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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WINNEMUCCA DISTRICT OFFICE
705 East 4th Street
Winnemucca, Nevada 89445

TAKE PRIDE IN AMERICA

September 4, 1987

IN REPLY REFER TO:
6780
(NV-027.3)

Dawn Lappin
WHOA
P. O. Box 555
Reno, NV 89504

Dear Ms. Lappin:

Attached you will find the draft Selenite Range and Seven Troughs Habitat Management Plan (HMP). This HMP has been prepared as a part of our land use plan decisions and the Lovelock CRMP recommendations. We are seeking your comments. Discussion of this HMP has been scheduled for the Lovelock CRMP meeting, September 23, 1987 in Lovelock. If you cannot attend the CRMP meeting please send your comments to this office to my attention.

If you have any questions about the HMP please contact Don Armentrout, Sonoma-Gerlach Resource Area Wildlife Biologist at (702) 623-3676. We look forward to your comments and discussing this HMP with you.

Sincerely,

for Gerald P. Brandvold
Area Manager

Attachment

WHA-T-10 AND WHA-T-15

SELENITE RANGE AND SEVEN TROUGHS

HABITAT MANAGEMENT PLAN

Sonoma-Gerlach Resource Area

Winnemucca District

July 27, 1987

ABSTRACT

Priority species which this Habitat Management Plan has been designed for are mule deer, California bighorn sheep, chukar, sage grouse, and pronghorns. Two Wildife Habitat Areas (WHA-T-10 and WHA-T-15) have been combined to form one Habitat Management Plan. Although combining these WHAs provides a very large area to cover (1,595,676 acres) it makes sense for productive habitat management because those factors which influence wildlife habitat are spread throughout the total area.

Habitat varies from mountain big sagebrush/bunchgrass communities on Kumiva Peak at 8,236 feet down slopes covered with juniper woodlands, Wyoming big sagebrush/bunchgrass and low sagebrush/bunchgrass communities onto alluvial fans of shadscale saltbush/bunchgrass communities ending at 3,900 feet in flat valley bottoms of greasewood and shadscale communities.

Primary objectives for this Habitat Management Plan are to improve mule deer habitat diversity, maintain potential bighorn sheep habitat at its present natural suitability, improve sage grouse brood habitat, improve chukar habitat carrying capacity, and provide habitat for potential pronghorn reintroduction. Habitat Management Plan implementation will continue through 1992. At that time, the Habitat Management Plan will be updated to reflect data available and further implementation plans evaluated. Total BLM cost for the initial implementation is estimated to be $38,100.00.

Close coordination with the Nevada Department of Wildlife, Lovelock CRMP Group, and other BLM programs will be necessary throughout the implementation of the Habitat Management Plan.

TABLE OF CONTENTS

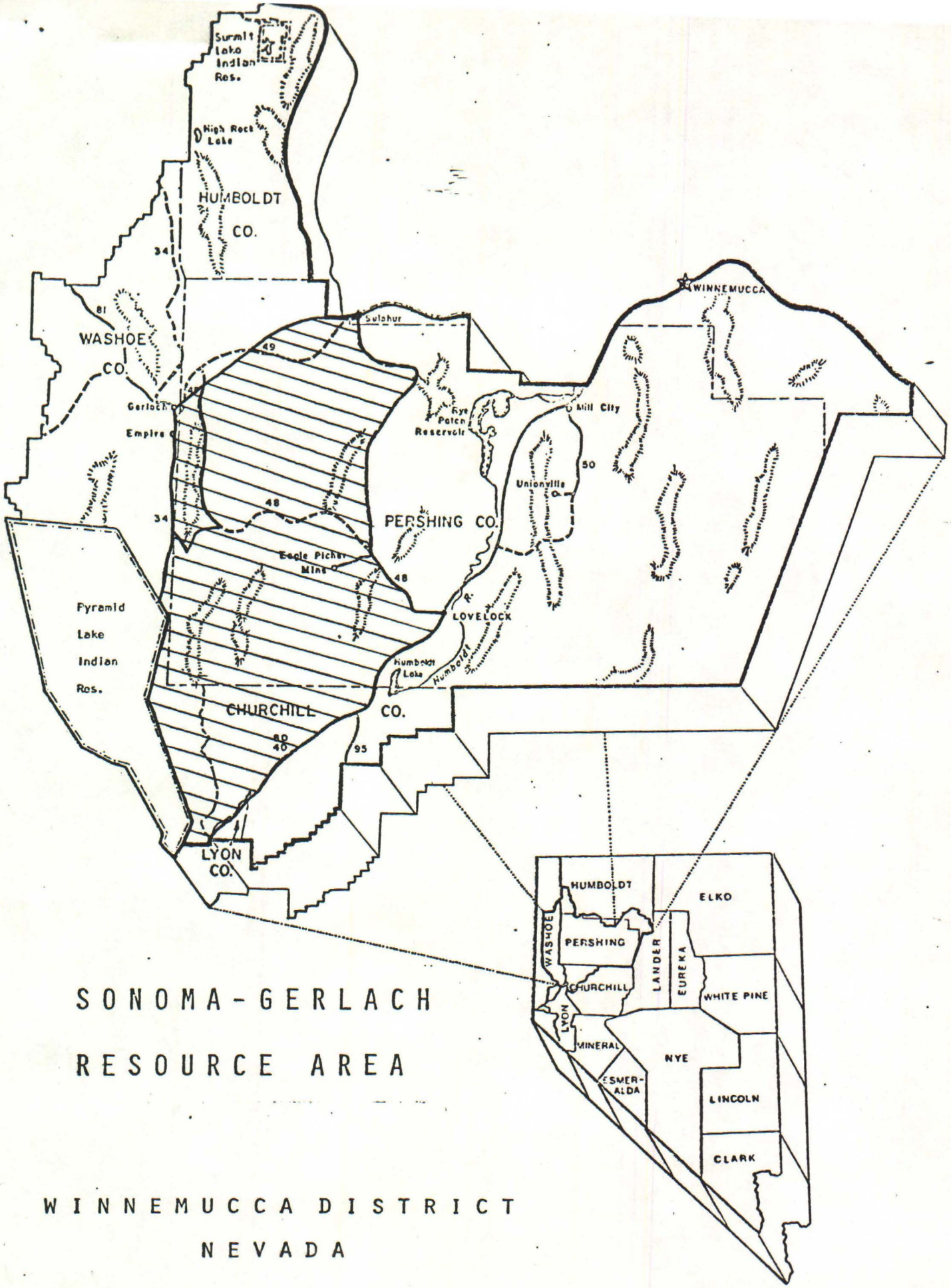
		Page
Title Page		
Abstract		i
Location Maps		iii
Checklist for Preparation and Review		v
A.	Introduction	1
	1. Reasons for Preparation	1
	2. Ecosystem Description	2
	3. Relevant Constraints	2
	4. Sikes Act Authority	6
B.	Land Status/Administration	6
C.	Management Objectives	7
	1. Objective Statement	7
	2. Specific Objectives	7
	3. Objective Summary	8
D.	Planned Actions	8
	1. Description of Actions	8
	2. Water Rights Considerations	10
	3. Evaluation and Monitoring	10
E.	Coordination With Other BLM Programs, Agencies, and Organizations	10
	1. Other BLM Programs	10
	2. Other Agencies and Organizations	14
F.	Wildlife Economics	14
G.	Costs and Funding Needs	15
H.	Concurrence and Approval	15

List of Figures, Tables, and Illustrations

Figure 1. General Location Map	iii
Figure 2. WHA-T-10 and WHA-T-15 Area Map	iv
Table 1. Mule Deer Habitat Suitability by Plant Community	4
Table 2. Potential Bighorn Habitat Suitability by Plant Community	5
Table 3. Land Status Within WHA-T-10 and WHA-T-15 Mule Deer and Bighorn Sheep Use Areas	6
Table 4. Land Status Within WHA-T-10 and WHA-T-15 chukar and Sage Grouse Use Areas	6
Table 5. Acres of Wildlife Habitat By WHA and Allotment	7
Table 6. Selenite Range-Seven Troughs WHA-T-10 and WHA-T-15 Habitat Management Plan Development Costs	16
Illustration 1. Form 6780-1, Checklist for Preparation and Review of Habitat Management Plans	v
Illustration 2. Form 6780-2, Habitat Management Plan Progress Reports	11

Appendices

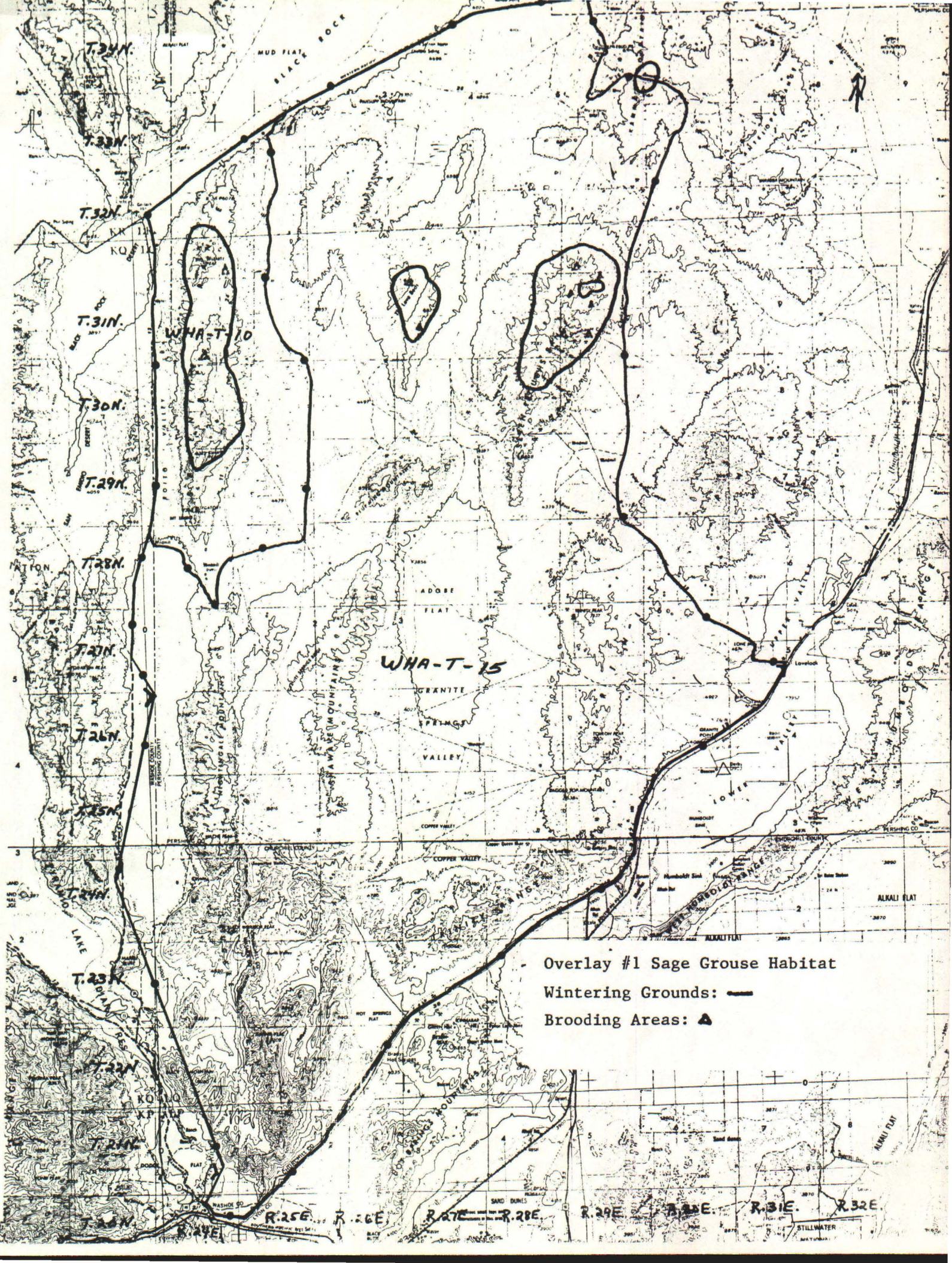
Appendix One. Conversion of Standard Mule Deer Habitat Condition Rating To Suitability Indices	17
Appendix Two. California Bighorn Sheep Habitat Suitability Rating Sheets	18
Appendix Three. Inventory Wildlife Habitat Project and/or Habitat Management Plan	22
Appendix Four. Plant List	23
Literature Cited	24



