m 1990 June ~~1990~~ 2/24/84

United States Department of the Interior

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

IN REPLY REFER TO

4120
(NV-026.1)

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

Dear Ms. Lappin:

We have enclosed copies of the draft allotment management plan for the Soldier Meadows and Rodeo Creek allotments. We would appreciate any constructive comments that you could provide. We are trying to finalize these plans before the end of the fiscal year so we would like to have your comments back by July 1, 1990. Any comments received after this date will not be included into the final AMP. Thank you for your participation in these plans.

Sincerely yours,

Bud Cribley
Sonoma-Gerlach Area Manager

Enclosure

SOLDIER MEADOWS

ALLOTMENT MANAGEMENT PLAN

U.S. Department of the Interior
Bureau of Land Management
Winnemucca District

Sonoma-Gerlach Resource Area

Buffalo Hills Planning Unit

Prepared by: Chris Mayer, Range Conservationist

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Tables

Appendix

Maps

1. General Information

During fiscal year 1988 the Soldier Meadows Allotment Evaluation was completed. The evaluation was completed in compliance with Bureau policy requiring an allotment evaluation within 5 years after the RPS is finalized. This evaluation analyzed all monitoring data prior to 1989. Based on the recommendations in the evaluation, management actions, and adjustments have been implemented on the Soldier Meadows Allotment as incorporated in this plan through agreement with the permittee R.C. Roberts dated 03/12/89.

Selective Management Categorization in the Sonoma-Gerlach Resource Area has classified the Soldier Meadows Allotment into the "I" (Intensive) category and is priority #1 in the resource area. "I" category allotments will receive the highest priority for development of intensive grazing management.

The Soldier Meadows Allotment is located in the northwest corner of Humboldt County.

Land Ownership Status	Public Land (acres)	Other Land (acres)	Total (Acres)
	327,739	10,518	338,257

The allotment management plan (AMP) area includes all or part of the following; Calico Mountains, Black Rock Range, and the Black Rock Desert. The allotment is bordered on the west by the Calico Mountains, the Susanville BLM District and Washoe County, to the east by the Black Rock Range and the Paiute Meadows Allotment, to the north by the Sheldon National Wildlife Refuge and to the south by the Black Rock Desert.

The allotment is approximately 42 miles long in a north-south direction and 16 miles wide in an east-west direction.

The typical features of the area are the high elevation north-south trending mountain ranges, the numerous buttes and mesas with rim rock bluffs the steep rocky canyons and gentle rolling terrain, to the broad, flat Black Rock Desert. Elevation varies from 4,000' on the desert floors to 9,000'+ on the higher peaks. The climate is characteristic of the high cold desert with highly variable precipitation patterns and extreme variations in temperatures. Precipitation ranges from 5.25" on the valley floor as measured at Empire, Nevada to an excess of 20" on the higher mountain ranges. Seasonal distribution patterns indicate 75% precipitation occurring during winter and spring principally in the form of snow. Seasonal temperatures range from -0°F to 100°+F. The average growing season is 120-150 days annually from May to September. Vegetation of the area consists of cold desert shrub vegetation which is adapted to limited moisture and wide temperature variations.

2. Historical Grazing Use

The Soldier Meadows Allotment was used for the grazing of cattle, horses and sheep before the adjudication process. The period-of-use was year-long grazing in common for all types of livestock as per customary use. The period-of-use for the allotment was established by the recommendation of the Advisory Board and District Manager as per

customary use of the range which was season-long. The adjudication of the Soldier Meadows grazing unit was April 11, 1966, by Notice of Advisory Board Recommendation and Decision of the District Manager. At the time of adjudication, no reduction was imposed on the base property qualifications.

The Soldier Meadows Allotment was formed out of the Soldier Meadows grazing unit by Notice of Advisory Board recommendation and rangeline agreement dated April 11, 1966.

Prior to 1980 there was no grazing system in the Soldier Meadows Allotment. As a result of appeal No. NV-79-2 a grazing system was developed for the allotment. This grazing system was initiated in 1981 and has been in effect from (1981 to 1988) or until implementation of the grazing system developed in this plan.

The 1981 to 1988 grazing management system was a two-year deferred rest-rotation system under a four year cycle. This grazing system was approved under court order NV-2-79-9, and specified that the system be followed until an allotment management plan is developed and approved. This grazing system was a five pasture described as follows:

Soldier Meadows Allotment (1981-1988)

Pasture	Period of Use
a. Black Rock Pasture	Winter Use (11/16 - 04/15)
b. Soldier Meadows Pasture	Spring Use (04/16 - 06/15)
c. Summit Lake Pasture	Summer Use (06/16 - 11/15)
d. Calico Mountain Pasture	Spring Use (04/16 - 06/15)
e. Warm Springs Pasture	Summer Use (06/15 - 11/15)

The active preference for the Soldier Meadows Allotment has been 16,070 AUMs for at least the past ten (10) years. During the years 1977-1981 licensed livestock (cattle) use varied from 1,250 AUMs to 17,000 AUMs.

For the years 1982-1985 the allotment was again not stocked to initial stocking levels. Licensed livestock (cattle) use varied from 256 AUMs to 13,794 AUMs.

During the two year period, 1986-1987, only domestic sheep were licensed in the allotment. Stocking levels were again below initial Active Preference. Actual use during 1986 was 3,539 AUMs, for 1987 3,094 AUMs.

3. Existing Information

a. Soldier Meadows Allotment (#0128)

Livestock Qualifications

Adjudicated active preference in the Soldier Meadows Allotment is 16,070 AUMs.

Adjudicated Qualifications
Preference

Total	Susp.	Active
16,070	0	16,070

Total Present Grazing Qualifications

Operator	Grazing Record Number	Preference Total	Preference Suspended	Preference Active	Number & Kind of Livestock	Period From	Period To	% Federal Range
R.C. Roberts	272008	16,070	4,017*	12,053	1,500 C	1/10-	5/20	100%
					500	5/21-	10/30	100%

*In the Agreement signed 03/12/89, 4,017 AUMs were placed in suspension as a result of a voluntary reduction by R. C. Roberts. See Section 6.

b. Wildlife Reasonable Numbers

Wildlife Use Area	Seasonal Use Area		Reasonable Numbers	AUMs
Pronghorn				
Black Butte	AS-2		125	160
Warm Springs	AW-2		63	133
High Rock Lake	AW-1		57	136
		Total	245	429
Muledeer				
Bear Buttes	DS-1		100	150
Donnelly	DS-2		12	36
Mahogany	DS-2		75	113
Big Mountain	DS-2		50	75
Black Mtn.	DS-3		10	15
Paiute	DS-2		15	22
Soldier	DW-7		50	75
	DW-8		130	195
Warm Springs	DW-6		35	105
		Total	477	786
Bighorn Sheep				
Black Rock Range	BY-4		50	120
Calico Mtn.	BY-6		60	144
		Total	110	264
		Total	820	1,479

Refer to maps 3, 4 and 5 for wildlife use areas.

c. Wild Horse and Burros

There are three Herd Management Areas (HMAs) in the Soldier Meadows Allotment. They are; Warm Springs Canyon, Black Rock Range-West, and Calico Mountains. The Warm Springs Canyon and Black Rock Range - West (HMAs) are located entirely within the allotment while only a

part of the Calico HMA is located in the allotment. Prior to the June 1989 IBLA Ruling, the appropriate management levels (AMLs) were established in the Sonoma-Gerlach Land Use Plan and by District Managers Decision (MFP III) for these (HMAs.) In accordance with the June 1989 IBLA Ruling, future adjustment for both wild horses and livestock will be made based on monitoring data. The (HMAs), current 1988 numbers, (AMLs) and AUM forage consumption are as follows;

Herd Management Areas	Current Number	AML (Pre-IBLA Decision)	AUM Demand
Warm Springs Canyon	314 Horses	294	3768
	16 Burros	10	192
Black Rock Range-West	333 Horses	424	3996
Calico Mountains (Within Soldier Meadows Allotment)	670 Horses	117	8040
Total	1333	845	15,996

The Management objective for the Soldier Meadows Allotment would include the AML for Warm Springs Canyon, and Black Rock Range-West. A portion of the Calico HMA is located in the allotment and the above numbers only include the Soldier Meadows portion of the Calico Mountains HMA. Refer to Map 2 for Wildhorse Herd Areas.

d. Threatened and Endangered species

As in accordance with the Endangered Species Act and Winnemucca District Memo dated February 29, 1988, the Winnemucca District Sensitive Species List indicates the following species are located in the Soldier Meadows Allotment:

Vertebrates

Species	Federal Status	State Status	Existing Location
Lahontan cutthroat trout (Salmo clarki henshawi)	threatened	----	Mahogany Creek (Blackrock) Summer Camp Creek (Blackrock) Snow Creek
desert dace (eremychtheys acrs)	threatened	threatened	Soldier Meadows Warm Spring System

Plants

Species	Federal Status	State Status	NNNPS Status and Recommendation	Location
Mentzelia mollis	C2	-----	3C (Common)	Humboldt to Copper Canyon area of the Black Rock Range

Potentilla basaltica	-----	-----	T	Humboldt to alkaline meadows near Calico Mtns.

Potential Habitat for Lahontan Cutthroat Trout in the Soldier Meadows allotment includes:

Donnelly Creek
Slumgullion Creek
Soldier Creek
Coleman Creek.

Refer to Map 7 for T&E species locations.
See Appendix 1 for Federal Listing Status definitions.

e. Wilderness Study Areas (WSAs)

There are six WSAs and one Instant Study Area (ISA) located partially in the AMP area. The WSAs are; High Rock Lake NV-020-007, Calico Mountains NV-020-019, Pahute Peak NV-020-621, North Black Rock Range NV-020-622, and East Fork High Rock Lake NV-020-006A/CA-020-014. The ISA is the Lahontan Cutthroat Trout Natural Area Instant Study Area. Refer to Map 18 for the locations of WSAs and Map 16 for the (ISA).

As per the Interim Management Policy of December 12, 1979, updated November 11, 1987, changes in number and kind of livestock or period of use may be permitted, so long as (1) the changes do not cause declining condition or trend of the vegetation or soil, and (2) the changes do not cause unnecessary or undue degradation of the lands. Therefore, there would be no anticipated impacts to the present wilderness values resulting from implementation of this plan.

f. Baseline Data

There is no baseline data available such as soils and ecological status on Soldier Meadows Allotment. When this data has been collected, completed and established it will be incorporated into this plan.

