ^{ab}	36
1976 ^{ab}	82
1977 ^{ab}	132
1978 ^{ab}	89

a Data collected by Robert Autenrieth, Wildlife Research Biologist, during August herd composition and trend surveys.

b By helicopter.

HARVEST

Controlled Hunt Applications and Drawing

In 1978, 20 either-sex antelope permits were authorized for hunt 453. A total of 375 hunters, 374 residents and one nonresident, submitted first choice applications. A summary of applications received and probability of drawing from 1976 to 1978 appears in Table 21.

Table 21. Summary of Hunt 453 applications for antelope permits and probability of drawing, 1976-1978.

Year	Permits Authorized	First Choice Applicants	Probability Of Drawing	Applicants		Successful Applicants		Permits Not Filled
				Res.	Nonres.	Res.	Nonres.	
1976	10	71	0.14	71	0	10	0	0
1977	10	175	0.06	175	0	10	0	0
1978	20	375	0.05	374	1	20	0	0

Check Stations

No data available.

Telephone Hunter Survey

A telephone survey was conducted from the Region 4 office in January and February by YACC (Young Adult Conservation Corps) enrollees to ascertain hunter success. An attempt was made to contact all permittees. The projected harvest was 15 males and two females (Table 22). A summary of telephone surveys from 1976 to 1978 appears in Table 23.

Table 22. Estimated controlled hunt area 453 antelope harvest and hunter success during the 1978 season as determined from a January and February, 1979, telephone survey.

Parameter	Sample Size	Percent	Projected Estimate
Permits authorized	20	100	20
Permits contacted	19	95	20
Antelope harvested	16	-	17
Males harvested	14	88	15
Females harvested	2	12	2
Permittees that hunted	19	100	20
Permittees that did not hunt	0	0	0
Success of those who hunted	-	84	-
Success, based on all permits authorized	-	85	-
Hunting days expended (\bar{x} = 1.8 per hunter)	35	-	37
Antelope seen (\bar{x} = 26.2 per hunter)	498	-	524

Table 23. Summary of telephone surveys for hunting success for antelope hunt 453, 1976-1978.

Parameter	Project Estimate		
	1976	1977	1978
Permits authorized	10	10	20
Permittees contacted	7	9	20
Antelope harvested	9	9	17
Males harvested	6	9	15
Females harvested	3	0	2
Permittees that hunted	9	9	20
Permittees that did not hunt	1	1	0
Success of those who hunted	100	100	84
Success, based on all permits authorized	90	90	85
Hunting days expended per hunter	1.9	1.6	1.8
Antelope seen per hunter	-	26.1	26.2

RANGE CONDITIONS

No data available.

CLIMATIC FACTORS

Weather conditions were about average throughout the fiscal year.

MANAGEMENT IMPLICATIONS

Data suggest that the Unit 53 population may have reached its peak and is now declining.

Will 3/22/78

IDAHO DEPARTMENT OF FISH & GAME
REGION 4 WILDLIFE OBSERVATION FORM

Code

Column									
1	*SPECIAL ENTRY:								
2-4	SPECIES:								
5	ANIMAL CLASS: A=Bir; B=Mam; C=Amp; D=Rep:								
6-7	COUNTY: B1=04; Bo=08; Cm=13; Cs=16; E1=20; Gd=24; Jr=27; Li=32; Mi=34; On=36; Ow=37; PO=39; TF=42								
8-9	MGMT. UNIT:								
10-17	LOCATION: TRS (ex. 14N17W01):								
18	SCALE: A=1/4"; B=1/2"; C=1"/15m; D=7 1/2m; E=4000"; F=Air P:								
19-20	TEN-ACRE MAP GRID NO. (L-R & Top-Bot.):								
21-22	HABITAT CLASS:								
23-26	*SPECIAL ENTRY:								
27-30	TOTAL ANIMALS OBSERVED:								
31-34	NO. ADULT MALES:								
35-38	NO. ADULT FEMALES:								
39-42	NO. YR. MALES:								
43-46	NO. YR. FEMALES:								
47-50	NO. JUV. MALES (under 1 yr.):								
51-54	NO. JUV. FEMALES (under 1 yr.):								
55-56	+NO. ADULTS - SEX UNKNOWN:								
57-58	+NO. JUVS. - SEX UNKNOWN (ex. fawns, broods):								
59	ALIVE OR DEAD: A=alive; B=dead; C=unkn.:								
60	SIGN OBSERVED:								
61	GROUND COND.: A=dry; B=wet; C=hvy frst; D=ice; E=patch snow; F=0-12"; G=13-24"; H=25-48"; I=48+":								
62-65	SPECIAL ANIMAL MARKER NO.:								
66	SPECIAL ANIMAL MARKER COLOR:								
67	OBSERV. FROM: A=veh; B=ft; C=bt; D=hr; E=sm; F=tm; G=fw; H=h; I=ph; J=ra; K=har; L=rk; M=ik; N=Bow; P=Trap								
68-70	OBSERVER:								
71	AGENCY:								
72-77	DATE OF OBSERVATION (ex:062075):								
78-79	NO. HUNTERS CHECKED:								
80-82	NO. HOURS HUNTED (to nearest hour):								
83-84	ACTIVITY OF WILDLIFE:								
85-86	NO. EGGS:								
87	NEST FATE:								
88-91	TIME (ex: 1301):								
92-105	NO. BIG GAME ANIMALS BY POINTS-RIGHT SIDE:								
	1 PT.	2 PT.	3 PT.	4 PT.	5 PT.	6 PT.	7 PT.+		
	92 93	94 95	96 97	98 99	100 101	102 103	104 105		
106-114	SS. NO.								
115-123	LIC. NO.								
124-132	TAG NO.								
133-141	PER. NO.								
142-150	LEG/EAR TAG NO.:								
151-152	SUB-MGMT. UNIT OR HUNT NO.:								
	Signature								