SONOMA-GERLACH RESOURCE AREA

WINNEMUCCA DISTRICT NEVADA

7/27/87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WHA-T-15
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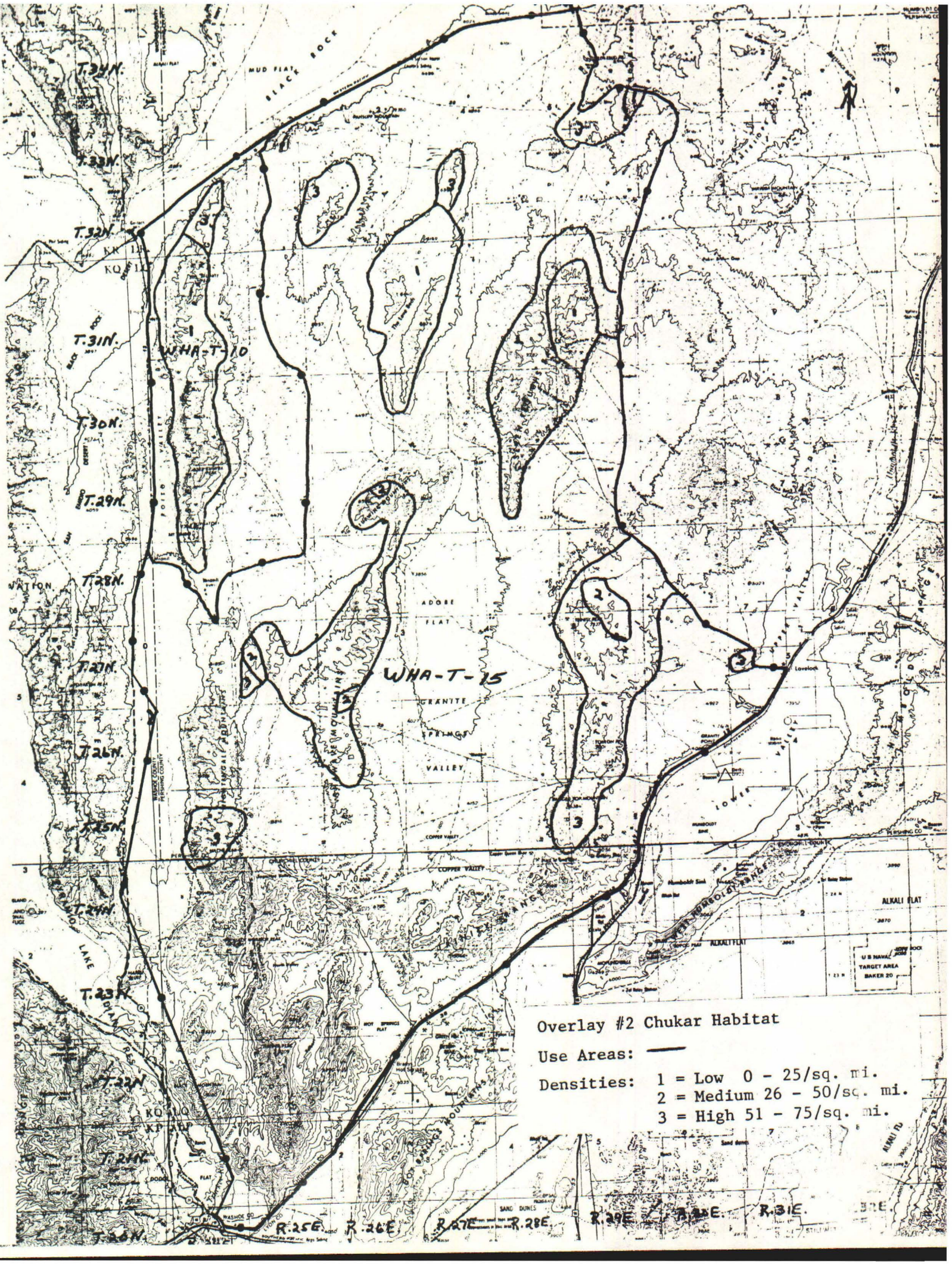
BLACK ROCK
ADOBE FLAT
GRANITE SPRINGS VALLEY
COPPER VALLEY
ALKALI FLAT
SAND DUNES
STILLWATER
R.25E.
R.26E.
R.27E.
R.28E.
R.29E.
R.30E.
R.31E.
R.32E.
- Overlay #1 Sage Grouse Habitat
Wintering Grounds:
Brooding Areas: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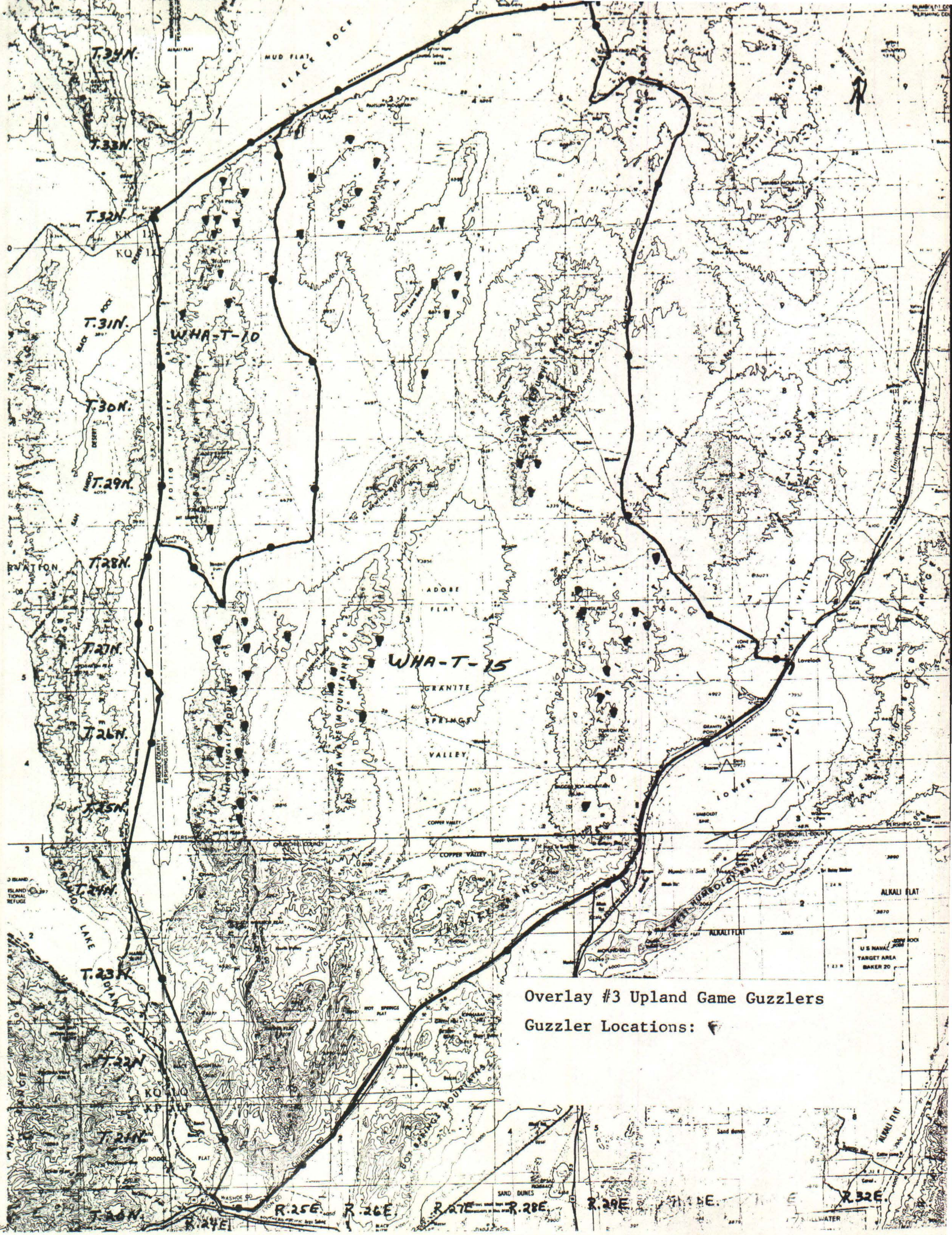
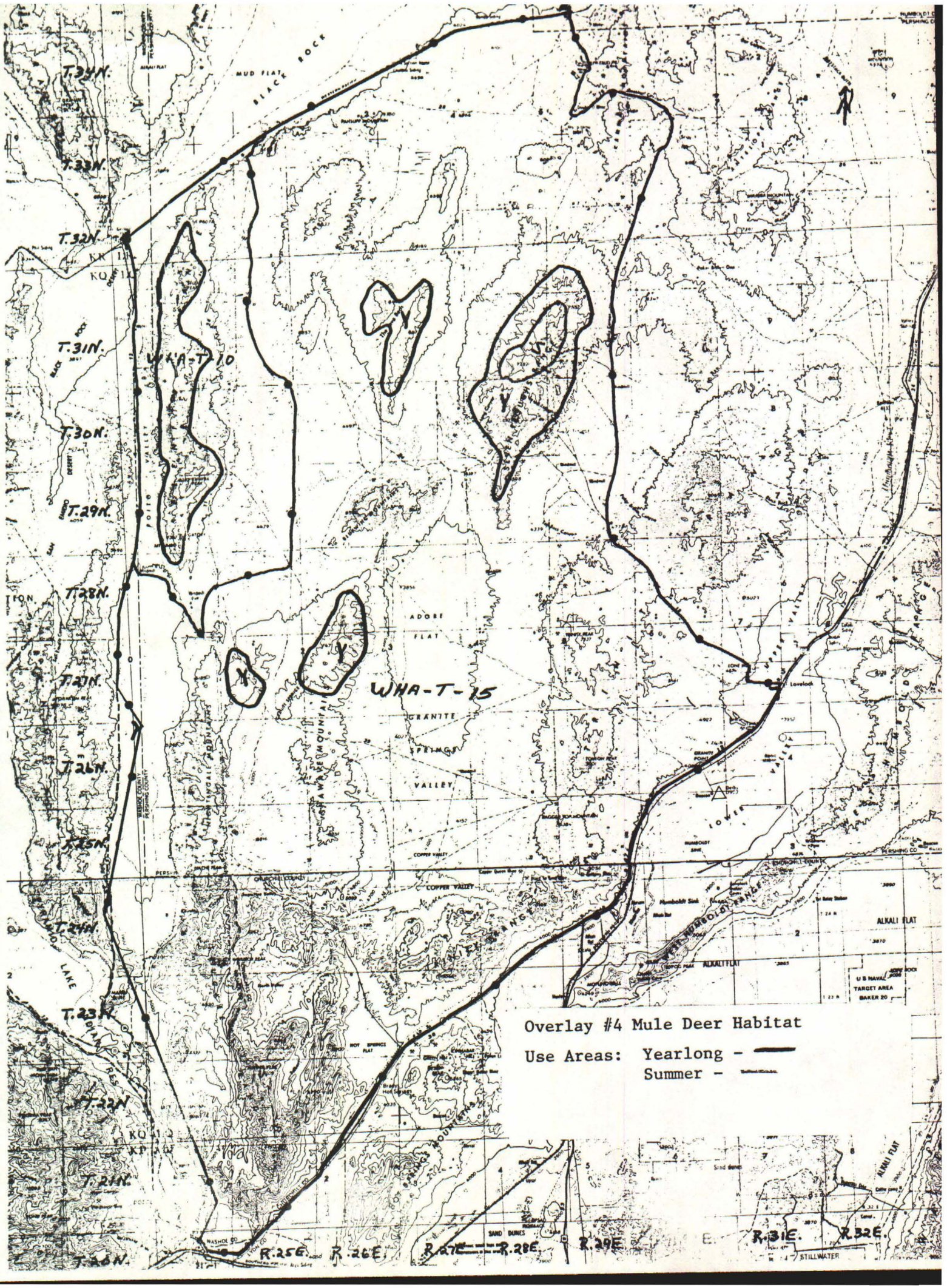
T.22N.
T.21N.
T.20N.
WHA-T-10
WHA-T-15
R.25E.
R.26E.
R.27E.
R.28E.
R.29E.
R.30E.
R.31E.
Overlay #2 Chukar Habitat
Use Areas:
Densities: 1 = Low 0 - 25/sq. mi.
2 = Medium 26 - 50/sq. mi.
3 = High 51 - 75/sq. mi.