The estimated Ecological Range Condition and Trend as shown in the Sonoma-Gerlach Draft EIS dated 1981, Appendix J Section 1 is as follows:

Range Condition Class

Excellent		Good		Fair		Poor	
Acres	%	Acres	%	Acres	%	Acres	%
49,161	15%	98,321	30	131,096	40%	49,161	15%

Estimated Trend

Upward Acres	Stable Acres	Downward Acres
147,482	0	180,257

g. Issues and Conflicts

1) Potential adverse impacts to Lahontan Cutthroat trout habitat in Mahogany, Summer Camp, Snow Creek, Donnelly, Slumgullion, Soldier, and Coleman Creeks.

2) Condition of streambank riparian habitat in Mahogany, Summer Camp, Snow, Donnelly, Slumgullion, Coleman and Soldier Creeks.

3) Unavailability of Calico Pasture for Domestic sheep use due to potential of Bighorn Sheep.

4) Utilization levels on key forage species for wildlife are being exceeded in the Summit Lake Pasture only.

5) Potential loss of habitat for the federally listed threatened Desert Dace within the 307 Acres ACEC.

6) Water Quality on Donnelly, Slumgullion, Soldiers, Summer Camp and Snow Creeks.

7) Forage Condition for livestock, wild horses and wildlife.

8) Utilization on 1,383 acres of Wetland Riparian Habitat.

4. Public Participation

The livestock agreement dated 03/12/89 of which this plan is based on was prepared in consultation, cooperation and coordination with the affected permittee, R.C. Roberts; Nevada Department of Wildlife; Sierra Club and Natural Resources Defense Council, (NRDC); WHOA; ISPMB; The Wilderness Society; USFWS; Commission for the Preservation of Wild Horses; Nature Conservancy; Nevada Cattlemens Association; Nevada Woolgrowers Assn.; Nevada Humane Society; Save the Mustangs; Animal Protection Institute; American Horse Protection Assn.;' U.S. Wild Horse and Burro Foundation; Winnemucca District Grazing Advisory Board; Nevada Outdoor Recreation Assoc.; and numerous private individuals. An informal consultation with USFWS was initiated through a meeting and it was agreed that formal section 7 consultation was not needed. A letter was sent to the permittee informing him that Nevada Department of Agriculture is available for his assistance regarding development of this AMP.

5. Management Objectives

See Map section for location of habitats and other objective locations.

a. Short Term

1) Utilization of Willow (Salix spp.) and Aspen (Populus tremuloides) in streambank riparian areas shall not exceed 30% on the following streams. (WLA-1.3) Maps 8, 9, 12, 13

Mahogany Creek (outside exclosure)
Mahogany Creek (inside exclosure-10%)
Summer Camp Creek

Snow Creek
Donnelly Creek
Slumgullion Creek
Soldiers Creek
Coleman Creek

2) Utilization of Nevada bluegrass (Poa nevadensis) and Cinquefoil (Potentilla spp.) on 1,383 acres of wetland riparian habitat shall not exceed 50%. (WL-1.10) Maps 8, 9

3) Utilization shall not exceed 50% for mountain mahogany and 40% for aspen in upland sites. (WL-1.9) Maps 12, 13, 14, 15

b. Long Term

1) Improve or maintain riparian habitat along the following streams as follows: (WLA-1.3 & WL-1.9) Maps 8, 9

Stream Name	Acres	From - To
*Mahogany Creek	100	At Excellent
*Summer Camp Creek	30	At Excellent
*Snow Creek	30	At Good
+Donnelly Creek	109	Fair - Good
+Soldiers Creek	37	Fair - Good
+Slumgullion Creek	100	Poor - Good
+Coleman Creek	63	Fair - Good

* These streams have populations of the federally listed threatened Lahontan Cutthroat Trout.

+ Potential habitats to be used for the recovery of the LCT.

2) Improve or maintain the following streams from the percent of optimum indicated to 60% or better. (WLA-1.3)

Stream Name	Present % of Optimum	Miles
Mahogany Creek	67%	6
Summer Camp Creek	62%	2
Snow Creek	56%	3
Donnelly Creek	53%	8
Soldiers Creek	58%	3
Coleman Creek	58%	5
Slumgullion Creek	46%	8

3) Maintain habitat for the federally listed threatened Desert Dace at excellent within the 307 acre ACEC. (WL-1.5a) Map 17

4) Improve to and maintain in good or higher condition, 1,383 acres of wetland riparian habitat. (WL-1.10) Maps 8, 9

5) Manage, maintain and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 786 AUMs for mule deer, 429 AUMs for pronghorn, and 264 AUMs for bighorn sheep by:

a) Improving the following mule deer habitat from good to excellent condition: Bear Buttes DS-1 (4,174 acres); Mahogany DS-2 (24,047 acres); Soldier DW-7 (18,666 acres) and Warm Springs DW-8 (43,633 acres). Maps 3, 4, 5, 6

b) Improving Big Mountain DS-2 (7,077 acres) and Soldier DW-6 (6,995 acres) mule deer habitat from fair to good condition

c) Improving Black Mountain DS-3 (19,462 acres) and Paiute DS-2 (2,255 acres) mule deer habitat from poor to fair condition.

d) Improving Black Butte AS-2 (19,148 acres) and Warm Springs AW-2 (61,452 acres) pronghorn habitat from fair to good condition.

e) Improving High Rock Lake AW-1 (7,665 acres) pronghorn habitat from poor to fair condition.

f) Improving Calico Mts. BY-6 (28,516 acres) California bighorn sheep habitat from 70% to 90% of optimum.

g) Maintain 49,254 acres of Black Rock Range BY-4 potential California bighorn sheep habitat in good condition to support reestablishment.

6) Protect known sage grouse strutting and nesting habitat and improve brooding habitat by: (WL-1.11) Map 6

a) Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.

b) Maintain sagebrush canopy at 30% in sage grouse nesting areas where sagebrush does not exceed three (3) feet in height.

7) Maintain or improve 658 acres of aspen woodland and 1,825 acres of mountain mahogany thicket to late seral status or equivalent. (WL-1.9) Maps 12, 13, 14, 15

8) Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 16,070 AUMs. Map 1

Improve range/ecological condition from:

Poor to fair on 49,161 acres.
Fair to good on 131,096 acres.
Good to excellent on 98,321 acres.

9) Manage, maintain and improve public rangeland conditions to provide an initial level of 10,140 AUMs of forage on a sustained yield basis for 835 wild horses and 10 burros in the following Herd Areas: Map 2

	* AML (Pre-IBLA Decision)	AUMs
Warm Springs Canyon	294/10	3,528/120
Black Rock Range-West	424/0	5,088/0
Calico Mountains	117/0	1,404/0

* AML refers to adult horses and burros (i.e., two years or older).

10) Maintain and improve the free-roaming behavior of wild horses and burros by protecting and enhancing their home ranges.

11) Maintain/improve wild horse/burro habitat by assuring free access to water.

12) Improve or maintain Mahogany Creek to Class A water standards.

13) Improve or maintain the water quality of the following streams to the State criteria set for livestock drinking water, cold water aquatic life, water contact recreation (wading), and wildlife propagation:

Summer Camp Creek
Snow Creek
Donnelly Creek
Slumgullion Creek
Soldiers Creek
Coleman Creek

14) Maintain water quality standards for Desert Dace habitat in the spring where they occur as follows:

temperature	32-38°C/90-100°F
nitrates	90 mg/L
turbidity	50 NTU
pH	6.5-9.0
D.O.	5.0 mg/L

6. Grazing Practices

Grazing management described in this allotment management plan (AMP) will be in accordance with the Soldier Meadows Allotment Agreement dated 03/02/89. This AMP and Agreement specify changes to past grazing management. Active preference will be adjusted by a 25% voluntary reduction from 16,070 AUMs to 12,053 AUMs. This 4,017 AUM reduction has been placed in suspension for a five year period (03/12/89 - 03/11/94) as per agreement signed 03/12/89 by permittee R. C. Roberts. The grazing management system will be a deferred rest rotation system. Stocking level will be 2,150 C during winter/spring use (01/10-05/20) and will be reduced to 500 C for the summer period (05/21 - 10-30). The livestock operation will continue with cattle as the livestock class and will be a cow/calf operation. The grazing practices in this

plan were implemented January 1989. An evaluation will be conducted in five years (1994) to analyze the results of the changes made in management. Any increase in forage which is determined to be permanently available as determined through monitoring studies will be allocated an a proportionate share basis. The 4,017 suspended AUMs are not included in the proportionate increase.

a. Grazing Qualifications

Operator	Grazing Record Number	Preference Total	Preference Suspended	Preference Active	Number & Kind of Livestock	Period From	Period To	% Federal Range
R.C. Roberts	272008	16,070	4,017	12,053	2,150 C	01/10	05/20	100%
					500 C	05/21	10/30	100%

b. Grazing System and Treatment

The Soldier Meadows Allotment grazing management system has been divided into three pastures; winter, spring and summer. The summer pasture incorporates two use areas; Warm Spring Canyon and Summit Lake. The spring pasture incorporates three use areas; Calico Mountain, Soldier Meadows and White Rock Canyon. The Winter Pasture or Black Rock pasture is one use area. Refer to Map 1 for specific location of the pastures and use areas.

Periods-of-Use:

On 01/10 each year turnout 2,150 cattle on the Soldier Meadows Allotment for the period 01/10-05/20. On 05/21 500 head of cattle will remain on the allotment for the period 05/20-10/30. On 11/01 all livestock will be removed from the public lands until 01/10. Grazing use will be made as follows;

1) Year One

a) Winter Use Area: On 01/10 turnout 2,150 cattle in the Black Rock Winter Pasture for the period 01/10-04/10. Use will be made in the Black Rock Desert area to include the lower fans and slopes of the Calico Mountains and the Black Rock Range to the desert floor and north to the lower fans and slopes surrounding the Soldier Meadows Ranch area.

b) Spring Use Area: On 04/10 remove all cattle from the Black Rock Pasture and graze 2,150 cattle in the spring pasture for the period (04/11-05/20). Cattle will graze the Soldier Meadows and White Rock Canyon Use Areas of the spring pasture. Use will be made in the upper fans and slopes away from the winter use area. The Calico Mountain Use Area will be closed to grazing during this year.

c) Summer Use Area: On 05/21 all but 500 cattle will be removed from public lands of the Soldier Meadows Allotment and trailed into the Susanville District. Graze 500 head of cattle in the Warm Springs Use Area for the summer

season-of-use (05/21-10/30). On 11/01 all cattle will be removed from the Soldier Meadows Allotment. The Summit Lake Pasture will be closed to grazing this year.