Figure 1. Region 4 Wildlife Observation Form.

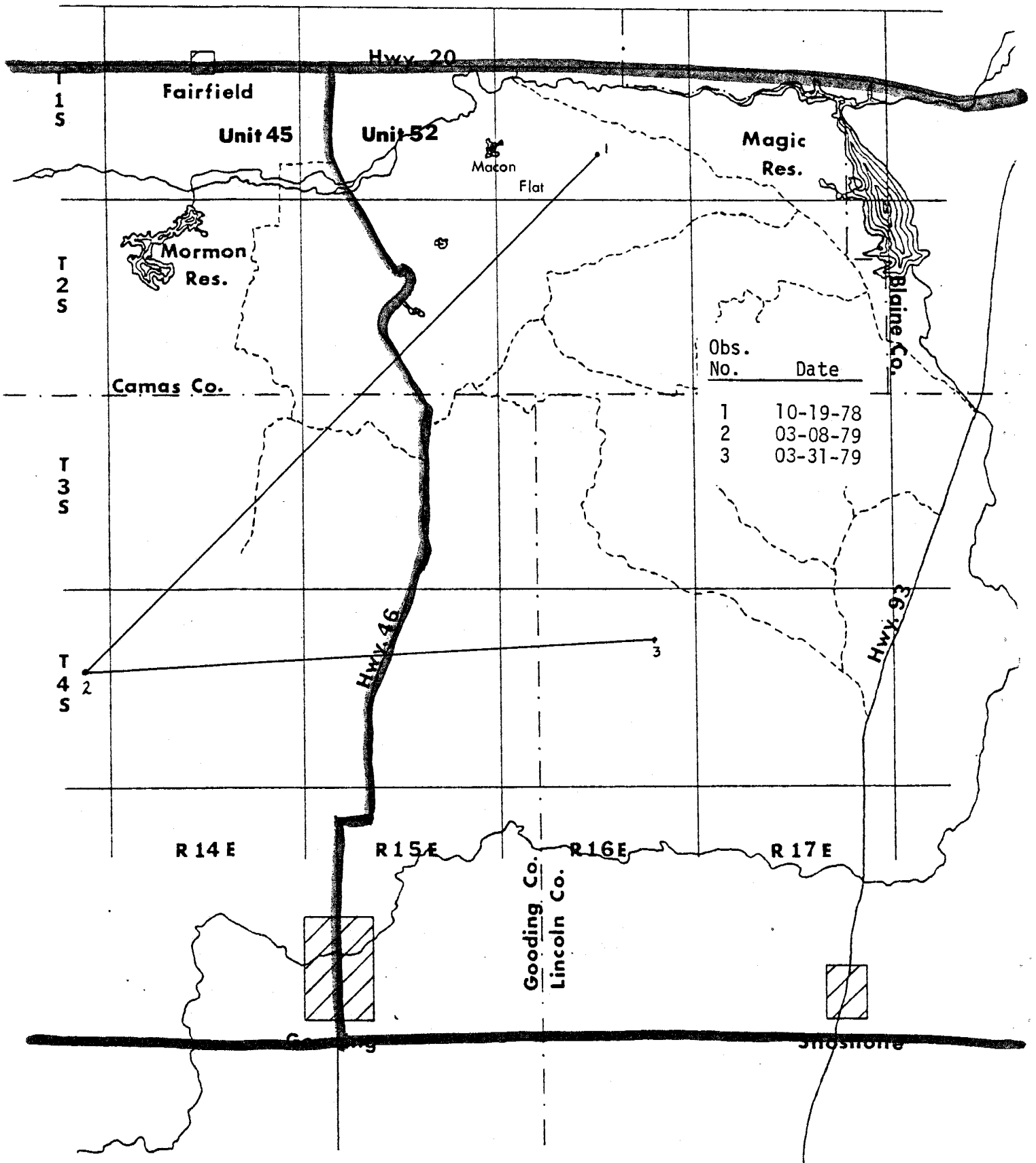


Figure 4. Locations of radio-collared buck antelope No. 7820 obtained from fixed-wing monitoring between 1 July 1978 and 30 June 1979.