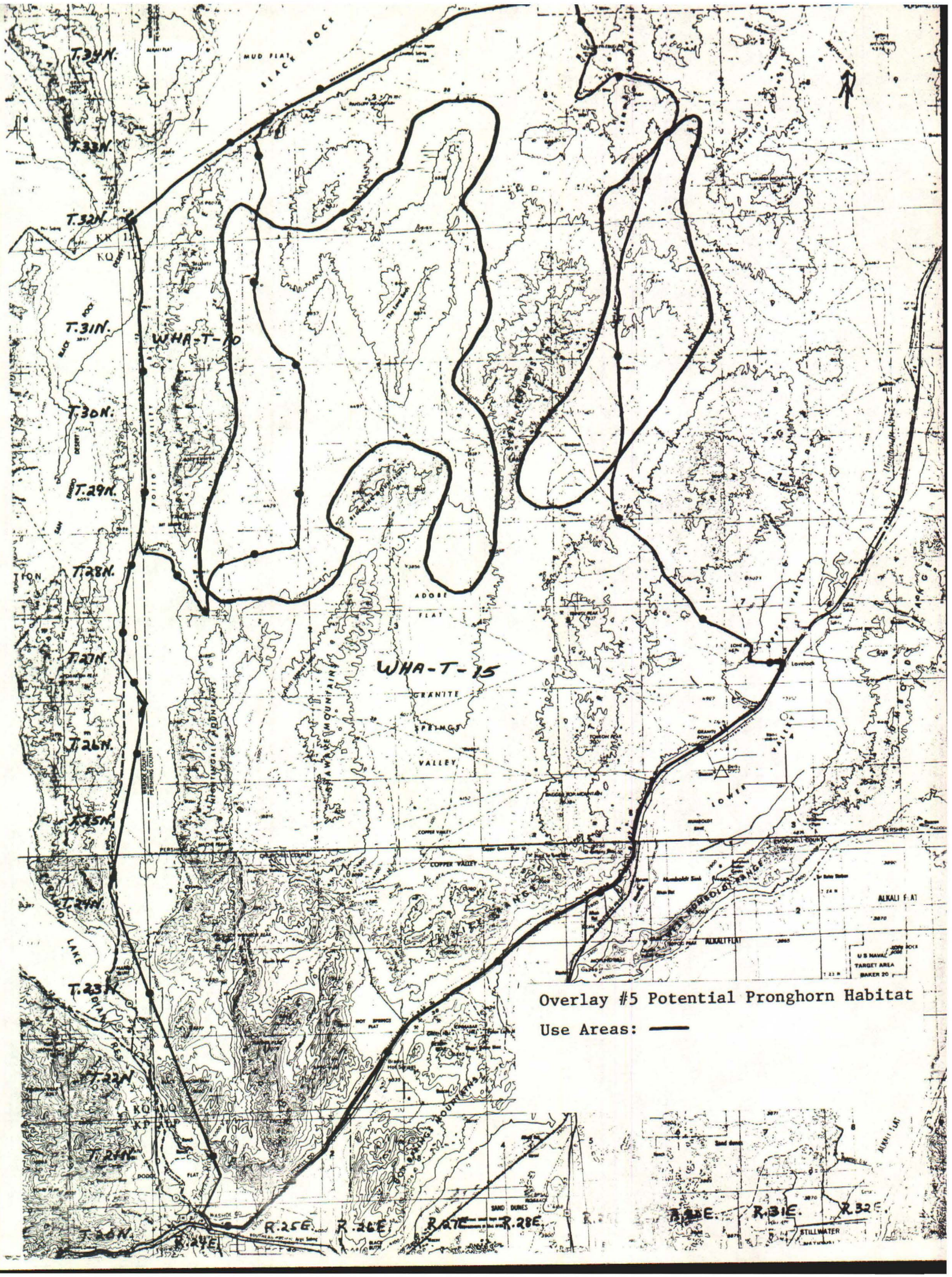
Overlay #3 Upland Game Guzzlers

Guzzler Locations:



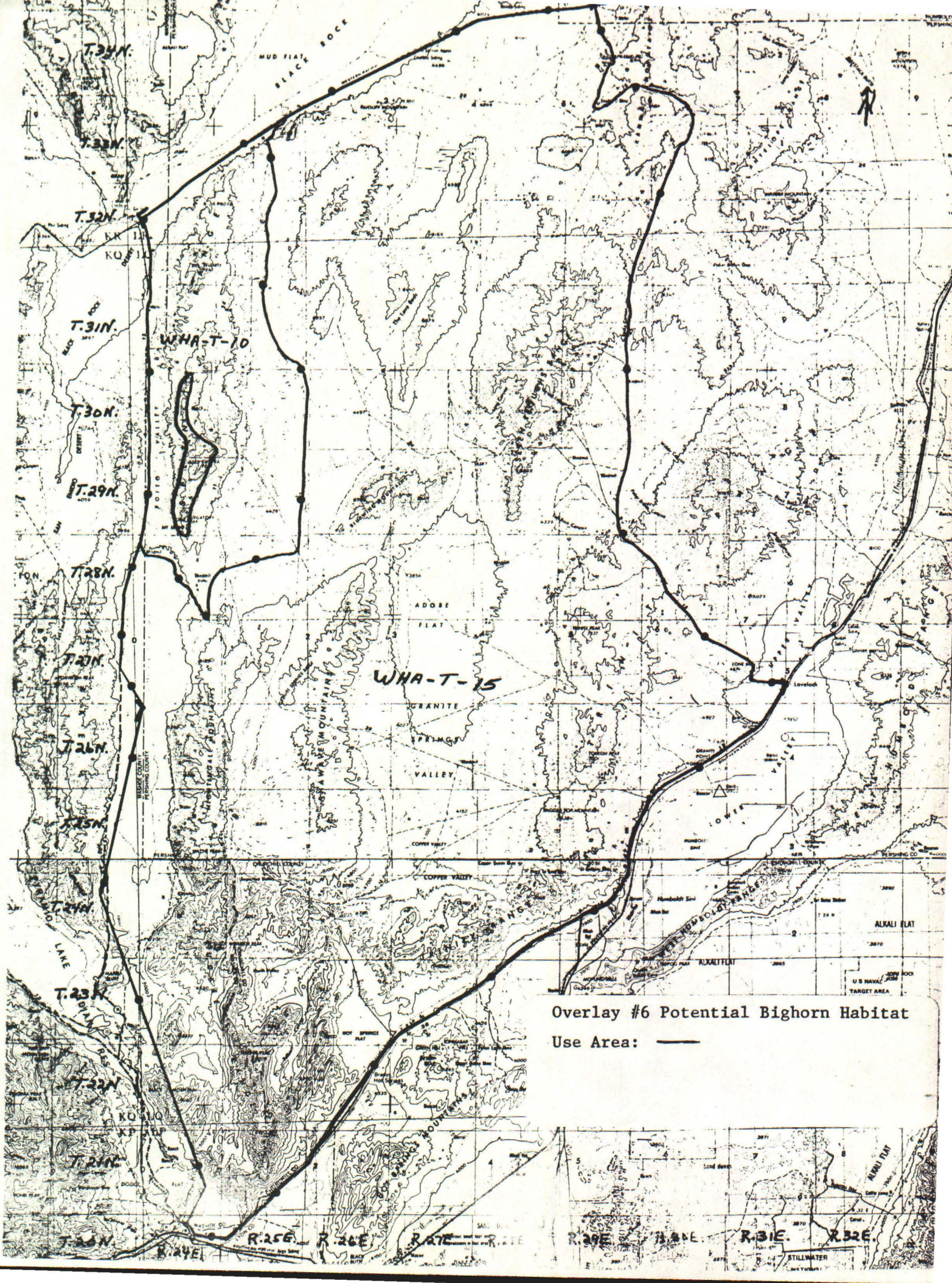
Overlay #4 Mule Deer Habitat

Use Areas: Yearlong - ———
Summer - - - - -



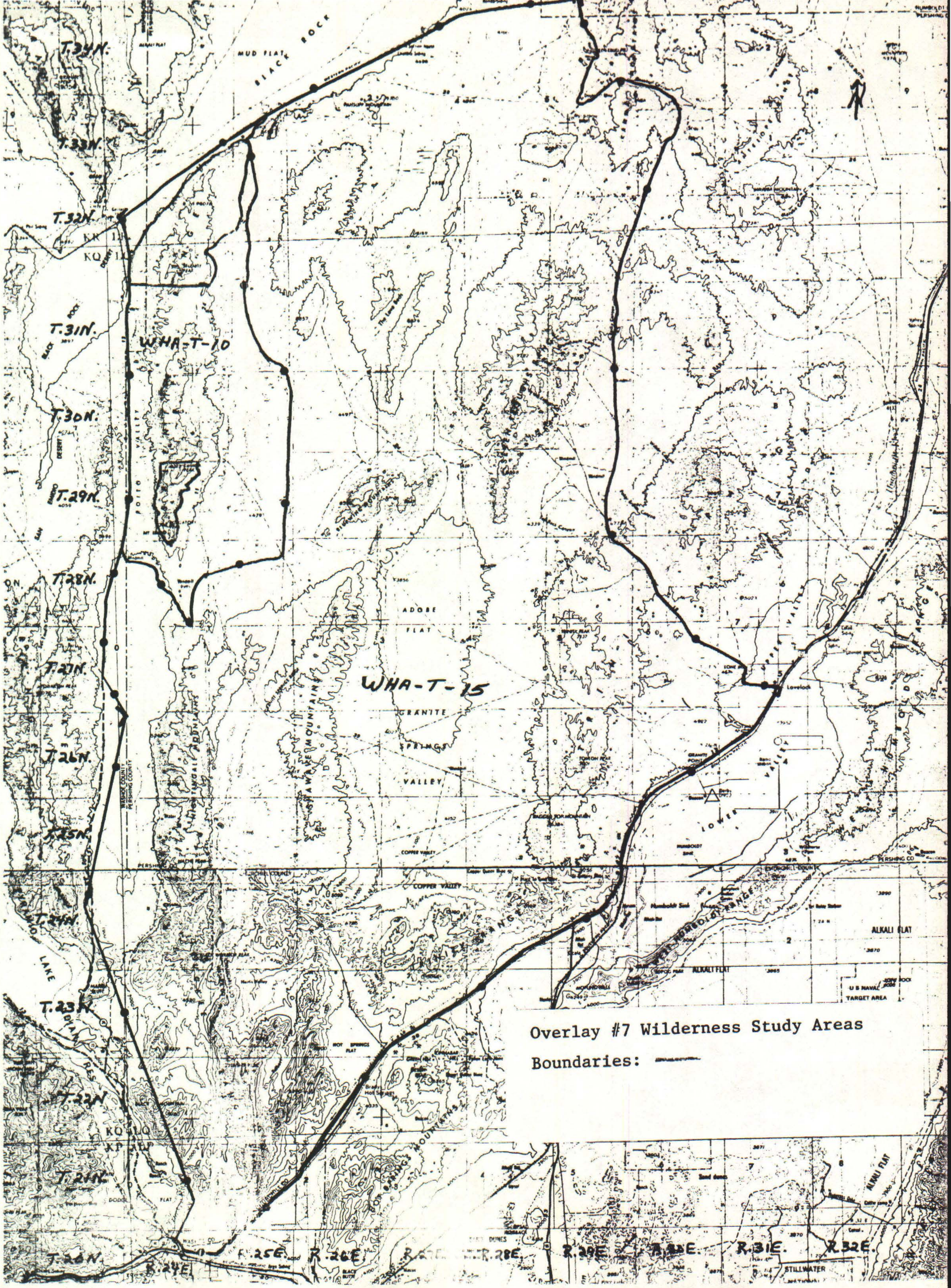
Overlay #5 Potential Pronghorn Habitat

Use Areas: ——



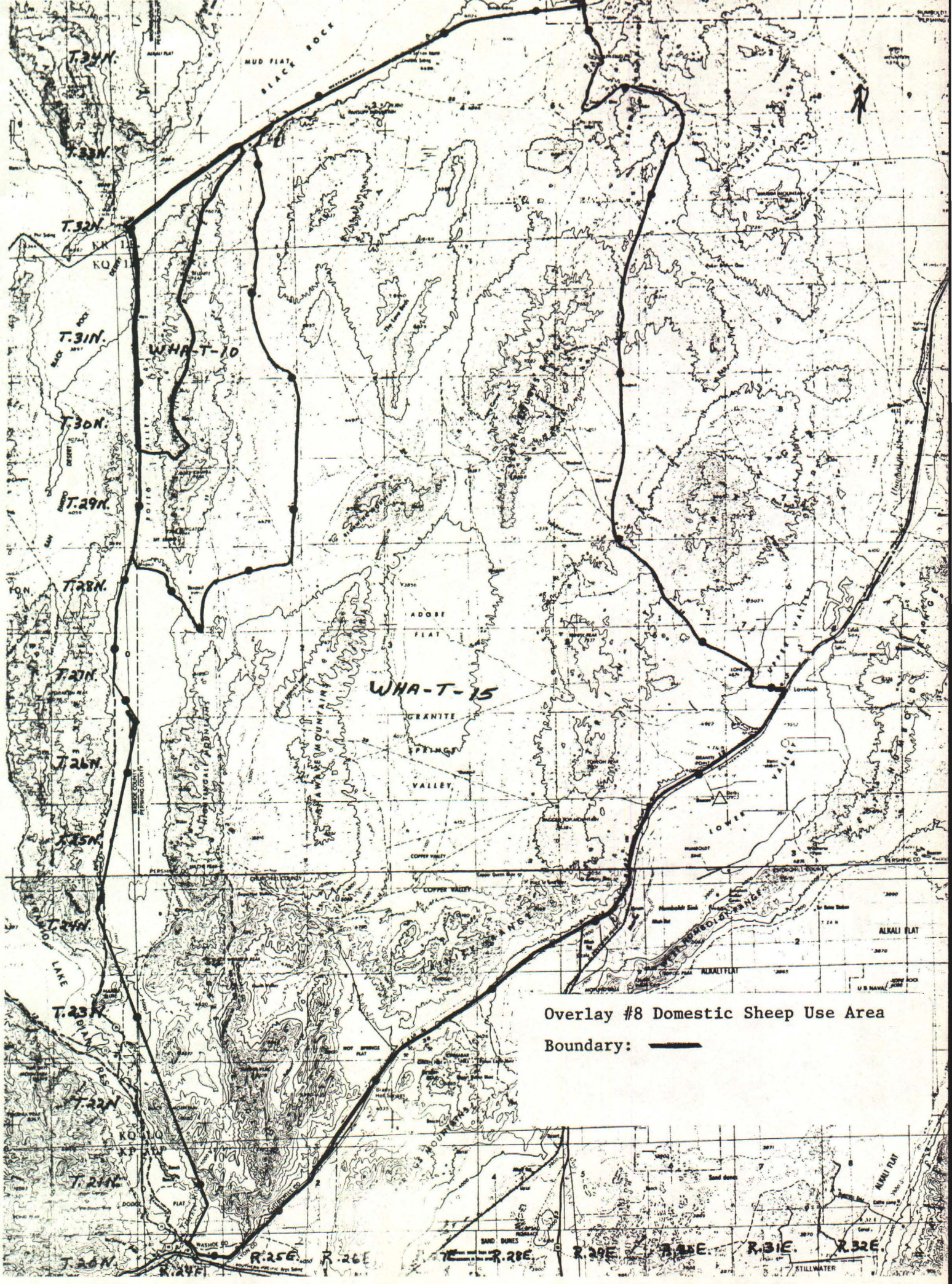
Overlay #6 Potential Bighorn Habitat

Use Area: ——



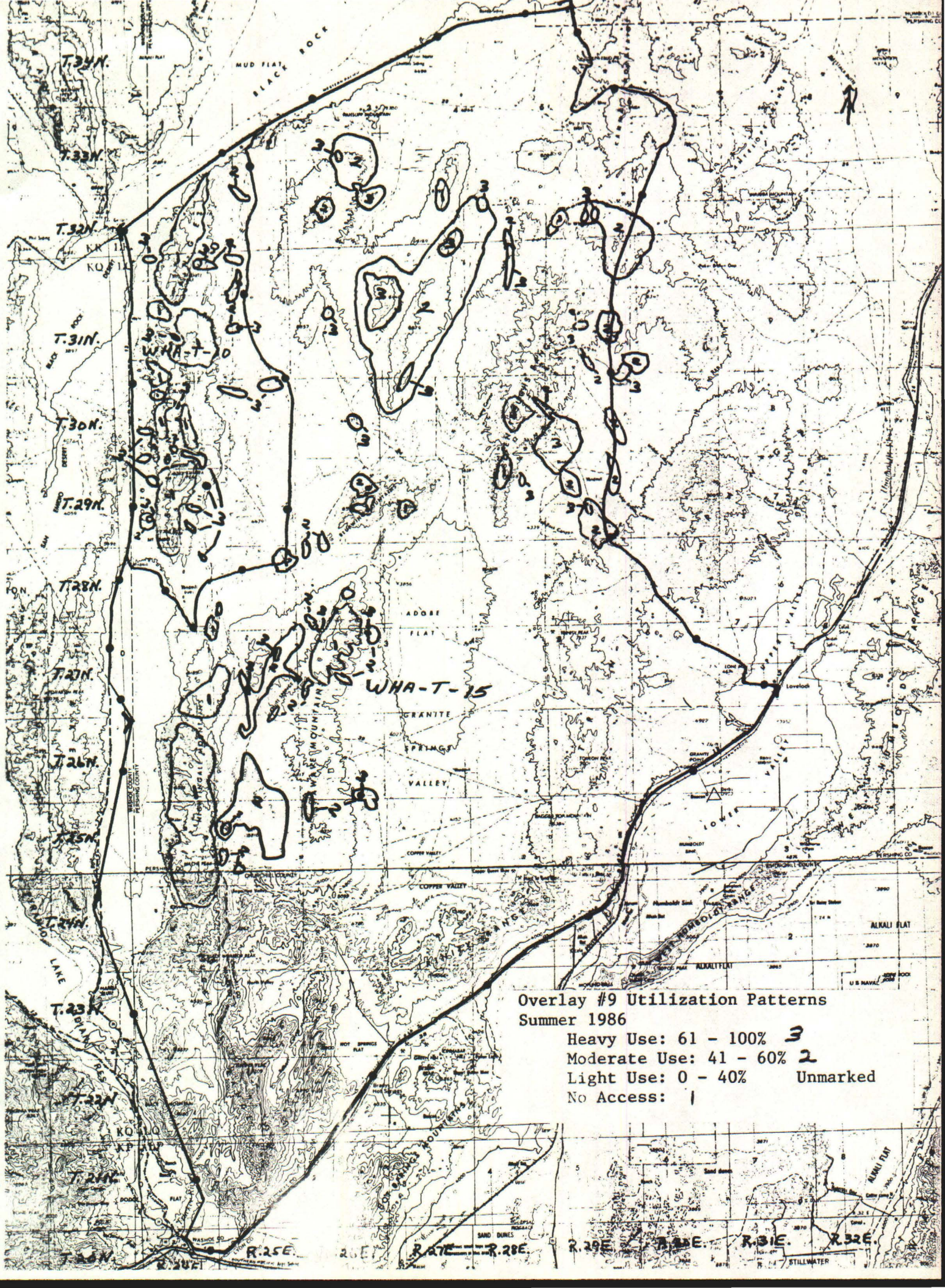
Overlay #7 Wilderness Study Areas

Boundaries: ——



Overlay #8 Domestic Sheep Use Area

Boundary: ——



Overlay #9 Utilization Patterns
Summer 1986

Heavy Use: 61 - 100% 3
Moderate Use: 41 - 60% 2
Light Use: 0 - 40% Unmarked
No Access: 1