GRAZING YEAR 1

Pasture	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1	10/1	11/1	12/1
Winter Pasture												
Black Rock Pasture	Graze 01/10-04/10			REST								
Spring Pasture												
Soldier Use Area	REST			Graze 04/11-05/20		REST						
White Rock Use Area												
Summer Pasture												
Warm Springs Use Area	REST					Graze 05/21-10/30					REST	
Spring Pasture												
Calico Use Area	COMPLETE REST											
Summer Pasture												
Summit Lake Use Area	COMPLETE REST											

2) Year Two

a) Winter Use: Graze the winter pasture the same as during year one, Turnout 2,150 cattle on 01/10 in the Black Rock Winter Pasture for the period (01/10-4/10).

b) Spring Use: On 04/10 remove all cattle from the Black Rock Pasture and graze, 2,150 cattle in the spring pasture for the period (04/11-01/20). Cattle will graze the Calico Mountain Use Area. Use will be made on the upper fans and hills of the Calico Mountains away from the valley floors and winter area-of-use. The Soldier Meadows and White Rock Canyon Use Areas will be closed to grazing this year.

c) Summer Use: On 05/21 all but 500 cattle will be removed from the public lands of the Soldier Meadows Allotment and trailed into the Susanville District. Graze 500 cattle in the Summit Lake Use Area for the summer season-of-use (05/21-10/30). On 11/01 all cattle will be removed from the Soldier Meadows Allotment. The Warm Springs Use Area will be closed to grazing this year.

GRAZING YEAR 2

Pasture	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1	10/1	11/1	12/1
Winter Pasture Black Rock Pasture	Graze 01/10-04/10			REST								
Spring Pasture Calico Use Area	REST			Graze 04/11-05/20		REST						
Summer Pasture Summit Lake Use Area	REST						Graze 05/21-10/30				REST	
Spring Pasture Soldier Use Area White Rock Canyon Area	COMPLETE REST											
Summer Pasture Warm Springs Use Area	COMPLETE REST											

These are grazing management practices geared to meet the objectives of this plan.

Benefits:

1) Physiological Requirements

This rest rotation system is based on the physiological requirements and growth stages of the key forage species. It is designed to maintain and improve carrying capacity and increase forage production.

During the winter grazing period, this treatment allows grazing during the winter dormancy period when plants are least susceptible to the impacts of grazing. The winter pasture will receive rest each year during the Critical Growth Period, allowing forage plants to improve vigor, make and store food for growth, maintenance and produce seed.

The spring use area treatment allows grazing to occur at a high intensity for a short duration during the spring growth when forage is nutritious. Grazing in the spring pasture will rotate use areas each year allowing the grazed use area(s) to be rested the following year. The grazed use area(s) of the spring pasture will be utilized during the beginning of the Critical Growth Period, specifically during the leaf and twig growth stages and during the flowering stage. Cattle will be removed during the flowering stage prior to seedripe, allowing rest during the peak of flowering which will still allow forage plants to make and store food and produce seed.

Grazing treatment in the grazed summer-use-area allows grazing during the Critical Growth period. With the low livestock numbers during this period and carefully controlled and distributed cattle, the available forage will meet the carrying capacity and also allow for improved forage condition . With the prescribed stocking levels, the key forage species will produce seed. The grazing of livestock after seedripe: (1) shatters and tramples seed on the soil surface and (2) disturbs the soil surface allowing the seed to be covered. This grazing treatment allows the grazed summer use area complete rest the following year.

2) Wildlife Habitat (streambank riparian, wetland riparian habitat upland browse)

The grazing system and particularly the reduced stocking levels in the summer pasture will benefit browse species such as bitterbrush and aspen seedlings by promoting lower utilization levels. The grazing system will also reduce grazing pressure and utilization on streambank and wetland riparian habitat.

Summer Camp, Snow, Donnelly, Coleman, Slumgullion, and Soldier Creeks will be protected from grazing. This protection will range from gap fencing to corridor fencing. The permittee has agreed to negotiate easements for fencing on private land. The Bureau will also pursue the acquisition of privately owned riparian areas through land exchange. All of these efforts will benefit and protect riparian and wetland areas and reduce or eliminate grazing on these areas.

c. Interim Grazing Practices

The interim grazing practices will reflect the grazing operation and practices of this plan. The initial stocking levels during the interim period will be the active preference of 12,053 AUMs. One of the management objectives of this plan is to provide forage on a sustained yield basis with a stocking level of 16,070 AUMs.

Any increase in forage which is determined to be permanently available as determined through monitoring studies will be allocated to livestock, wild horses and wildlife on a proportionate share basis. Any reductions in forage availability will also be reduced on a proportionate share basis to livestock, wild horses and wildlife. The 4,017 suspended AUMs are not included in the proportionate increase

d. Livestock Distribution/Control

The grazing plan prescribed requires livestock to be grazed in specified pastures between specific dates as designed in the Grazing System Section. Since pastures and use areas are not fenced, the livestock operator is required to keep livestock in the open pastures or use areas, as identified in the grazing permit.

Livestock will be distributed and controlled by horseback and placement of mineral supplements during the grazing period to achieve even distribution and proper utilization levels. Range improvements will continue to be identified for better distribution and control. These are management tools geared toward achieving progress toward meeting the objectives of this plan.

e. Mineral Supplements

Salt, mineral and protein blocks may be placed a minimum of one-quarter mile from water sources in areas of ridges and on flat spots and gentle slopes that are accessible by livestock.

Benefits: The salting plan will achieve better distribution of domestic livestock and wild horses/burros throughout the planning area. It may help to improve the condition of the vegetation in the wet and riparian areas by reducing the amount of concentrated use.

f. Billing Procedure

Payment of fees will be made in accordance with 43 CFR Parts 4130.7. The permittee will be billed prior to the start of the grazing period. All grazing fees are due on the due date specified on the grazing fee bill and prior to grazing use. Failure to pay the grazing bill within 15 days of the due date specified on the bill will result in a late fee assessment of $25 or 10% of the grazing bill, whichever is greater, but not to exceed $250.

Accurate records will be kept of the stocking rates and dates of movement of livestock between pastures, seasonal use areas, and private lands. Actual Use grazing reports are due within 15 days after completing grazing use as stipulated on each grazing billing.

g. Flexibility

Flexibility in turnout, pasture movement and removal dates must be approved in advance. Pasture movement must be completed in accordance with the grazing license dates. Flexibility may be allowed only if this use is in conformance with other resource needs, particularly the needs of important riparian forage and wildlife habitat. The provision for flexibility will not authorize use in excess of the permittee's or lessee's recognized active grazing preference. The amount of use may, however, be reduced voluntarily below the active grazing preference upon application to the Area Manager. Changes in grazing use outside the normal Operation and limits of flexibility must be applied for and authorized in advance of the grazing period. In emergency situations where catastrophes such as severe storms, loss of livestock or destruction of vegetation are unavoidable, the permittee would be allowed to move livestock or provide supplemental feed without prior authorization, however, application must be made as soon as possible to the Area Manager.

h. Unauthorized Use

It is the policy of the Bureau of Land Management to pursue unauthorized use as in accordance with 43 CFR parts 4100.

Livestock grazing will be in accordance with the terms and conditions of the grazing permit. Livestock found on the public lands of the Soldier Meadows Allotment in excess of authorized numbers, in an area or at a time different from that authorized or without a permit, lease or grazing authorization will be prohibited and will be subject to civil and criminal penalties under subpart 4170.

The identification of livestock authorized to graze on the Soldier Meadows Allotment shall be required as per 43 CFR 4130.5. All cattle authorized to graze on public lands in the Soldier Meadows Allotment will be required to be eartagged with tags furnished by BLM. Animals not eartagged will be subject to penalty under subpart 4170. Eartagging of authorized livestock will be required for each animal six (6) months of age or over at the time of entering the public lands, for all weaned animals regardless of age, and for all animals becoming twelve (12) months of age during the authorized period-of-use.

7. Range Improvements

The grazing system and treatments of this plan will be implemented with the existing range improvements. As reflected in the Soldier Meadows Allotment Agreement with permittee R.C. Roberts, dated 03/12/89, the following creeks will be protected by fencing; Summer Camp, Snow, Donnelly, Slumgullion and Soldier Creek. Protection will range from gap fencing to corridor fencing. The BLM will proceed with planning and construction of these creek fences while the permittee has agreed to the assignment of maintenance on these fences. The permittee has also agreed to negotiate easements for fencing on private lands.

Range improvements will continue to be identified and developed for better livestock distribution and control.

A range investment analysis (sageram) program has been completed on the allotment which shows that the benefit cost analysis for the Soldier Meadows Allotment is .2/1.

See Table 1 for Existing Range Improvements. See Map 20 for locations.

a. Project Maintenance

The permittee is required to perform normal maintenance on the range improvements to which he/she has been assigned maintenance responsibility as part of the "Assignment of Range Improvements". Normal maintenance of projects shall be as follows:

Fences

Normal maintenance of fences is defined as: The labor and materials needed to keep an existing fence in a condition adequate to prevent livestock movement through, under, or over the fence. This includes but is not limited to:

1) Ensuring that all strands of fence wire between fence posts are tightly stretched and secured to the fence posts by metal clips or staples as appropriate for the type of post.

2) Ensuring that all fence posts are securely in place and that bent, broken, or missing posts and stays are replaced as needed.

3) Ensuring that all wooden stretch panels, corner braces, and gate posts are securely in place and in sound condition. Rotten or broken woodposts must be replaced as needed.

4) Ensuring that all strands of fence wire and fence spacing wires or wood poles which form the gates are properly stretched and secured. Each gate should have a suitable retaining wire or latch for secure closure of the gate.

5) Ensuring that the appropriate Bureau standards are maintained.

Cattleguards

Normal maintenance and upkeep of cattleguards will include the following:

1) Cleaning the pit under the cattleguard to the extent required to prevent livestock movement over it and to ensure adequate drainage.