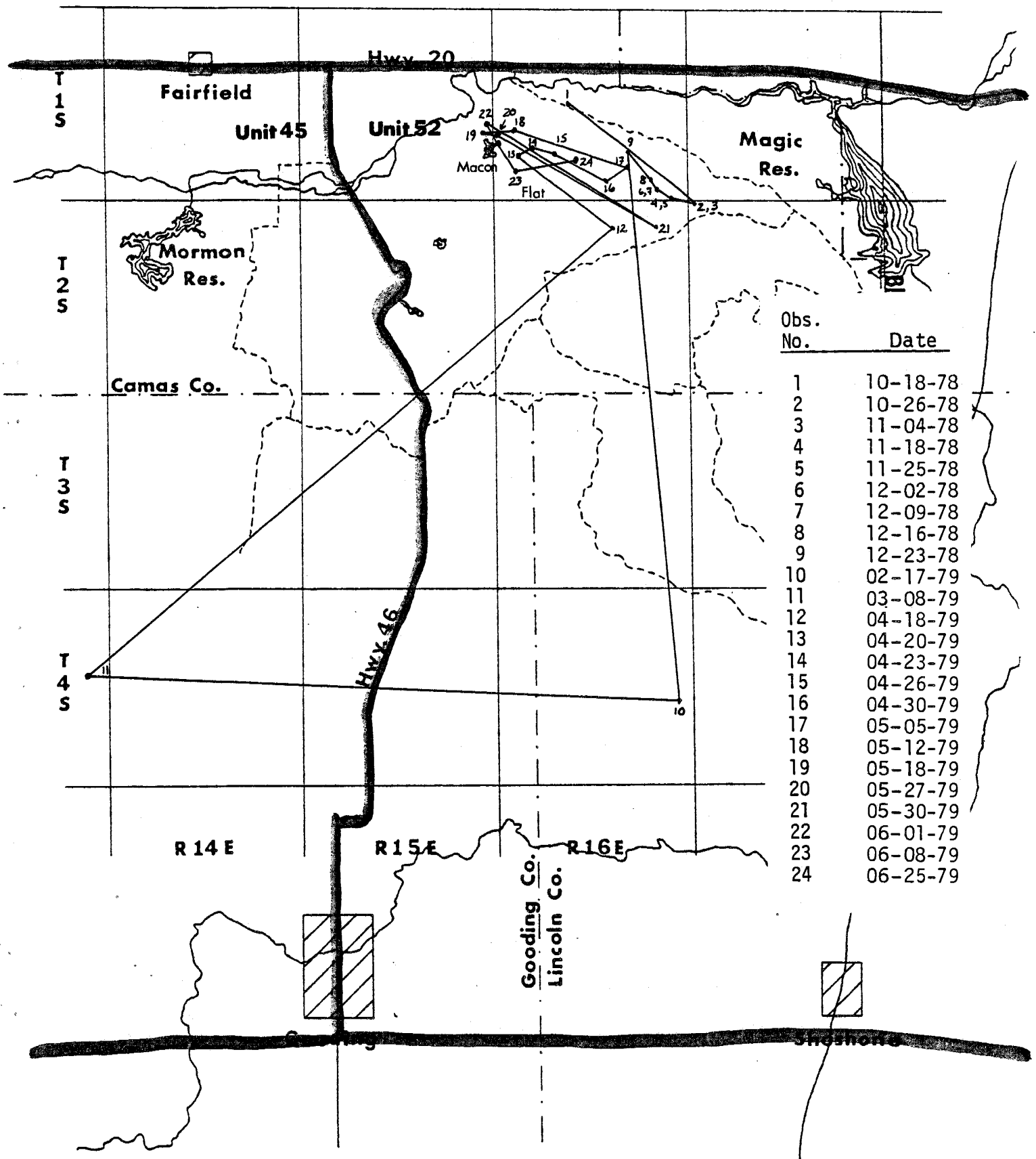


Figure 2. Locations of radio-collared doe antelope No. 782N obtained from fixed-wing monitoring between 1 July 1978 and 30 June 1979.