Form 6780–1
(July 1981)
(formerly 6620–1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CHECKLIST FOR PREPARATION AND REVIEW OF HABITAT MANAGEMENT PLANS

State: Nevada
District: Winnemucca
Resource Area: Sonoma - Gerlach
HMP Name and Number: Blue Wing/Seven Troughs WHA-T-10 & 15
HMP Prepared by: Donald J. Armentrout

REVIEW CHECKLIST	SURNAME	DATE
1. Master Memorandum of Understanding, Sikes Act Agreement and/or Supplemental with State Agency.		1975
2. Preliminary meeting(s) with State Agency *(or other appropriate cooperators)* to jointly discuss HMP objectives.		1984
3. Endangered Species Act Compliance completed by	N/A	
4. Review by District/Resource Area Specialists		
Range		
Wild Horse and Burro		
Hydrologist		
Forestry		
Fisheries/Botanist/Wildlife Biologist		
Lands		
Minerals		
Recreation		
Wilderness/ACEC		
Cultural		
Visual		
Environmental Coordinator *(reviews EAs)*		
Support *(Chief of Operations/Fire Management)*		
Others		
5. Reviewed by Area Manager		
6. Reviewed by Chief of Resource Management		
7. Draft HMP and EA reviewed by State Agency authorized officer *(or other cooperators).*		
8. Final review *(if appropriate)* by State Director		
9. Reviewed and approved by District Manager		
10. Approved by State Agency authorized officer		

Remarks

* U.S. Government Printing Office: 1981-780-779/692 Reg 8

A. INTRODUCTION

1. Reason for Preparation

Problems/issues and decisions found in the Sonoma-Gerlach Management Framework Plan III (MFP III) are the primary driving force in the preparation of this HMP. The Blue Wing/Seven Troughs Coordinated Resource Management Plan (CRMP) was prepared through a coordinated effort to provide implementation recommendations for the MFP III decisions.

All 15 of the Major Problems/Issues listed in the Blue Wing/Seven Troughs impact wildlife habitat suitability. Planning objective No. 3 of the CRMP plan states: "Maintain or improve the condition of wildlife habitat to accommodate the needs of all species of wildlife presently or potentially using the planning area." Copies of the MFP III and CRMP Plan are available at the Winnemucca District Office. The vehicle to accomplish the actions needed to meet these broad objectives is this Habitat Management Plan (HMP). Specific MFP III decisions will be cited in the Relative Constraints section (A.3.). In order to provide useful, comprehensive wildlife habitat management within the Blue Wing/Seven Troughs two habitat areas, WHA-T-10 Selenite Range and WHA-T-15 Seven Troughs, will be combined within this HMP.

Beyond the CRMP other publics have shown an interest in the major wildlife species of mule deer (Odocoileus hemionus), chukar (Alectoris graeca) and sage grouse (Centrocercus urophasianus) which occupy the area. Since the Nevada Department of Wildlife (NDOW) instituted the quota system to manage their deer herds on biological principles, hunters have averaged an every other year opportunity to hunt. A declining sage grouse population resulted in a closed season for 1985 and a limited hunt with changed season dates in 1986. Chukar populations are only now beginning to recover from previous slumps. Sportsmen are beginning to look very hard at the need for improved, quality wildlife habitat. We as the land management agency are responsible to the public to provide the needed habitat. The consumptive value of this habitat is demonstrated by the BLM SAGERAM Value of $34.44/hunter day for mule deer and $21.10/hunter day for either chukar or sage grouse.

Those habitats identified as potential for pronghorns (Antilocapra americana) and California bighorn sheep (Ovis canadensis californiana) are also of public interest. The pronghorn population density study undertaken by NDOW and the University of Nevada, Reno (UNR) will provide the opportunity to establish pronghorns into suitable potential habitat. With a hunter day value of $34.44/hunter day expansion of huntable pronghorn herds is becoming increasingly important. Hundreds of thousands of dollars have been raised by the various branches of Nevada Bighorns Unlimited to reintroduce bighorn sheep into their former ranges. Although bighorn sheep will not be reintroduced into the Selenite Range at this time (Section A.3) the potential habitat will not be forgotten. At a consumptive value of

$144.48/hunter day the economic impact of a huntable bighorn sheep population would be favorable to the small communities near the Selenite Range (USDI 1986).

2. Ecosystem Description

The HMP area is typical of the Great Basin with eight generally north-south oriented mountain ranges bounding broad valleys. Elevations range from 8,237 feet at Kumiva Peak in the Selenite Range to approximately 3,900 feet at Granite Springs Valley (Figure 2).

A wide variety of plant communities can be found within the HMP area. Greasewood (Sarcobatus baileyi) and four wing saltbrush (Atriplex canescens) dominate the lower elevations. Mid-elevations are dominated by Wyoming big sagebrush (Artemisia tridentata wyomingensis) and low sagebrush (Artemisia arbuscula) bunchgrass communities. The highest elevations are covered by mountain big sagebrush (Artemisia tridentata vaseyana) bunchgrass communities. Juniper (Juniperus osteosperma) and quaking aspen (Populas tremuloides) communities are restricted to higher elevations. Riparian/wetland communities are scattered throughout the area, but are very limited in size and number. Plant communities important to big game are listed on appropriate tables.

Precipitation varies from 14 inches in the high elevations to four inches at the lowest. As with the rest of the Great Basin precipitation is primarily confined to winter storms.

Temperatures range from highs exceeding 100°F in the summer down to 0°F in the winter.

Water, while available, appears to be the most limiting factor for upland game habitat (Overlays 1 and 2, Figure 2). To date 39 upland game guzzlers have been constructed in the HMP area (Overlay 3, Figure 2) with at least 11 more to be constructed during 1987. Mule deer habitat (Overlay 4, Figure 2) is limited most by the lack of forage species diversity (Table 1). Potential pronghorn habitat (Overlay 5, Figure 2) is believed to be restricted by poor water distribution and lack of forage species diversity. Potential bighorn sheep habitat (Overlay 6, Figure 2) is limited most by domestic sheep conflicts (Table 2).

Plant community and cover type maps are available in the Selenite Range and Seven Troughs WHA map folders in the Winnemucca District Office. There are no rare or endangered wildlife or plant species known to exist in the HMP area.

3. Relevant Constraints

Wildlife MFP III decisions which have a direct bearing on this HMP are as follows:

WL 1.1 Allowance for big game populations to reach reasonable numbers and provide corresponding Animal Unit Months (AUMs) in the following allotments:

Blue Wing	701 mule deer, 49 pronghorn, 106 bighorn
Humboldt Sink	2 mule deer, 3 bighorn
Ragged Top	72 mule deer
Seven Troughs	495 mule deer, 26 pronghorn

WL 1.10 Maintenance of riparian areas and wetlands as crucial habitats.

WL 1.11 Maintenance of sage grouse strutting grounds and nesting areas.

WL 1.13 Leaving water at the source of each water development and along pipelines.

WL 1.14 Establishes priority for HMP development.

Two wilderness study areas (WSAs) have been identified in the Selenite Range (Overlay 7, Figure 2). Both the Selenite Mountains (NV-020-200) and Mount Limbo (NV-020-201) WSAs should be of benefit to wildlife in the long term. However, restrictions associated with WSA designations will constrain the options available for direct habitat management.

All mountain ranges within the HMP area except the Lava Beds were identified within the Minerals Program MFP III Decisions for the Sonoma-Gerlach Resource Area as having potential for strategic and critical or economically important mineral deposits. Although major exploration is not underway at this time the potential for such activity must be considered in wildlife habitat planning.

Actions by the Lovelock CRMP group which restricted the construction of pasture fences are to be considered when reviewing wildlife habitat management options.

Actions proposed to achieve CRMP Planning Objective No. 2 "Maintain a viable population of wild horses/burros in the planning area" have not been met. To meet this objective, a management level of 877 horses and 143 burros was established for the HMP area. Present populations are estimated to be 2,455 horses and 170 burros. This increased population of wild horses and burros combined with the current livestock stocking rates are causing wildlife habitat to deteriorate.

Domestic sheep use in and near the potential bighorn habitat (Overlay 8, Figure 2) identified in the MFP III Wildlife Program Decision will constrain BLM and NDOW from reintroducing bighorn sheep into the potential use area for the present. If the distribution of domestic sheep should change in the future this constraint may be lifted.