2) Any rails that are cut or damaged will be returned to original Bureau standards.

3) Any wings that are cut or damaged will be returned to original Bureau standards. This also includes keeping wires taut that are stretched between the wings and posts.

Reservoirs

Normal maintenance on reservoirs will conform to the following conditions and specifications:

1) Spillways will not be built on fill material and must be at least five feet below the lowest point of top of the dam. They will also be kept clean and free of debris.

2) Height of the dam must be maintained as constructed and the top width should be a minimum of 10 feet.

3) Excavated materials which are highly pervious, such as sand, gravel, and silt, shall not be placed in any part of the dam.

4) Slopes of the reservoir will be maintained at no steeper than 3:1 and no greater than 4.1 on the upstream side.

5) Strip and remove all vegetation from fill areas of the reservoir.

6) Short lifts (6-8 inches) will be made to provide for better soil compaction. Structure will be over filled 10%.

7) The Bureau of Land Management must be notified a minimum of two weeks in advance to obtain authorization to perform maintenance and to determine if a Bureau representative should be present when maintenance is performed.

Wells and Windmills

1) Maintaining adequate oil level in mill motor.

2) Draining and cleaning stock trough yearly or as needed.

3) Drain System:

   a) Repair all leaks, breaks, or clogs in drain pipe.

4) Ensure proper attachment of bird ladders in stock trough.

5) Repair leaks in stock trough.

6) Repair or replace trough braces as needed.

7) Replacing dirt, or gravel, or rock fill around trough, when necessary.

8) Replacing those items above ground which require replacement due to normal use.

9) Replacement of parts and/or repairing of the well and associated developments. This may include below ground maintenance.

10) All replacement parts will be of an equivalent nature to the original parts, as determined by Bureau personnel and original specifications.

11) Allow people and other animals (wildlife, wild horses and burros) to use the water along with authorized livestock.

Springs and Pipelines

Normal maintenance and upkeep is defined as: The labor and materials required annually to keep an existing spring (and

pipeline) in a condition adequate to satisfy the proper distribution and maintenance of livestock. This includes but is not limited to the following:

1) Cleaning the spring head box, inlet and overflow pipes, and trough(s) (overflow pond, if present) of debris and moss.

2) Repair of broken or split pipe that can be accomplished with hand tools.

3) Ensure proper attachment of bird ladder in stock trough.

4) Repair leaks in stock trough.

5) Repair or replace trough braces as needed.

6) Replacing dirt, gravel or rock fill around trough(s), when necessary.

7) Replacing those items above ground which will require replacement due to normal use.

8) Maintaining the improvement according to original Bureau standards.

9) Repair requiring motorized equipment will require prior Bureau authorization.

10) Allow people and other animals (wildlife, wild horses and burros) to use the water along with authorized livestock.

8. Rangeland Monitoring Studies

a. Types of Studies

All studies in this plan will be conducted in accordance with the "Nevada Rangeland Monitoring Handbook" (September 1984), the "Winnemucca District Coordinated Monitoring Plan" (April 1985), "Winnemucca District Habitat Monitoring Plan", BLM Technical Reference 4400 Series Rangeland Monitoring Manuals and other appropriate Bureau Manuals. Aquatic study methods will be performed to Bureau Manual Supplement (6671-NSO 6-38) standards. Special bighorn habitat monitoring will be in accordance with the Sonoma-Gerlach Resource Area Monitoring Plan.

Monitoring study methods which will be conducted as a minimum in the Soldier Meadows Allotment include; use pattern mapping/ livestock-wild horse distribution, utilization, riparian ecological status, trend frequency and photo plots. Existing exclosures will be maintained for study purposes.

b. Monitoring Objectives and Study Methods

1) Short Term

a) Utilization of Willow (Salix spp.) and Aspen (Populus tremuloides) in streambank riparian areas shall not exceed 30% on the following streams. (WLA-1.3)

Mahogany Creek (outside exclosure)
Mahogany Creek (inside exclosure-10%)
Summer Camp Creek
Snow Creek
Donnelly Creek
Slumgullion Creek
Soldiers Creek
Coleman Creek

Utilization by Key Forage Plant Method will measure achievement of this objective.

b) Utilization of Nevada bluegrass (Poa nevadensis) and Cinquefoil (Potentilla spp.) on 1,383 acres of wetland riparian habitat shall not exceed 50%. (WL-1.10)

Utilization by Key Forage Plant Method will measure achievement of this objective.

c) Utilization shall not exceed 50% for mountain mahogany and 40% for aspen in upland sites. (WL-1.9)

Utilization by Key Forage Plant Method will measure achievement of this objective.

2) Long Term

a) Improve or maintain riparian habitat along the following streams as follows: (WLA-1.3 & WL-1.9)

Stream Name	Acres	From - To
*Mahogany Creek	100	At Excellent
*Summer Camp Creek	30	At Excellent
*Snow Creek	30	At Good
+Donnelly Creek	109	Fair - Good
+Soldiers Creek	37	Fair - Good
+Slumgullion Creek	100	Poor - Good
+Coleman Creek	63	Fair - Good

* These streams have populations of the federally listed threatened Lahontan Cutthroat Trout.
+ Potential Habitats for recovery.

Stream Habitat Survey will measure achievement of this objective. It has been established on all of these streams.

b) Improve or maintain the following streams from the percent of optimum indicated to 60% or better. (WLA-1.3)

Stream Name	Present % of Optimum	Miles
Mahogany Creek	67%	6
Summer Camp Creek	62%	2
Snow Creek	56%	3
Donnelly Creek	53%	8
Soldiers Creek	58%	3
Slumgullion Creek	46%	8
Coleman Creek	58%	5

Stream Habitat Survey will measure achievement of this objective which has been established on all of these streams. Low level color infrared aerial photography has been done on Mahogany and Summer Camp which will also aid in the objective.

c) Maintain habitat for the federally listed threatened Desert Dace at excellent within the 307 acre ACEC. (WL-1.5a)

Water Quality data, Water Temperature and Habitat Data will measure achievement of this objective.

d) Improve to and maintain in good or higher condition, 1,383 acres of wetland riparian habitat. (WL-1.10)

Study methods which will measure achievement of this objective include: Ecological Status Condition and Geomorphological Classification Extensive Browse Method, a close-up photograph, and a panorama photograph.

e) Manage, maintain and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 786 AUMs for mule deer, 429 AUMs for pronghorn, and 264 AUMs for bighorn sheep by:

(1) Improving the following mule deer habitat from good to excellent condition: Bear Buttes DS-1 (4,174 acres); Mahogany DS-2 (24,047 acres); Soldier DW-7 (18,666 acres) and Warm Springs DW-8 (43,633 acres).

(2) Improving Big Mountain DS-2 (7,077 acres) and Soldier DW-6 (6,995 acres) mule deer habitat from fair to good condition

(3) Improving Black Mountain DS-3 (19,462 acres) and Paiute DS-2 (2,255 acres) mule deer habitat from poor to fair condition.

(4) Improving Black Butte AS-2 (19,148 acres) and Warm Springs AW-2 (61,452 acres) pronghorn habitat from fair to good condition.

(5) Improving High Rock Lake AW-1 (7,665 acres) pronghorn habitat from poor to fair condition.

(6) Improving Calico Mts. BY-6 (28,516 acres) California bighorn sheep habitat from 70% to 90% of optimum.

(7) Maintain 49,254 acres of Black Rock Range BY-4 potential California bighorn sheep habitat in good condition to support reestablishment.

Ecological Status Condition, Trend Frequency, Browse, Use Pattern Mapping and Utilization Studies will measure achievement of this objective.

6630 procedures for mule deer, pronghorn and bighorn sheep habitat evaluation procedures.

f) Protect known sage grouse strutting and nesting habitat and improve brooding habitat by: (WL-1.11)

(1) Following NDOW's guidelines for Vegetal Control Programs in Sage Grouse Habitat in Nevada.

(2) Maintain sagebrush canopy at 30% in sage grouse nesting areas where sagebrush does not exceed three (3) feet in height.

Study methods which will measure achievement of this objective include; Ecological Status Condition, Trend Frequency, Utilization and Cover and Density methods. As a minimum the cover and utilization methods will be conducted.

g) Maintain or improve 658 acres of aspen woodland and 1,825 acres of mountain mahogany thicket to late seral status or equivalent. (WL-1.9)

Ecological Status Condition, Frequency Trend, Cover Density and Utilization studies may be applied to measure achievement of this objective.

h) Manage, maintain and improve rangeland conditions to provide forage on a sustained yield basis with an initial stocking level of 16,070 AUMs.

Improve range/ecological 1/ condition from:

Poor to fair on 49,161 acres.
Fair to good on 131,096 acres.
Good to excellent on 98,321 acres.

Ecological Status Condition, Frequency Trend, Cover, Density and Utilization studies, Use Pattern Mapping, and browse studies will measure achievement of this objective.

i) Manage, maintain and improve public rangeland conditions to provide an initial level of 10,140 AUMs of forage on a sustained yield basis for 835 wild horses and 10 burros in the following Herd Areas:

	AML (Pre-IBLA Decision)	AUMs
Warm Springs Canyon	294/10	3528/120
Black Rock Range-West	424/0	5088/0
Calico Mountains	117/0	1404/0

Ecological Status Condition, Frequency Trend, Cover, Density and Utilization studies, Use Pattern Mapping, and browse studies will measure achievement of this objective.

j) Improve or maintain Mahogany Creek to Class A water standards.

Stream Survey Water Quality Data will measure achievement of this objective. Temp./Flows are done annually.

k) Improve or maintain the water quality of the following streams to the State criteria set for livestock drinking water, cold water aquatic life, water contact recreation (wading), and wildlife propagation:

Summer Camp Creek
Snow Creek
Donnelly Creek
Slumgullion Creek
Soldiers Creek
Coleman Creek

Water Quality Data correlated to State criteria will measure achievement of this objective.

l) Maintain water quality standards for Desert Dace habitat in the spring where they occur as follows:

	26 70-100°F
temperature	32-38°C/90-100°F
nitrates	< 90 mg/L
turbidity	> 50 NTU
pH	6.5-9.0
D.O.	< 5.0 mg/L

These water quality standards will measure achievement of this objective.

c. Schedule For Conducting Studies

1) Use Pattern Mapping

a) Livestock

Use Pattern Mapping (UPM) will be conducted annually after each use area or pasture move and ideally between 15 days prior to grazing completion or after grazing completion. UPM should also be conducted at least once annually on rested pastures. Collect UPM anytime during the rested pasture period but preferably after full leaf and twig growth. Conduct (UPM) for livestock in accordance with the grazing system of this plan as follows:

Grazed Pastures	Study Period
Winter Use Area	03/26-04/25
Spring Use Area	05/06-06/05
Summer Use Area	10/15-11/15

Rested Pastures	Study Period
Spring Use Area	04/11-05/20
Summer Use Area	05/21-10/30

b) Wild Horses

UPM will be conducted annually by livestock pasture prior to cattle turnout and in rested pastures. Collect UPM within 15 days prior to livestock turnout. Collect UPM any time during the rested pasture period but preferably after full leaf or twig growth of primary species.