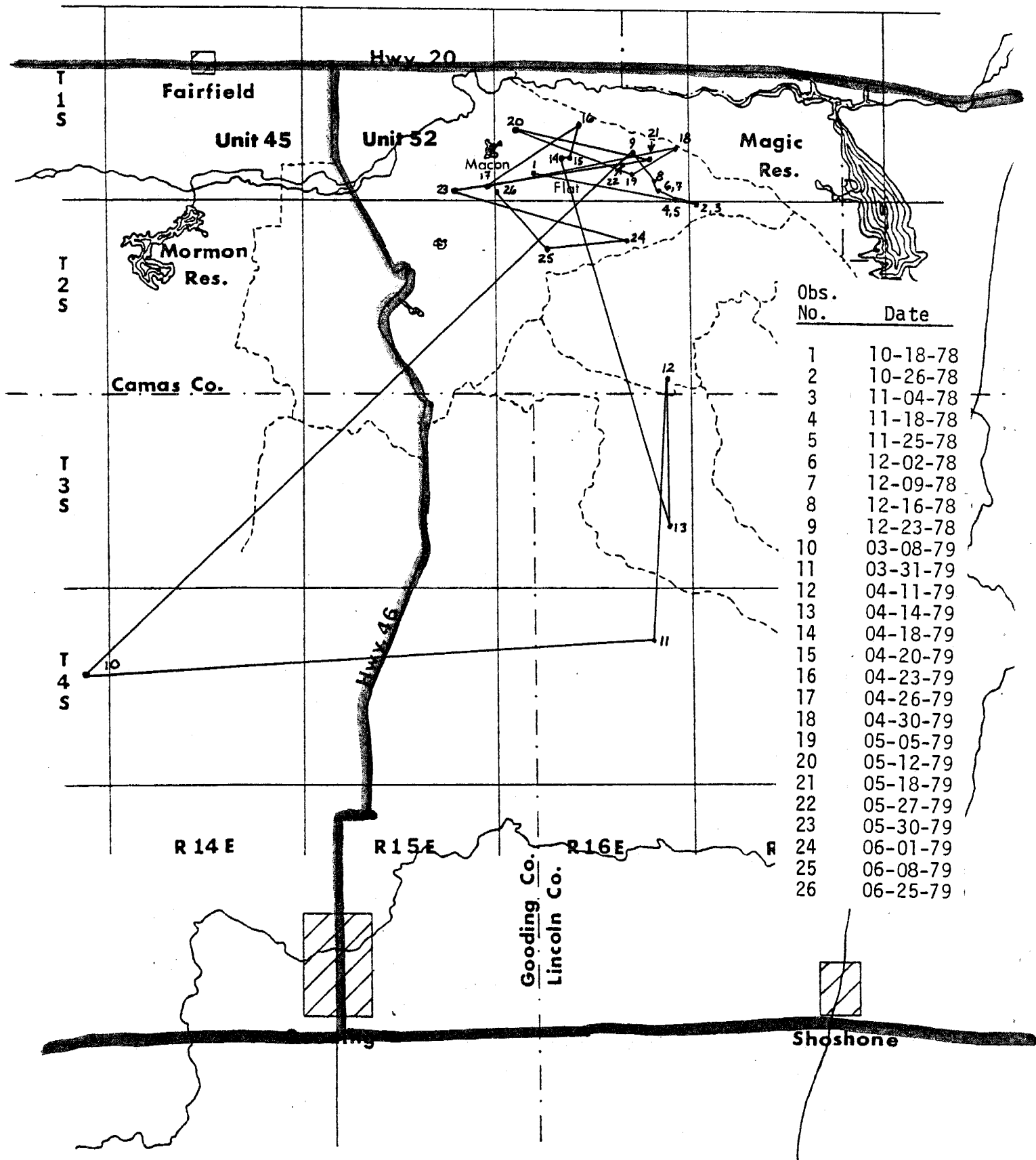


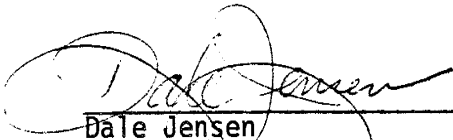
Figure 3. Locations of radio-collared buck antelope No. 782P obtained from fixed-wing monitoring between 1 July 1978 and 30 June 1979.

MANAGEMENT IMPLICATIONS

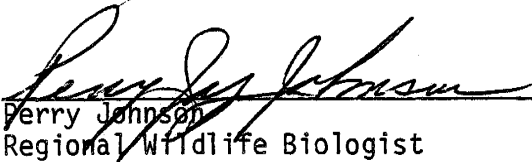
The large expanse of area on the Big Desert presents problems in collecting adequate information. Continued efforts should be made to collect herd structure data.

Increase in herd size can be expected in view of the present closed season. Consideration should be given to the resumption of a limited controlled hunt that appears justified in light of a sizeable summer population.

Submitted by:



Dale Jensen
Regional Wildlife Manager
Region 5 - Pocatello, Idaho



Perry Johnson
Regional Wildlife Biologist