Table 1. Mule Deer Habitat Suitability by Plant Community [1]

Plant Community	Acres	Habitat Variable Ratings: Key Species Initial Rating	Key Species SI[1]	Forage Quality Initial Rating	Forage Quality SI[1]	Cover Initial Rating	Cover SI[1]	Disturbance Initial Rating	Disturbance SI[1]	Water Distribution Initial Rating	Water Distribution SI[1]	Overall Initial Rating	Suitability Index [3]	Weighted SI[4]	Overall Habitat Suitability Rating
WHA-T-10 Selenite Range DY-1															
Low Sagebrush/Bunchgrass	11,777	12	0.75	4	0.23	5	0.29	17	0.94	14	0.87	62	.62	7,302	
Mountain Big Sagebrush/Bunchgrass	20,792	15	0.94	6	0.35	11	0.65	13	0.72	13	0.81	70	.70	14,554	
Wyoming Big Sagebrush/Bunchgrass	1,745	16	1.0	9	0.53	9	0.53	16	0.89	10	0.62	72	.72	1,256	
Juniper/Mountain Big Sagebrush/Bunchgrass	1,554	16	1.0	7	0.41	17	1.0	13	0.72	13	0.81	79	.79	1,228	
Quaking Aspen/Mountain Big Sagebrush	70	8	0.5	17	1.0	5	0.29	13	0.72	16	1.0	71	.71	50	
	35,938													24,390	0.71
WHA-T-15 Lava Beds DY-4															
Low Sagebrush/Bunchgrass	8,858	16	1.0	2	0.11	5	0.29	18	1.0	13	0.81	65	.65	5,758	
Mountain Big Sagebrush/Bunchgrass [2]	1,158	16	1.0	5	0.29	9	0.53	13	0.72	13	0.81	67	.67	776	
Wyoming Big Sagebrush/Bunchgrass	3,474	16	1.0	4	0.23	9	0.53	15	0.83	9	0.56	64	.64	2,223	
	13,490													8,757	0.65
WHA-T-15 Nightingale Mountains DY-2															
Low Sagebrush/Bunchgrass	1,452	16	1.0	3	0.18	5	0.29	13	0.72	9	0.56	55	.55	799	
Mountain Big Sagebrush/Bunchgrass [2]	3,787	16	1.0	5	0.29	5	0.29	13	0.72	9	0.56	58	.58	2,196	
Wyoming Big Sagebrush/Bunchgrass	177	16	1.0	3	0.18	5	0.29	13	0.72	9	0.56	55	.55	97	
	5,416													3,092	0.56
WHA-T-15 Seven Troughs DS-2															
Low Sagebrush/Bunchgrass	960	8	0.50	3	0.18	5	0.29	13	0.72	16	1.0	54	.54	518	
Mountain Big Sagebrush/Bunchgrass [2]	9,568	8	0.50	5	0.29	9	0.53	13	0.72	16	1.0	61	.61	5,836	
Wyoming Big Sagebrush/Bunchgrass	2,398	16	1.0	5	0.29	17	1.0	13	0.72	16	1.0	80	.80	1,918	
	12,926													8,272	0.65
WHA-T-15 Seven Troughs DY-5															
Low Sagebrush/Bunchgrass	10,824	14	0.87	4	0.23	5	0.29	12	0.67	13	0.81	58	.58	6,278	
Mountain Big Sagebrush/Bunchgrass [2]	32,381	14	0.87	5	0.29	8	0.47	13	0.72	15	0.94	66	.66	21,371	
Wyoming Big Sagebrush/Bunchgrass	8,160	16	1.0	4	0.23	10	0.59	13	0.72	13	0.81	67	.67	5,467	
	51,365													33,116	0.64
WHA-T-15 Shawave Mountains DY-3															
Low Sagebrush/Bunchgrass	2,837	16	1.0	3	0.18	5	0.29	13	0.72	9	0.56	55	.55	1,560	
Mountain Big Sagebrush/Bunchgrass [2]	11,183	13	0.81	4	0.23	6	0.35	18	1.0	12	0.75	64	.64	7,157	
Wyoming Big Sagebrush/Bunchgrass	2,671	12	0.75	3	0.18	5	0.29	15	0.83	11	0.69	55	.55	1,469	
	16,691													10,186	0.58

1/ SI means Suitability Index which is the decimal equivalent of percent optimum with optimum equaling 1.0.
2/ This Plant Community occupied many of the areas identified as rocky slopes in the original range inventory.
3/ Calculations used to convert the standard BLM Condition Rating to Habitat Suitability are provided in Appendix 2.
4/ Weighted SI is calculated by multiplying the acres inventoried times the Suitability Index. The result gives the manager and biologist an idea as to the ability of the habitat to support mule deer, e.g. WHA-T-10 Selenite Range DY-1 requires a minimum of 35,938 acres of habitat to provide 24,390 acres of optimum mule deer habitat.

7/27/87

Table 2. Potential Bighorn Habitat Suitability by Plant Community Using Present Domestic Sheep Constraint

Plant Community	Acres	Cover SI 1/	Water SI 1/	Forage SI 1/	Human Use SI 1/	Domestic Sheep 1,2/	Overall HSR 1/	Optimum Carrying Capacity @ 4sq/mi	Current Potential Population
Low Sagebrush/ Bunchgrass	6,879	0.8	0.6	0.9	0.9	0.0			
Mountain Big Sagebrush/ Bunchgrass 3/	2,006	0.6	0.6	0.8	0.9	0.0			
Rocky Slope	600	1.0	0.6	0.8	0.9	0.0			
	9,485						0.0	60	0

1/ Habitat suitability is determined using a rating system in which 1.0 is optimal habitat and 0.00 is unsuitable. This system allows managers and biologists to determine where they are, where the weaknesses are in the habitat and how effective management actions are.

2/ Worksheets used to determine these Suitability Indices are provided in Appendix 2. The methodology is based on Armentrout and Gardetto.

3/ This Plant Community occupied many of the areas identified as rocky slopes in the original range inventory.

4. Sikes Act Authority

This HMP is to be implemented under the Sikes Act in accordance with the Master Memorandum of Understanding between the Bureau of Land Management, Nevada State Office and Nevada Department of Wildlife Supplement 6 entitled Sikes Act Implementation dated October 7, 1975. Once this HMP is signed, approved and so designated by BLM and NDOW, it will be considered to be under Sikes Act authority and all funds spent to prepare, implement and monitor the HMP will be considered to be Sikes Act Funds.

B. LAND STATUS/ADMINISTRATION

WHA-T-10 (Selenite Range) occupies 150,193 acres. WHA-T-15 (Seven Troughs) occupies 1,445,483 acres. Not all of these acres are designated as wildlife use areas. Two percent of the total use areas for mule deer and bighorn sheep is private land (Table 3).

Table 3. Land Status Within WHA-T-10 and WHA-T-15 Mule Deer and Bighorn Sheep Use Areas

	Mule Deer Acres		Bighorn Sheep Acres	
Use Areas	Private	Public	Private	Public
Lava Beds	0	13,490	0	0
Nightingale Mountains	0	5,416	0	0
Selenite Range	1,152	34,786	282	9,203
Seven Troughs	1,406	62,885	0	0
Shawave Mountains	0	16,691	0	0
TOTAL	2,558	133,268	282	9,203

Fourteen percent of the total use areas for chukar and sage grouse is private land (Table 4).

Table 4. Land Status Within WHA-T-10 and WHA-T-15 Chukar and Sage Grouse Use Areas

	Chukar Acres		Sage Grouse Acres	
Use Areas	Private	Public	Private	Public
Dry Mountain	0	8,352	0	8,352
Kumma Mountains	0	13,367	0	11,629
Lava Beds	0	39,455	0	10,667
Nightingale Mountains	1,316	11,860	1,316	11,860
Selenite Range	1,426	49,845	806	36,915
Seven Troughs Range	1,915	59,128	1,915	78,326
Shawave/Blue Mtn. Complex	1,164	49,034	1,164	46,707
Trinity Range	31,810	45,398	31,810	45,398
TOTAL	37,631	276,439	36,381	249,854

Wildlife use is distributed through four allotments (Table 5).

Table 5. Acres of Wildlife Habitat By WHA and Allotment

WHA and Allotment	Mule Deer Habitat	Bighorn Sheep Habitat	Chukar Habitat	Sage Grouse Habitat
WHA-T-10				
Blue Wing Allotment	35,938	9,485	51,271	37,721
WHA-T-15				
Blue Wing Allotment	47,966	0	134,393	103,256
Humboldt Sink Allotment	0	0	11,823	11,823
Ragged Top Allotment	0	0	30,748	29,770
Seven Troughs Allotment	51,922	0	85,835	103,665
TOTAL	135,826	9,485	314,070	286,235

C. MANAGEMENT OBJECTIVES

1. Objective Statement

The Sonoma-Gerlach MFP III decisions concerning mule deer, bighorn sheep and pronghorn provide for the following reasonable numbers and animal unit months (AUM) forage requirements for use. Existing numbers and AUM requirements quite possibly exceed the reasonable number figures. This should not be of any concern. Reasonable numbers were established as a starting point within the land use planning system. Monitoring of wildlife numbers by NDOW coordinated with BLM habitat condition data will determine if the increase in wildlife numbers is detrimental to their habitat. Should this determination be made steps will be taken through cooperation of NDOW and BLM to correct the situation.

Allotment	Mule Deer		Bighorn Sheep		Pronghorn	
	Reasonable No.	AUMs	Reasonable No.	AUMs	Reasonable No.	AUMs
Blue Wing	233	701	44	106	16	49
Humboldt Sink	1	2	0	0	1	3
Ragged Top	24	72	0	0	0	0
Seven Troughs	208	495	0	0	5	16
TOTAL	466	1,270	44	106	22	57

2. Specific Objectives

Where possible specific objectives for habitat management and improvement are provided. Objectives such as e. and f. will remain more general until the habitat analysis is completed.

a. Improve mule deer habitat as follows:

Use Area	From	To	When
(1) Lava Beds DY-4	0.64 (Good)	0.75 (Good)	1994
(2) Selenite Range DY-1	0.70 (Good)	0.85 (Excellent)	1994

(3) Seven Troughs DS-2	0.69 (Good)	0.85 (Excellent)	1994
(4) Seven Troughs DY-5	0.65 (Good)	0.80 (Good)	1995
(5) Nightingale Mts. DY-2	0.57 (Fair)	0.65 (Good)	1996
(6) Shawave Mts. DY-3	0.59 (Fair)	0.65 (Good)	1996

b. Increase sage grouse brood habitat from its present status to an increase of six brood areas by 1992.

c. Improve riparian and wetland habitat by 1995.

d. Maintain the potential bighorn habitat in the Selenite Range in its present status in the event domestic sheep conflicts can be mitigated.

e. Improve potential pronghorn habitat suitability for reintroduction by 1990.

f. Improve chukar habitat in the Truckee Range in 1987.

3. Objective Summary

All specific objectives are summarized on Form 6780-2 Habitat Management Plan Progress Report (pages 13 through 15).

D. PLANNED ACTIONS

1. Description of Actions

a. Increase forage species diversity and preferred species availability and production by improving ungulate use distribution.

1) Lava Beds DY-4: Coordinate with the wild horse and burro, range management programs and permittee to develop the following springs for pipelines to improve grazing distribution and curb the heavy use shown on Overlay 9, Figure 2. Water will be left at the sources and each source will be protected.

Turtle Rock Spring - T. 32 N., R. 27 E., Sec. 30, SE¼SE¼
Sheep Head Spring - T. 31 N., R. 27 E., Sec. 5, NW¼SW¼
Five Troughs Springs - T. 32 N., R. 27 E., Sec. 28, NW¼NE¼
Dead Horse Spring - T. 31 N., R. 27 E., Sec. 10, NE¼SW¼
Hanna Spring - T. 31 N., R. 27 E., Sec. 21, NW¼SE¼
Rattlesnake Spring - T. 31 N., R. 27 E., Sec. 33, NE¼SE¼*
Mustang Spring - T. 32 N., R. 27 E., Sec. 31, SW¼NW¼
Eagle Rock Spring - T. 32 N., R. 26 E., Sec. 25, SW¼NE¼
Sheep Spring - T. 32 N., R. 27 E., Sec. 32, SW¼SW¼

*Development of Rattlesnake Spring is an extension of an existing pipeline.