Collect data within 15 days prior to turnout. Conduct UPM for wild horse data in accordance with the grazing system of this plan as follows:

Grazed Pastures	Study Period
Winter Use Area	12/27-01/10
Spring Use Area	03/27-04/10
Summer Use Area	05/06-05/20

Rested Pastures	Study Period
Spring Use Area	04/11-05/20
Summer Use Area	05/21-10/30

c) Wildlife

UPM will be conducted annually in conjunction with both the livestock and wild horse disciplines and grazing system of this plan.

d) The extent of UPM conducted over the allotment may be reduced as mapping begins to show areas of the same amount of use or where areas of no use are consistent year after year.

2) Utilization

Utilization data will be collected during the establishment of key areas and during UPM as per the above UPM schedule.

3) Trend Frequency

Trend Frequency will be collected during establishment of each key area. Trend Frequency will not be gathered again unless ecological condition changes.

4) Ecological Condition

Ecological Condition will be determined during establishment of each key area. When soils and Ecological Site Inventory (ESI) data become available it will be incorporated into this plan. ESI is not scheduled to be completed by 1997.

5) Stream Habitat Survey

Stream Habitat Survey will monitor riparian and aquatic habitat changes. Studies will be conducted annually on Mahogany and Summer Camp Creeks and odd years on Snow, Donnelly, Soldiers, Coleman and Slumgullion creeks. Low level color IR. See Table 5 for schedules and locations.

6) Desert Dace Habitat

Water Quality, Water Temperature and Habitat studies will be conducted annually.

7) Wetland Riparian Habitat

Ecological Status Condition and Geomorphological Classification will be determined through Ecological Site Inventory, and during Key area establishment. Ecological condition initiation is not known. Other riparian studies will be conducted in conjunction with livestock, wild horse and wildlife studies.

8) Sage Grouse Strutting and Nesting Habitat

Sage Grouse habitat studies will be conducted annually in conjunction with use pattern mapping.

9) Mahogany Creek Water Standards

Temperature and Flow data are collected annually.

10) Water Quality

A cycle for reading this objective has not been established.

11) Climatic Data

Climatic data will be obtained annually. Weather stations include; Leonard Creek, Dufurrena Ponds, Denio Station, Dry Canyon Remote Automated Weather Station (RAWS) and National Oceanic and Atmospheric Administration (NOAA).

Leonard Creek station is located approximately 15 miles northeast of Soldier Meadows Ranch. Dufurrena station is located approximately 30 miles west of Denio of Sheldon Antelope range. Denio station is located at Denio, Nevada. The Dry Canyon (RAWS) meteorlogical station is approximately 9 miles north of Soldier Meadows Ranch on the west side of the Black Rock Range at an elevation of 4,900'.

12) Cover, Density and Apparent Trend

Conducting these studies are optional. They are not a required minimum standard.

d. Priority for Conducting Studies

When circumstances prevent completion of planned monitoring work as a minimum, the following study methods will be conducted in the priority shown. The studies will be completed to the standards indicated in this plan.

1) Use Pattern Mapping
2) Riparian Studies
3) Utilization by "Key Forage Plant Method"
4) Collection of Actual Use and Climate Data
5) Trend Frequency
6) Ecological Status

e. Establishing Studies

Key Areas will be established through the stratification process and interdisciplinary approach. Stratification will begin in 1989. See Table VIII for monitoring implementation schedule. Key Areas will be established over the next (5) five year period. The minimum monitoring study methods and standards will be conducted at each key area

f. Existing Studies

Monitoring data on Soldier Meadows Allotment has been collected dating back to 1976 on stream habitat and 1977 on upland habitat.

1) Range

The techniques or types of range data collected includes; Trend Frequency, Photo Plots, Apparent Trend, Cover Transect, Utilization and Use Pattern Mapping. The previously established study sites include three exclosure sites, one each in Warm Springs Pasture, Black Rock Pasture and Summit Lake Pasture and two study sites one each in Warm Springs and Black Rock Pastures. Trend Frequency Photo Plots, Apparent Trend and Cover Transect data have been collected at all study sites. Utilization data only has been collected at 8 study sites, four in Mahogany Creek, two in Black Rock Pasture and two in Warm Springs Pasture. Use Pattern Mapping has been collected during 1986, 1987 and 1988.

Monitoring data collected during and prior to 1988 was analyzed for the 1988 Allotment Evaluation.

See Map 19 for location of existing studies and exclosures.

2) Wildlife

a) Browse Studies

Frequency Trend studies have been established both inside and outside of the Mahogany Creek Exclosure study.

b) Wetland Riparian

Frequency trend studies have also been established both inside and outside of the Mahogany Creek Exclosure Study.

c) Stream Habitat Survey

Stream Survey Studies have been established on Mahogany Creek, Summer Camp Creek, Snow Creek, Donnelly Creek, Slum Types of Studies

Refer to Table 5 for location of these Wildlife studies and Reading Cycles.

g. Allotment Evaluation

The next evaluation will be conducted in five years (1994) from the Agreement dated 03/12/89. Analysis will be based on the attainment of management objectives. The specific study methods identified to measure achievement of each objective will be the data used for analysis.

Evaluation procedure will be in accordance with State and District Office Procedure, 43 CFR 4100, the Winnemucca RPS, the BLM Manual and appropriate Technical References. See Table VI for an example of Possible Management Actions through Monitoring Evaluations.

h. Data Records and Storage

Rangeland monitoring studies will be filed in the appropriate Allotment Monitoring File, in the Wild Horse Herd Management Area files and in the Wildlife Use Area files.

i. Coordination of Work Force

The Sonoma-Gerlach range conservationist in cooperation with the Wild Horse and Burro Specialist and the Wildlife Biologist will be responsible for collecting data, evaluating studies, records storage and maintenance, and providing quality control, training, administration and coordination of the monitoring program.

Time and manpower shall be coordinated to meet resource area priorities. Emphasis on monitoring in the Soldier Meadows Allotment is reflected in the Winnemucca District Coordinated Monitoring plan.

See Table VII for project expenditures associated with implementation of this plan.

Table I
EXISTING RANGE IMPROVEMENTS - SOLDIER MEADOWS ALLOTMENT

Project Name	Number	Agreement/permit	Location	Maintenance Responsibility
Box Spring	0008	P	40 N., 24 E., 18 NW	R. C. Roberts
Idaho Canyon Spring	0014	P	42 N., 26 E., 12 NWNW	R. C. Roberts
Five Mile Spring	0022	A	43 N., 25 E., 35 SE	R. C. Roberts
Black Buttes Reservoir #1	0023	A	41 N., 24 E., 32 NESE	R. C. Roberts
Donnelly Mountain Drift Fence	0025	A	T37, 38, 39 N., R25 E., various sections, see file	R. C. Roberts
Clear Spring	0029	A	41 N., 24 E., 15 NE	R. C. Roberts
Westside Corral	0175	A	42 N., 25 E., 26 NWNE	R. C. Roberts
Weirman Drift Fence	0337	A	40 N., 25 E., 29 SE	R. C. Roberts
Parman Res. #1	0350	A	42 N., 25 E., 10 NESW	R. C. Roberts
Dry Wash Reservoir	0450	A	42 N., 25 E., 6 NE	R. C. Roberts
Fick Reservoir	0452	A	42 N., 24 E., 1 SE	R. C. Roberts
Upper Craine Creek Spring Number 1	0520	A	42 N., 27 E., 30 SE	R. C. Roberts
Upper Grain Creek Spring Number 3	0524	A	42 N., 27 E., 31 NENE	R. C. Roberts
Summit Lake Well	0677	A	42 N., 25 E., 10 SW	R. C. Roberts
Trough Mtn. Spring	0723	A	42 N., 25 E., 29 SENW	R. C. Roberts
Lota Lava Fence	0726	A	41 & 42 N., 24 E., various sections See File	R. C. Roberts
Dry Lake Spring	0736	A	42 N., 26 E., 24 SE	R. C. Roberts
Calico Allotment	0770	A	36 & 37 N., 24 & 25 E., various sections see file	R. C. Roberts

Table I
EXISTING RANGE IMPROVEMENTS

Project Name	Number	Agreement/Permit	Location	Maintenance Responsibility
Idaho Canyon Pipeline	0893	A	42 N., 26 E., 1 NE	R. C. Roberts
C-N-2 Fence	0978	A	36 N., 21 & 22 E., various sections, see file	R. C. Roberts
Harry #1 Spring	0984	A	38 N., 24 E., 28 NWNW	R. C. Roberts
Buck Spring #2	0990	A	37 N., 24 E., 23 SESE	R. C. Roberts
Rock Spring	1089	A	42 N., 24 E., 14 SENW	R. C. Roberts
Stanley Camp Fence	4087	A	42 N., 26 E., various sections, see file	R. C. Roberts
Drift Fence #70	4088	A	39 N., 25 E., Sections 7, 18, and 19	R. C. Roberts
Clear Spr. Corral	4089	A	41 N., 24 E., 10 NWSE	R. C. Roberts
Toll House Line Camp	4090	A	41 N., 25 E., 15 NENE	R. C. Roberts
So. Sheep Corral	4091	A	36 N., 25 E., 4 SW	R. C. Roberts
Summit Spring and Pipeline	4092	A	42 N., 26 E., 12; 27 E., 7(to be jointly maintained with Knott Creek Ranch	R. C. Roberts
Idaho Canyon Spring	4093	A	42 N., 26 E., 14 NWSE	R. C. Roberts
Hot Creek Res.	4111	P	40 N., 24 E., 17 NW	R. C. Roberts
Idaho Pit Res.	4112	P	43 N., 26 E., 34 NWSE	R. C. Roberts
Denio Road Res.	4113	P	42N., 26 E., 4 SESE	R. C. Roberts
Jacob Spr. Res.	4114	P	42 N., 24 E., 13 SESE	R. C. Roberts
West Side Spring	4128	A	42 N., 25 E., 26 NENW	R. C. Roberts
Warm Springs West Reservoir	4140	P	40 N., 24 E., 13 SENE	R. C. Roberts