Water rights filing completed in 1989. Project survey and design completed in 1989. Construction of pipelines completed in 1990.

2) Selenite Range DY-1: Take the same action as Lava Beds above for the following springs.

Rocky Point Spring - T. 31 N., R. 24 E., Sec. 28, NE¼SE¼
Lookout Spring - T. 30 N., R. 24 E., Sec. 35, SE¼NE¼
and others to be identified during survey and design.

Water rights filing completed in 1989. Project survey and design completed in 1989. Construction of pipelines completed in 1990.

3)&4)Seven Troughs DS-2 & DY-5: Same actions as Lava Beds above for the following springs.

Nera Springs No. 56 - T. 31 N., R. 28 E., Sec. 1, SW¼SW¼
No. 33 - T. 31 N., R. 28 E., Sec. 12, SW¼NW¼
Rabbithole Spring
Olsen Meadow Springs - T. 32 N., R. 29 E., Sec. 28, SW¼NW¼
Burnt Canyon Spring - T. 31 N., R. 28 E., Sec. 35, NW¼NE¼

Water rights filing completed in 1990. Project survey and design completed in 1990. Construction of pipelines completed in 1991.

5) Nightengale Mts. DY-2: Same actions as Lava Beds above for the following:

Upper Stone Cabin Spring (PWR) - T. 27 N., R. 25 E., Sec. 16, SE¼SW¼
Lower Stone Cabin Spring (PWR) - T. 27 N., R. 25 E., Sec. 8, SE¼SE¼
Tunnel Springs (PWR) - T. 27 N., R. 25 E., Sec. 11, NE¼NW¼

Water rights filing completed in 1991. Project survey and design completed in 1991. Construction of pipelines completed in 1992.

6) Shawave Mts. DY-3: Same actions as Lava Beds above for the following:

Juniper Spring - T. 28 N., R. 26 E., Sec. 32, SE¼SE¼
South Juniper Spring - T. 27 N., R. 26 E., Sec. 8, NW¼NE¼
Cottonwood Springs - T. 28 N., R. 26 E., Sec. 25, SW¼SW¼
North Cottonwood Springs - T. 28 N., R. 26 E., Sec. 25, NW¼NW¼
Bob Spring - T. 27 N., R. 26 E., Sec. 14, SE¼NW¼

Water rights filing completed in 1991. Project survey and design completed in 1991. Construction of pipelines completed in 1992.

b. Improve and protect the following brood areas by fencing with specific grazing objectives prepared during 1987.

1) Texas Basin/Last Chance Spring Meadows in 1987
2) Middle Cow Creek Enclosure completed in 1987
3) Fence those springs developed in the Lava Beds and Seven Troughs Range in a.1), 3) and 4) above to include meadow habitat by 1992. NOTE: Due to present water filing restrictions the springs may be fenced on schedule with development to follow.

c. Establish monitoring on key wetlands and riparian areas. Complete by 1988. Develop an action plan for specific wetlands and riparian areas by 1989.

d. Continue to monitor the bighorn habitat to insure maintenance using the methods described in the Sonoma-Gerlach Resource Area Bighorn Sheep Habitat Monitoring Plan.

e. Locate and construct five pronghorn waters to be combined with 1) through 4) above. Complete by 1990.

f. Develop 11 guzzlers during 1987 in the Truckee Range. Monitor chukar habitat/population density relationships to establish habitat improvement success.

2. Water Rights Considerations

Each water to be developed will be filed on jointly with the range user and in accordance with BLM Procedures and Nevada State Law. Guzzlers will not require water filings.

3. Evaluation and Monitoring

Methodology used by NDOW to gather wildlife seasonal distribution and population data are at the discretion of that agency. The Blue Wing/ Seven Troughs Monitoring Plan, Nevada Rangeland Monitoring Handbook, Winnemucca District Coordinated Monitoring Plan and BLM Manual Supplement NSO 6630-Big Game Studies provide the minimum standards which will be met in monitoring wildlife habitat condition, use and trend. Copies of the documents referenced above are available at the Winnemucca District Office. Interdisciplinary studies have been established in the HMP area. Use pattern mapping is a cooperative effort between range, wild horses and burros, and wildlife specialists (Overlay 9, Figure 2).

E. COORDINATION WITH OTHER BLM PROGRAMS, AGENCIES AND ORGANIZATIONS

1. Other BLM Programs

Rangeland monitoring was developed, instituted and continues to be carried out as an interdisciplinary effort between range, wildlife and wild horse and burro specialists. Key species were selected with all uses involved.

Form 6780–2
(July 1981)
(formerly 6620–3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
a. Improve mule deer habitat as follows:		Improve species diversity by lowering utilization on crucial areas through better ungulate distribution. Specific species utilization to be maintained: SIHY 40%, ATCO 50%, POA++ 50%, ORHY 50%, STTH2 40%, BAHO 5%, SPHAER 15%, FEID 40%, BASA3 30%, CRAC2 50%, AGSP 50%, PUTR2 50%, EULA5 50%, SYMPH 50%. Refer to Appendix Four for the Plant List and code definition.		Coordinated use pattern mapping will be used to determine if wild horse and burro as well as livestock utilization is better distributed. During use pattern mapping particular attention will be paid to those areas considered to be crucial to mule deer.	
1) Lava Beds DY-4 from 0.64 to 0.75 by 1994		Develop 9 springs for pipelines protecting and leaving water at the sources.			
2) Selenite Rng DY-1 from 0.70 to 0.85 by 1994		Develop 5 springs for pipelines protecting and leaving water at the sources.			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

7/27/87

* U.S. Government Printing Office: 1981-780-780/693 Reg 8

Form 6780–2
(July 1981)
(formerly 6620–3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
3)&4) Seven Troughs DS-2 and DY-5 from 0.65 to 0.80 by 1994		Develop 4 springs for pipelines protecting and leaving water at the sources.			
5) Nightingale Mts. DY-2 from 0.70 to 0.85 by 1994		Develop 3 springs for pipelines protecting and leaving water at the sources.			
6) Shawave Mts. DY-3 from 0.59 to 0.65 by 1996		Develop 5 springs for pipelines protecting and leaving water at the sources.			
b. Increase sage grouse brood habitat from its present status to an increase of 6 brood areas by 1992.		Protect the following brood areas. 1) Fence Texas Basin/ Last Chance Spr. Meadow 2) Fence Middle Cow Creek Meadow 3) Fence sufficient areas around the springs in the Lava Beds and Seven Troughs Range to include meadow areas		NDOW will monitor sage grouse brood use of the areas in question and provide BLM with annual updates. BLM will establish studies on each meadow to monitor ecological recovery and insure grazing objectives for sage grouse improvement are met.	

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

* U.S. Government Printing Office:1981-780-780/693 Reg 8

12

7/11/97

Form 6780–2
(July 1981)
(formerly 6620–3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
c. Improve riparian and wetland habitat by 1995.		Establish monitoring on key wetland and riparian areas by 1988.		Develop a specifications schedule for wetlands and riparian areas by 1989.	
d. Maintain the potential bighorn at its present level.		Monitor the habitat as to utilization and potential trend.		Use the methods described in the SGRA Bighorn Sheep Habitat Monitoring Plan.	
e. Improve potential pronghorn habitat by 1990.		Locate and construct 5 pronghorn waters by 1990.		Monitoring of the potential habitat is an integral part of the established coordinated monitoring system.	
f. Improve chukar habitat suitability in the Truckee Range in 1987.		Develop 11 guzzlers in the Truckee Range during 1987.		NDOW will provide population density data, by use area, to the BLM from 1988 thru 1992. BLM will monitor the habitat and evaluate the habitat/ population densities relationships to establish habitat improvement success.	

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List scheduled evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

* U.S. Government Printing Office: 1981-780-780/693 Reg 8

7/27/87

Development of this HMP is one part of the BLM's obligation to complete activity plans on the Blue Wing/Seven Troughs CRMP area.

Development of the water projects described in Section D.1.a. of this HMP will be a coordinated effort between the wildlife, range and wild horse and burro programs. Improving the distribution of livestock and wild horses and burros will help all programs reach the management objectives set for this area through the MFP III and CRMP recommendations.

2. Other Agencies and Organizations

The Nevada Department of Wildlife has jurisdiction over the wildlife species found in the HMP area. NDOWs involvement has been documented previously in this HMP.

All of the grazing permittees, mineral interests and wild horse groups within the HMP area, have an interest in the actions proposed by this HMP as evidenced by the Lovelock CRMP.

Nevada Bighorns Unlimited has a financial interest in the potential bighorn use area described in this HMP. It is through their efforts that money has been raised to support NDOW's bighorn sheep reintroduction program.

F. WILDLIFE ECONOMICS

Using the Short-Term Standardized Equation for Benefit/Cost Analysis provided in BLM Manual 6780 - Habitat Management Plans, we can calculate the present value of the change in the mule deer population resulting from this HMP. Increases in sage grouse and chukar value will be calculated as the data becomes available. Specific projects will be analyzed through SAGERAM as part of the project survey and design.

The two equations used are:

AVw = W x DH x HR x C and PVw = AVw x BF Where:

AVw = The annual value attributable to increased production of mule deer.

W = The estimate of the average total willingness to pay for an additional user day. This is $34.44 in Nevada (USDI 1986).

DH = Days required to harvest one animal. This is 7.4 days in Management Area 4 (Benolkin 1986).

HR = The harvest rate of percent of the animal population harvested in one year. In Management Area 4 this is 15 percent (Benolkin 1986).

C = Change (+ or -) in the annual population which results from HMP implementation. The potential carrying capacity increase of 100 is used for this figure.

PVw = The present value of the annual average value attributable to the change in wildlife population (given the 50 years analysis period and the relevant buildup factor).

BF = The appropriate buildup factor for the 50 year analysis period in accordance with Instruction Memorandum NV-86-347 (8-5/8 percent).

AVw = $34.44 x 7.4 x .15 x 100 = $3,822.84
PVw = $3,822.84 x 11.41 = $43,618.60

G. COSTS AND FUNDING NEEDS

The costs and funding needs for implementation of the first five years of this Habitat Management Plan are summerized in Table 6. This table will be updated during each five year review.

H. CONCURRENCE AND APPROVAL

WHA-T-10 and WHA-T-15
Selenite Range and Seven Troughs
Habitat Management Plan

Sonoma-Gerlach R.A.
Winnemucca District

Prepared by:
Donald J. Armentrout, Wildlife Management Biologist, Sonoma-Gerlach Resource Area.