TABLE I
EXISTING RANGE IMPROVEMENTS

Project Name	Number	Agreement/Permit	Location	Maintenance Responsibility
Stans Reservoir	4142	P	40 N., 24 E., 23 NENE	R. C. Roberts
Warm Springs Canyon Reservoir #1	4299	A	41 N., 24 E., 13 SWNW	R. C. Roberts
Summit Twin Springs	4725	A	41 N., 26 E., 14 NWNE	R. C. Roberts
Mahogany Basin Cattleguard	4846	A	42 N., 26 E., 26 SWNW	R. C. Roberts
Wood Canyon Cattleguard	4847	A	42 N., 26 E., 23 SWSW	R. C. Roberts
Jacobs Spring	0074	A	42 N., 24 1/2 E., 1 SWSW	R. C. Roberts
Soldier Paiute Drift Fence	0448	A	41 & 42 N., R. 26 & 27 E., various sections, see file	R. C. Roberts
Summit Lake Division Fence	0772	A	42 N., 27 & 28, various sections, see file	R. C. Roberts

TABLE II

Soldier Meadows Allotment Plant List

Plant Code	Scientific Name	Common Name(s)
Grasses		
AGSM	Agropyron smithii	western wheatgrass
AGSP	Agropyron spicatum	bluebunch wheatgrass
AGDA	Agropyron dasystachyum	thickspike wheatgrass
FEID	Festuca idahoensis	Idaho fescue
ORHY	Oryzopsis hymenoides	Indian ricegrass, sandgrass
POA++	Poa spp.	blue grass (including more than one species of closely related blue grasses)
STC03	Stipa columbiana	Columbia needlegrass
STTH2	Stipa thurburiana	Thurbers Needlegrass
STCO	Stipa Comata	needle and thread
SIHY	Sitanion hystrix	bottlebrush squirreltail
ELCI	Elymus cinereus	basin wildrye
BRMA4	Bromus marginatus	mountain brome
BRTE	Bromus tectorum	cheatgrass
SPAI	Sporobolus airoides	alkali sacaton
SPCR	Sporobolus cryptandrus	sand dropseed
MUHLE	Muhlenbergia	muhly
HOBR2	Hordeum brachyantherum	meadow barley

TABLE II continued

FORBS		
CREPI	Crepis spp.	hawksbeard
AGOSE	Agoseria spp.	mountain dandelion
HAVE	Hackelia veluntina	velvety stickseed
LUPIN	Lupinus spp.	lupine
ERIOG	Eriogonum spp.	buckwheat
TAOF	Taraxacum officinale	common dandelion
BAHO	Balsamorhiza hookeri	Hooker balsamroot
BASA3	Balsamorhiza sagittata	arrowleaf balsamroot
CASTI2	Castilleja spp.	Indian paintbrush
ALLIU	Allium	onion
CAREX	Carex	sedge
SUAED	Suaeda	seepweed
IVA++	Iva	sumpweed
LOMAT	Lomatium	biscuitroot
IRMI	Iris missouriensis	wild iris
AMSIN	Amsinkia	fiddleneck
ASTRA	Astragalus	mildvetch/locoweed
LYGOD	Lygodesmia	skeleton weed
PHLOX	Phlox	phlox
JUNCU	Juncus	rush
SHRUBS		
PUTR2	Purshia tridentata	antelope bitterbrush
SYMPH	Symphoricarpos spp.	snowberry
CELE3	Cercocarpus ledifolius	curlleaf mountain mahogany

TABLE II continued

CELA	Ceratoides lanata	winterfat
AMALA	Amalanchier alnifolia	serviceberry
RIBES	Ribes spp.	Current, gooseberry
GRSP	Grayia spinosa	spiny hopsage
ATCA	Atriplex canescens	fourwing saltbush
ARAR8	Artemisia Arbuscula	low sagebrush
ARTRW	Artemisia Wyomingensis	wyoming sagebrush
ATCO	Atriplex confertifolia	shadscale
ARSP5	Artemisia spinescens	budsage
ARVA2	Artemisia vaseyana	Mountain big sage brush
ARTR2	Artemisia tridentata tridentata	Basin Big Sagebrush
CHRVS9	Chrysothamus spp.	Rabbitbrush
DALEA	Dalea spp.	Dalea
TETRA	Tetradymia spp.	Horsebrush
SALIX	Salix spp.	Willow
SAVE4	Sarcobatus vermiculatus	Black greasewood
SAVEB	Sarcobatus baileyi	Bailey greasewood
EPNE	Ephedra nevadensis	Mormon tea
ROWO	Rosa woodsii	Woods Rose
SALIX	Salix	willow
TREES		
POTRT	Populus tremuloides	Quaking Aspen

TABLE III
KEY VEGETATION FACTORS
SOLDIER MEADOWS ALLOTMENT

Potential Key Management Species a/	Critical Growth Period b/	Allowable Utilization Levels c/ (percent)
Grasses		
Nevada bluegrass (Poa nevadensis)	5/15-6/15	50
basin wildrye (Elymus cinereus)	5/1-7/30	50
bluebunch wheatgrass (Agropyron spicatum)	5/1-7/15	50
Thurber needlegrass (Stipa turburiana)	5/1-7/15	40
needle-and-thread (Stipa comata)	5/1-7/15	50
bottlebrush squirreltail (Sitanion hystrix)	5/1-6/30	40
Idaho fescue (Festuca idahoensis)	5/15-7/31	40
Indian ricegrass (Oryzopsis hymenoides)	4/15-7/15	50
Forbs		
tapertip hawksbeard (Crepis acuminata)	4/15-6/30	50
globemallow (Sphaeralcea spp.)	4/15-6/30	15
arrowleaf balsomroot (Balsamorhiza sagittata)	5/15-6/30	30
Hooker balsamroot (Balsamorhiza hookeri)	5/15-6/30	5
Shrubs		
winterfat (Ceratoides lanata)	3/1-9/30	50
bitterbrush (Purshia tridentata)	5/1-7/15	50
Saskatoon Service (Amalanchier alnifolia)	5/1-7/15	40
quaking aspen (Populus tremuloides)	N/A	40
curlleaf mountain mahogany (Cercocarpus ledifolius)	5/1-9/15	50
snowberry (Symphoricarpos spp.)	5/1-8/15	40
bud sagebrush (Artemisia spinescens)	3/1-5/30	30
spiny hopsage (Grayia spinosa)	3/15-5/30	20
willow (Salix spp.)	N/A	30

a/ these are the current key management species in the Sonoma-Gerlach Resource Area as printed in the Sonoma-Gerlach Environmental Impact Statement (Draft). (pg.1-7). The plant species are also found in the Soldier Meadows Allotment.

b/ Critical growth periods are based on 1976-1979 phenological studies for Nevada, Ecology 30(3):298-305; Agronomy Journal Vol. 56, No. 1: 80-82; Farm and Home Science, March 1964, page 6; and Journal of Range Management 24(6):414-418 and 418-425.

c/ Taken from Winnemucca District Proper Use Factor Tables (available in the Winnemucca District Office).

Source: Winnemucca District Office Allotment Files and District personnel.

TABLE IV

STUDY SITE LOCATIONS
Soldier Meadows Allotment

Mahogany Creek Exclosure
T. 42 N., R. 26 E., Sec. 23,24,35,26,35,36
T. 42 N., R. 25 E., Sec. 31, 31
T. 41 N., R. 25 E., Sec. 6
Study Site Location: T. 42 N., R. 25 E., Sec. 30 SW 1/4

Black Rock Pasture Study Exclosure #1

T. 39 N., R. 25 E., Sec. 16

Warm Springs Pasture Study Exclosure #2

T. 41 N., R. 25 E., Sec. 21

Black Rock Pasture Study Site

T. 38 N., T. 25 E., Sec. 12

Warm Springs Pasture Study Site

T. 41 N., R. 25 E., Sec. 20

TABLE V

Soldier Meadows Allotment

Wildlife Studies

Study Name	Location	Date Established	Reading Cycle	Time Read	Type of Study Established	Purpose
Mahogany Creek Exclosure Study						
Study						
#1 Mountain Mahogany (outside exclosure)	T.42N., R.27E., Sec. 31	1977	Every 3rd year	Sept	Frequency	To monitor the effects of grazing on "mountain mahogany" and "dry meadow" habitat types.
#2 Mountain Mahogany (inside exclosure)	T.42N., R.27E., Sec. 30			Sept		
#3 Dry Meadow (inside exclosure)	T.42N., R.26E., Sec. 25			Sept		
#4 Dry Meadow (outside exclosure)	T.42N., R.26E., Sec. 24			Sept		
STREAM HABITAT SURVEYS						
Mahogany Creek	T.42N., R.26E., Sec. 25, 26, 36	1976	annually	Aug–Sept	6671 BLM Stream Survey	To monitor riparian and aquatic habitat changes
Summer Camp	T.42N., R.26E., Sec. 2, 26, 34	1976	annually	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes
Snow Creek	T.41N., R.26E., Sec. 3, 4	1976	odd years	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes
Donnelly Creek	T.37N., R.24E., Sec. 11, 12 T.37N., R.25E., Sec. 7 8	1976	odd years	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes
Slum Gullion Creek	T.40N., R.25E., Sec. 5 T.41N., R.26E., Sec. 35 36	1976	odd years	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes Resurvey stream habitat FY89
Soldiers Creek	T.41N., R.25N., Sec. 33	1976	odd years	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes Resurvey stream habitat FY89
Coleman Creek	T.41N., R.25N., Sec. 33	1976	odd years	Aug–Sept	6771 BLM Stream Survey	To monitor riparian and aquatic habitat changes Resurvey stream habitat FY89

Table VI Possible Management Actions through Monitoring Evaluation

Evaluation Period	Livestock Distribution 1/	Climate 2/	Utilization Objectives 3/	Frequency Objectives	Ecological Status Objectives	Management Actions 4/
Initial	Good	Favorable	<AUL	N/A	N/A	May indicate understocking. Adjust livestock numbers or periods-of-use.
	Poor	Favorable	><AUL	N/A	N/A	Indicates poor distribution. Change distribution patterns through range improvements, salting, etc.
	Good	Unfavorable	>AUL	N/A	N/A	Indicates unfavorable climatic conditions. If conditions exist for more than 2 years, adjust livestock numbers or periods-of-use until climatic conditions, range condition, and utilization are favorable.
	Good	Favorable	>AUL	N/A	N/A	May indicate overstocking. Adjust livestock numbers or periods-of-use.
Long-term	Good	Favorable	<AUL	Met	Met	Indicates understocking. Adjust livestock numbers or periods-of-use.
	Poor	Favorable	><AUL	Met	Met	Indicates poor distribution. Change distribution patterns through range improvements, salting, etc.
	Good	Unfavorable	>AUL	Not Met	Not Met	Indicates unfavorable climatic conditions. If conditions exist for more than two years, adjust livestock numbers of periods-of-use until monitoring indicates conditions are more favorable.
	Good	Favorable	>AUL	Not Met	Not Met	May indicate overstocking over the long-term. Adjust livestock numbers or periods-of-use.
	Good	Favorable	><AUL	Not Met	Not Met	Trend and condition objectives not being met, for unknown reasons. Reevaluate monitoring procedures and/or intensify monitoring.

1/ Distribution is identified as "good" (livestock well distributed throughout pasture) and as "poor" (livestock concentrated near riparian, watering sites, on flats, etc.).

2/ Climate is identified as "favorable" or "unfavorable." Favorable and unfavorable conditions can be derived from deviations in normal temperature and precipitation patterns.

3/ >AUL - less than the allowable use levels on any key species as shown in the monitoring plan.
<AUL - greater than the allowable use levels on any key species as shown in the monitoring plan.
><AUL - equal to, greater than or less than the allowable use levels on any key species as shown in the monitoring plan.

4/ This column shows the conclusions that can be derived from the combination of monitoring results from the other columns, as well as what management actions could be used to help meet monitoring objectives.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WINNEMUCCA DISTRICT

MONITORING WORK FORCE

EXPENDITURES

TABLE VII (Actual and Projected)

FISCAL YEAR _____

CALENDAR YEAR _____

NAME Rangeland Monitoring

ALLOTMENT Soldier Meadows

WILDLIFE USE AREA
NAME & NO. _____

DATE MO/DAY	Initial Estab.		Year 2	Year 3	Year 4	Year 5						TOTAL HOURS
PRELIMINARY WORK	30											
TRAVEL	60		50	50	50	50						
INVENTORY	--											
KEY AREA SELECTION	80											
ECOLOGICAL STATUS DETERMINATION	30											
UTILIZATION	12		12	12	12	12						
USE PATTERN MAPPING	120		120	120	120	120						
ACTUAL USE	1		1	1	1	1						
TREND	45		45	45		45						
CLIMATIC	1		1	1								
ANALYSIS	80				80	40						
DOCUMENTATION	1		1	1	1	1						
PHOTO FILING	3											
MONITORING PLAN DRAFT	80											
MONITORING PLAN FINAL	20											
MONITORING PLAN REV.	20					20						
SPECIAL STUDIES												
TOTAL HOURS	483		230	230	264	289						

RECORD HOURS/DAY INDICATING (O) FOR OFFICE OR (F) FOR FIELD

TOTAL FOR PAGE

NV-020 6630-8 (NOVEMBER 1984)

Table VIII
Allotment
Implementation Schedule

Monitoring	Priority	Year 1	2	3	4	5
Use Pattern Mapping	1	X	X	X	X	X
Utilization	2	X	X	X	X	X
Collection of Climate and Actual Use Data	3	X	X	X	X	X
Monitoring Plan Final	4		X			
Stratification	5	X	X	X		
Key Area/Key Species Review and Selection	6	X	X	X	X	X
Trend Frequency and Ecological Status	7		X	X	X	
Evaluation		X	X			X
Grazing Implementation		X				

Implement change in grazing use as per agreement of 09/15/88.

Range Improvements

The emphasis for years one and two is to maintain and improve existing projects and is primarily replacement of water troughs and pipelines.

APPENDIX

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status and Critical Habitat for the Desert Dace

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines threatened status and critical habitat for the desert dace (*Ermichthys acros*), and issues a special rule to allow take in accordance with state law. Known only from an area of thermal springs and immediate outflow creeks in Humboldt County, Nevada, the species survives in about eight of more than 20 springs in six square miles of the area known as Soldier Meadows. This action is being taken because habitat alterations have eliminated much former habitat and the existing population is potentially threatened by additional habitat alteration. This final rule would implement the protection provided by the Endangered Species Act of 1973, as amended

DATE: The effective date of this rule is January 9, 1986.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Suite 1692, Lloyd 500 Building, 500 NE. Multnomah Street, Portland, Oregon 97232.

FOR FURTHER INFORMATION CONTACT: Mr. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231–6131 or FTS 429–6131)

SUPPLEMENTARY INFORMATION:

Background

The desert dace (*Eremichthys acros*) is endemic to a series of thermal spring habitats in the Soldier Meadows area of Humboldt County, Nevada, where it was discovered in 1939 and described 11 years later by Carl Hubbs and R.R. Miller (1948). This species is the only member of the genus *Eremicthys*. The species has apparently survived in the Soldier Meadows area for at least tens of thousands of years. The species and genus is characterized by the presence of prominent horny sheaths on the jaws. No other cyprinid possesses such a remarkable feeding adaptation. The species is notable for its high temperature tolerance. Desert dace typically occur in water 67° to 97 °F, but have been observed in water as hot as 100.4°F (Nyquist 1963). Water temperature appears to be a major factor controlling the distribution of desert dace within a spring system. When temperature at a springhead exceeds 100°F, desert dace are restricted to the somewhat cooler outflow downstream from the springs.

Most of the thermal springs and their outflow creeks inhabited by the desert dace occur on private lands. The local landowner has modified much of the species' habitat by diverting water away from natural channels into manmade ditches. The diversion of outflow water away from natural channels is especially detrimental in spring systems were the headpool temperature exceeds 100°F and the species can only occupy the outflow creeks.

Two reservoirs exist in the Soldier Meadows area approximately three miles from springs and outflows inhabited by desert dace. Channel catfish (*Ictalurus punctatus*) and smallmouth bass (*Micropterus dolomieui*) have been introduced into one of the reservoirs. If these exotics are introduced into nearby habitats occupied by the desert dace, they would probably compete with and prey on the desert dace. Exotic species may also introduce disease or parasites to which the native species have not been previously exposed.

The Soldier Meadows area has been designated a Known Geothermal Resource Area. Geothermal exploration occurred in the area several years ago but was later abandoned. If geothermal exploration and development are resumed, these activities could impact the desert dace by interfering with the aquifers that supply water to thermal springs in the area.

The desert dace was included in the Service's Notice of Review of Vertebrate Wildlife published December 30, 1982 (47 FR 58454). In a petition dated April 4, 1983, and received April 12, 1983, the Desert Fishes Council requested that the desert dace be added to the List of Endangered and Threatened Wildlife. An administrative finding that the petition presented substantial information indicating that the requested action may be warranted was made May 9, 1983, and reported in the Federal Register on June 14, 1983 (48 FR 27273). Publication of the proposed rule on May 29, 1984 (49 FR 22355), signified that the requested action was warranted, and constituted a required finding in accordance with section 4(b)(3)(B)(ii) of the Act as amended in 1982.

Summary of Comments and Recommendations

In the May 29, 1984, proposed rule (49 FR 22355) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in the following newspapers: *Fallon Eagle-Standard* (June 26, 1984); *Elko Daily Free Press* (June 26, 1984); *Las Vegas Review Journal* (June 27, 1984); and *Nevada State Journal* (June 28, 1984). In addition, a public hearing, requested by Mr. James A. Callahan on behalf of Mr. Ken Earp, owner of the Soldier Meadows Ranch, was held in Winnemucca, Nevada, on October 10, 1984. The hearing announcement was published on September 20, 1984 (49 FR 36886), and the comment period extended until October 22, 1984.

Nine letters of comment were received. Comments were received from both the Nevada State Office and

Winnemucca District Office of the Bureau of Land Management, Nevada State Office of Community Services, Nevada Department of Minerals, Nevada Department of Wildlife, Nevada Division of State Parks, Nevada Department of Agriculture, Nevada Division of Environmental Protection, and Mr. James A. Callahan, attorney. Three letters supported the proposed rule, one opposed the rule, four contained additional information, and one was a non-substantive comment.

The Nevada State Office of the Bureau of Land Management pointed out that although only a small portion of dace habitat occurs on public land, a habitat management plan has been completed, a dace transplant to two springs is planned, and a total of 307.22 acres of public land in Soldier Meadows has been designated both an Area of Critical Environmental Concern and a Research Natural Area. The Winnemucca District Office supported the proposed listing and expressed the view that the listing was consistent with District efforts to protect the dace and its habitat.

The Nevada Division of State Parks also supported the proposal and emphasized this support by stating that the area designated as critical habitat is listed in the Nevada Natural Heritage Program. This program identifies representative areas of the State's natural heritage, including plants, animals, and geological formations, as well as scenic and scientific areas, in an effort toward preserving those areas listed.

The Nevada Division of Environmental Protection had no objections to the proposed actions and stated that the proposal would have no apparent adverse impacts on Division programs.

The State Department of Minerals commented that the Soldier Meadows area has been designated as a Known Geothermal Resource Area and geothermal exploration had occurred in the area. This agency further stated that this geothermal resource appears to be of low temperature character useful for domestic or commercial purposes rather than power generation, but future exploration programs may delineate a greater potential for development. The Department recommended that consideration toward future resource development be evaluated before a final recommendation is made on the proposed rule. The Service replies that the 1982 amendments to the Act require that determinations to list species as threatened or endangered be based solely on the best scientific and commercial information available for the species. Economic impacts are not allowed to be considered in making a listing determination. The Act specifies, however, that the economic impact of designating a particular area as critical habitat must be considered. The Service accordingly has prepared an economic analysis of the areas determined in this rule to be critical habitat. This analysis did not bring forth economic or other impacts to warrant consideration of revising the critical habitat designation.