With Assistance From:
Sonoma-Gerlach R.A. Staff
Winnemucca District Staff
Roy Leach, Nevada Department of Wildlife
Phillip Benolkin, Nevada Department of Wildlife
Dave Goicoechea, Nevada State Office, BLM
Lovelock CRMP Group

Concurred By:

Nevada Department of Wildlife

_____ _____
Date Regional Supervisor, Region I

Approved By:

Bureau of Land Management

_____ _____
Date District Manager, Winnemucca

Table 6. Summary of Selenite Range/Seven Troughs WHA-T-15 Habitat Management Plan Development Costs

Cost Item	Year 1 FY-88		Year 2 FY-89		Year 3 FY-90		Year 4 FY-91		Year 5 FY-92		Total 5 years C	
	Estimated Costs ($000s) and Workmonths (W/M) by Development Year											
	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$000	No. W/M	$00
Administration and Preparation	1.0	2.6	—	—	—	—	—	—	—	—	1.0	2.6
Implementation												
Project Survey and Design	2.0	0.5	1.0	0.5	2.0	0.5	—	—	—	—	5.0	1.5
Project Work	—	—	—	—	1.0	15.0	1.0	15.0	—	—	2.0	30.0
Support (Operations and Purchasing)	0.5	—	0.5	1.3	3.0	—	3.0	—	—	—	7.0	1.3
Maintenance	—	—	—	—	—	—	1.0	0.1	1.0	0.1	2.0	0.2
Evaluation and Monitoring	—	—	—	—	—	—	1.0	0.25	1.0	0.25	2.0	0.5
Equipment	////	—	////	—	////	1.0	////	1.0	////	—	////	2.0
TOTAL BLM Costs	3.5	3.1	1.5	1.8	6.0	16.5	6.0	16.35	2.0	0.35	19.0	38.
Estimated Contributions:												
Nevada Department of Wildlife	////	—	////	—	////	5.0	////	5.0	////	—	////	10.
Other	////	—	////	—	////	1.0	////	1.0	////	—	////	2.
TOTAL CONTRIBUTIONS	////	—	////	—	////	6.0	////	6.0	////	—	////	12.

Because the total score possible under the standard habitat condition rating for mule deer is 100 conversion to the Habitat Suitability Index system of 0.0 to 1.0 is simple. Each final habitat condition rating was divided by 100.

Example: Score of 70 - 100 = 0.70

Once this step was completed the decimal score was multiplied times the acres of the plant community represented.

Example: .70 x 35,938 = 25,008

HSI concepts were used because they provide the manager and biologist with a clearer picture of present status, as well as the ability to project changes due to management actions.

CALIFORNIA BIGHORN SHEEP FORAGE SUITABILITY INDEX WORKSHEET

Herd Use Area Name: Selenite Range No: BY-1 Date: 3/17/87 Examiner: Armentrout

PLANT COMMUNITY/COVER TYPE	(1) Base Value SIV_6	(2) Dist. From Escape Cov. SIV_2	(3) Shrub Canopy Cover SIV_7	(4) Dist. From Water SIV_8	(5) Shrub Height SIV_9	(6) Forage SI ($SIV_6 \times SIV_2 \times SIV_7 \times SIV_8 \times SIV_9$) 1/5
Low Sagebrush/Bunchgrass	0.7	1.0	1.0	0.8	1.0	0.89
Mountain Big Sagebrush/ Bunchgrass	0.9	1.0	0.7	0.8	0.9	0.84
Rocky Slopes	0.9	1.0	1.0	0.4	1.0	0.81

CALIFORNIA BIGHORN SHEEP WATER SUITABILITY INDEX WORKSHEET

Herd Use Area Name: Selenite Range No.: BY-1 Date: 3/17/87 Examiner: Armentrout

PLANT COMMUNITY/COVER TYPE (Source Name & No.)	(1) Distance from Escape Cover V^2	(2) Competition V_3	(3) Visual Obstruction V_4	(4) Average Distance between water in miles (KM) Dist. 1	Dist. 2	Dist. 3	Dist. 4	Mean Dist.	(5) V_5	(6) Water SI $(SIV_2 \times SIV_3 \times SIV_4)^{1/3} \times SIV_5$
Low Sagebrush/Bunchgrass										
Spring #1	1.0	0.2	1.0	1.0	1.0	1.75		1.25	1.0	0.58
Spring #2	1.0	0.2	1.0	0.5	0.5	1.75		0.9	1.0	0.58
Spring #3	1.0	0.2	1.0	0.5	0.25	1.8	1.8	1.1	1.0	0.58
Spring #4	1.0	0.2	1.0	0.8	1.0	1.0	2.8	1.4	0.96	0.56
Spring #5	1.0	0.3	1.0	0.9	1.1	1.0	1.75	1.2	1.0	0.67
Spring #6	1.0	0.3	1.0	1.0	1.2	1.25	1.8	1.3	0.98	0.66
Spring #7	1.0	0.3	1.0	1.25	1.2	1.0	1.75	1.3	0.98	0.66
Spring #8	1.0	0.3	1.0	1.1	1.0	1.25	2.4	1.4	0.96	0.64
										(0.61) $\bar{x}$
Mountain Big Sagebrush/Bunchgrass										
Spring #9	0.9	0.3	1.0	1.3	2.3	2.6	2.5	2.2	0.9	0.58
Spring #10	1.0	0.4	1.0	2.5	1.3	0.75	2.8	1.8	0.9	0.66
										(0.62) $\bar{x}$
Rocky Slopes										
Jenny Creek	1.0	0.5	1.0	2.3	2.5	3.2		2.7	0.82	0.65
Developed Spring	1.0	0.3	1.0	2.3	2.6	3.6		2.8	0.8	0.53
										(0.59) $\bar{x}$

CALIFORNIA BIGHORN SHEEP COVER, HUMAN USE, AND DOMESTIC SHEEP USE SUITABILITY INDICES WORKSHEET

Herd Use Area Name: Selenite Range No.: B4-1 Examiner: Armentrout

PLANT COMMUNITY/COVER TYPE	(1) Cover Topography SIV_1	(2) Human Use Conflicts SIV_{10}	3 Domestic Sheep Use SIV_{11}
Low Sagebrush/Bunchgrass	0.8	0.9	0.0
Mountain Big Sagebrush/Bunchgrass	0.65	0.9	0.0
Rocky slopes	1.0	0.9	0.1

CALIFORNIA BIGHORN SHEEP HABITAT SUITABILITY RATING SUMMARY WORKSHEET

Use Area Name: Selenite Range No.: BY-1 Date: 3/17/87 Examiner: Armentrout

PLANT COMMUNITY/ COVER TYPE	1 Acres	2 COVER Cover SI	3 COVER WCI (Col 1 x Col 2)	4 WATER Water SI	5 WATER WWI (Col 1 x Col 4)	6 FORAGE Forage SI	7 FORAGE WFI (Col 1 x Col 6)	8 Human Use Conflict SI	9 WHI (Col 1 x Col 8)	10 Domestic Sheep Use SI	WSI (Col 1 x Col 10)
Low Sagebrush/ Bunchgrass	6,879	0.8	5,503	0.6	4,127	0.9	6,191	0.9	6,191	0.0	0
Mountain Big Sagebrush/Bunchgrass	3,006	0.65	1,304	0.6	1,204	0.8	1,605	0.9	1,805	0.0	0
Rocky Slopes	600	1.0	600	0.6	360	0.8	480	0.9	540	0.1	60
Total	9,485		7,407		5,691		8,276		8,536		60

Total Tot. Col. 3 / Tot. Col. 1 = 0.8 WCI

Total Tot. Col. 5 / Tot. Col. 1 = 0.6 WWI

Total Tot. Col. 7 / Tot. Col. 1 = 0.9 WFI

Total Tot. Col. 9 / Tot. Col. 1 = 0.9 WHI

Total Tot. Col. 11 (1.0) / Tot. Col. 1 = 0.0 WSI

(WCI x WWI x WFI x WHI x WSI) 1/5 = (0.8) 0.0 HSR

Carrying Capacity: Total Col. 1 / 640 = _____ Sq. Mi. _____ Sq. Mi. X _____ Carrying Capacity (CC) = _____ Optimum Carrying Capacity (OCC)

_____ OCC X _____ HSR = _____ Potential Carrying Capacity

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INVENTORY
WILDLIFE HABITAT PROJECT AND/OR
HABITAT MANAGEMENT PLAN

District: Winnemucca
Prepared by: Donald J. Armentrout
Reviewed by: _____ _____
BLM District Wildlife Specialist Date

_____ _____
NDOW District Representative Date

Name of Project or Plan Blue Wing/Seven Troughs HMP Implementation

Location of Project or Plan WHA-T-10 and WHA-T-15

Species Benefited Mule Deer, Pronghorn, Bighorn Sheep, Chukar and Sage Grouse

Description of Job or Project Projects to be completed to implement this HMP include but are not limited to the following: Spring development and protection to improve water distribution, upland and big game guzzlers, meadow protection and enhancement, and riparian protection and enhancement. Proper environmental review will be completed prior to beginning each project, if required. All projects will be closely coordinated between the Nevada Department of Wildllife and the Sonoma-Gerlach Resource Area.

Justification and Priority As pointed out in the HMP several projects must be completed to fully implement the habitat improvements needed to meet the objectives set forth in the Record Of Decision and CRMP Plan.

Cost and Manpower Estimates Initial implementation costs are estimated to be $38,100.00

Cooperative Funding (if any) The upland guzzlers are put in place at the Nevada Department Of Wildlife's cost for materials, equipment and manpower.

Approved:

_____ _____
District Manager, BLM Date

_____ _____
Regional Supervisor, NDOW Date

NV 6520-1 (February 1985)
7/27/87

Plant List 1/

Plant Code	Scientific Name	Common Name(s)
AGSP	*Agropyron spicatum*	bluebunch wheatgrass
ATCO	*Atriplex confertifolia*	shadscale
BAHO	*Balsamorhiza hookeri*	Hooker balsamroot
BASA3	*Balsamorhiza sagittata*	arrowleaf balsamroot
CRAC2	*Crepis acuminata*	tapertip hawksbeard
EULA5	*Eurotia lanata*	winterfat, white sage
FEID	*Festuca idahoensis*	Idaho fescue
ORHY	*Oryzopsis hymenoides*	Indian ricegrass, sandgrass
POA++	*Poa* sp.	blue grass (including one or more species)
PUTR2	*Purshia tridentata*	antelope bitterbrush
SIHY	*Sitanion hystrix*	bottlebrush squirreltail
SPHAE	*Sphaeralcea* sp.	globemallow (including one or more species)
STTH2	*Stipa thurberiana*	Thurber needlegrass
SYMPH	*Symphoricarpus* sp.	Snowberry (including one or more species)

1/ Codes and scientific names based on SCS (1982).

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