The Nevada Department of Agriculture opposed the proposed rule on the basis that listing the desert dace as threatened would inhibit agricultural production at Soldier Meadows Ranch. The Service responds that the Endangered Species Act of 1973, as amended, only precludes Federal agencies from authorizing, funding, or carrying out activities that are likely to jeopardize the continued existence of a listed species or adversely modify its critical habitat. Unless a proposed private action requires such Federal approval or funding, it would not be precluded by section 7 of the Act. However, the taking prohibitions in section 9 could apply to private actions that result in the taking of a threatened species.

The Nevada Department of Wildlife supported the proposed rule. It did express concern regarding the critical habitat designation since the species occurs primarily on private lands and the designation will provide very limited protection. The Department further suggested easement purchase or restricted development agreements with private landowners as a means of protecting the species. The Service agrees that designation of critical habitat on private lands affords little protection for the species unless Federal approval or funding is required for the action that occurs on private land. However, critical habitat designations can accompany the listing of species under the Act to serve as official notification to Federal agencies that their responsibilities under section 7 of the Act are applicable in a certain area.

The public hearing held on October 10, 1984, was attended by four individuals with only James A. Callahan, representing the owner of the Soldier Meadows Ranch, presenting a formal statement. No additional written comments were received following the public hearings.

Mr. Callahan was concerned that the proposed rule would adversely impact water rights and livestock grazing on private lands. The Service responds that the Endangered Species Act of 1973, as amended, only precludes Federal agencies from authorizing, funding, or carrying out activities that are likely to jeopardize the continued existence of a listed species or adversely modify its critical habitat. Unless a proposed action requires such Federal approval or funding, it would not be precluded by section 7 of the Act.

Mr. Callahan also questioned whether the Act allows for condemnation of private land. The Service responds that it prefers not to employ these powers while alternative means exist for preserving this fish and its habitat.

Additional concern was expressed by Mr. Callahan that desert dace would be transplanted to other water areas in Soldier Meadows. Service policy is to not transplant a species outside its historic range unless there are no other means of preserving the species. If waters within the historic range are not presently supporting dace populations, but are found to be suitable habitat, the Service would support transplants to these waters.

Mr. Callahan also asked if there are areas other than Soldier Meadows where desert dace are present. The Service has reviewed and concurs with scientific literature accepted by ichthyologists and other scientists, as correctly identifying the desert dace as a unique species endemic to a limited number of habitats within Soldier Meadows, Humboldt County, Nevada. No scientific information has ever been presented to the contrary.

Mr. Callahan further questioned whether the Soldier Meadow Desert Dace Habitat Management Plan developed by the Bureau of Land Management was in concert with present Fish and Wildlife Service plans to recover the species. The Service replies that the draft Habitat Management Plan was reviewed by Fish and Wildlife Service biologists and written comments provided to the Bureau of Land Management on January 25, 1983. Specific plans to implement portions of the Habitat Management Plan were also reviewed and commented on July 10, 1984. In both instances, the Service agreed with these plans.

The possibility that springs and riparian areas inhabited by dace would be fenced to exclude livestock was a concern of Mr. Callahan. The Service position presently is that livestock use in the area is not currently a threat to the continued existence of the species, but if livestock were to adversely impact the habitat of the species, control of livestock should be able to be accomplished in a manner that would allow continued livestock access to water in the immediate area.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the desert dace should be classified as a threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (50 CFR Part 424) were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the desert dace (*Eremichthys acros*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The desert dace is endemic to warm springs and their outflow creeks in the Soldier Meadows area of Humboldt County, Nevada. Approximately eight warm springs with water temperatures as high as 100.4° F are occupied by the species. Many of the springs' outflow creeks have been diverted from their natural channels into manmade ditches. the diversions are for agricultural activities, such as irrigation and providing water for cattle on the Soldier Meadows Ranch. These diversions have reduced habitat available to the desert dace. Diversion of spring outflows is especially serious in those spring systems where the water in the spring headpool is too hot to be tolerated by the desert dace. In these systems the species exists only in the natural outflow. The manmade ditches do not provide suitable habitat for the species.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Not applicable to this species.

C. *Disease or predation.* There is no evidence that either disease or predation has contributed to the threatened status of this species. Disease and predation could both result from the introduction of species not native to this area (see Factor "E" below).

D. *The inadequacy of existing regulatory mechanisms.* At this time the only regulation applicable to the desert dace is a requirement for a State scientific collecting permit for taking the species. There are no laws or regulations to protect the habitat of the desert dace.

E. *Other natural or manmade factors affecting its continued existence.* Reservoirs have recently been constructed on the north and south end of the Soldier Meadows area. Channel catfish and smallmouth bass have been introduced into the southern reservoir. If these exotics should enter habitat occupied by the desert dace they could further reduce dace numbers. The presence of exotic fishes is usually detrimental to native fishes in the western United States due to competition and predation (Deacon *et al.* 1964), as well as the introduction of exotic parasites and disease (Wilson *et al.* 1966). Much of the critical habitat is included in the Soldier Meadows Known Geothermal Resource Area. Although no exploration or drilling is currently occurring in the Soldier Meadows area, the resumption of such activity could result in interference with the thermal aquifers that supply water to springs in the area.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the desert dace as a threatened species, with critical habitat. This listing is appropriate because of past disturbance to habitats that has resulted in populations remaining at relatively low levels that may be adversely impacted by future ground water depletion, geothermal activities, agricultural development, and introduction of exotics. An explanation of the critical habitat designation is presented in the "Critical Habitat" section of this rule.

Critical Habitat

Critical habitat, as defined by Section 3 of the Act, means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat is being designated for the desert dace to include all thermal springs and their outflows located within determinable section and fractional section boundaries in the Soldier Meadows area of Humboldt County, Nevada. The designated aquatic habitat within these boundaries is somewhat evanescent, shifting in response to seasonal and other climatic factors. The area enclosed by the determinable boundary is approximately four miles long and varies from one to two and two-thirds miles wide. Mud Meadow Creek is near its eastern edge. The southern edge is approximately one mile north of Fly Creek.

Listing regulations of the Service, 50 CFR 424.12(b), state that when considering the designation of critical habitat, the Service shall focus on the biological or physical constituent elements within the defined area that are essential to the conservation of the species. Known primary constituent elements are to be listed with the critical habitat description.

With respect to the desert dace, the thermal springs and their outflows proposed as critical habitat satisfy all known criteria for ecological, behavioral, and physiological requirements of the species. The quantity and quality of water in the pools and outflow streams inhabited by this fish are the most important factors in its conservation. A range of favored temperatures between about 70° and 102°F restricts the fish to areas of the streams near the headwater pools, but these areas expand in summer, when pool temperatures are too high to be tolerated, and contract in winter, when temperatures in the lower streams drop below the favored range. These specialized requirements are met only in limited but seasonally variable portions of this one thermal spring area. Breeding and the growth of young desert dace are likewise confined to certain parts of the area. The species is native to these springs and outflows and is found nowhere else.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) which may adversely modify such habitat or may be affected by such designation. Such activities are identified for the desert dace as follows.

In the past, water diversions from spring outflow creeks have modified or eliminated much suitable habitat for this species. Additional modification of springs or their outflow creeks without regard for the species could further adversely affect the species and its critical habitat. In addition, the manipulation of water flows and surface disturbance associated with ranching, and geothermal energy exploration or development, could adversely modify remaining habitat of the desert dace.

It should be emphasized that critical habitat designations only affect activities of Federal agencies through section 7 of the Act. Federal actions that could possibly be affected by this rule include actions of the Bureau of Land Management associated with aquatic habitat modification, grazing, and leasing of lands for geothermal exploration and/or development. Such activities could result in adverse modification of desert dace habitat. Section 7 consultation is designed, however, to explore alternatives or modifications to proposed activities that could avoid jeopardizing the continued existence of listed species or adversely modifying their critical habitat. The consultation process could possibly provide recommendations for measures which, if adopted, would ensure compliance with section 7(a)(2) of the Act.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service has considered the critical habitat designation in light of relevant information obtained through the comment process and concludes that no adjustment of the critical habitat boundaries is warranted. Based on the Bureau of Land Management's existing Habitat Management Plan, the absence of any active or planned geothermal or oil and gas leases within or adjacent to the proposed critical habitat, the insignificant potential impacts to grazing, and the unquantifiable benefits that may result from the critical habitat designation, it is not expected that significant economic impacts will result from the designation of critical habitat on Federal lands. In addition, there is no known involvement of Federal funds or permits for private lands within the proposed critical habitat area. Therefore, no significant impact is expected as a result of this critical habitat designation.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. With respect to the desert dace, this provision may affect the Bureau of Land Management in the administration of its portion of the critical habitat area.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that generally apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that had been taken illegally. Certain exceptions would apply to agents of the Service and State conservation agencies. General regulations governing the issuance of permits to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances are set out at 50 CFR 17.32

The above discussion generally applies to threatened species of fish and wildlife. However, the Secretary has discretion under section 4(d) of the Act to issue special regulations for a threatened species that are necessary and advisable for its conservation. The desert dace is threatened primarily by habitat disturbance or alteration, not by intentional, direct taking of the species or by commercialization.

Given this fact, and the fact that the State currently regulates direct taking of the species through the requirement of State collecting permits, the Service has concluded that the State's collection permit system is more than adequate to protect the species from excessive taking, so long as such take is limited to: educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Endangered Species Act. A separate Federal permit system is not required to address the current threats to the species. Therefore, the special rule allows take to occur for the above-stated purposes without the need for a Federal permit if a State collection permit is obtained and all other State wildlife conservation laws and regulations are satisfied. It should be recognized that any activities involving the taking of this species not otherwise enumerated in the special rule are prohibited.

Without this special rule, all of the prohibitions of 50 CFR 17.31 would apply. This special rule would allow for more efficient management of the species, and thus would enhance the conservation of the species. For these reasons, the Service concludes that this regulatory action is necessary and advisable for the conservation of the desert dace.

The final rule brings sections 5 and 6 of the Endangered Species Act into effect with respect to the desert dace. Section 5 authorizes the acquisition of lands or interests therein for the purpose of conserving endangered and threatened species. Pursuant to section 6, the Fish and Wildlife Service would be able to grant available funds to the State of Nevada for management actions aiding the protection and recovery of this species.

Listing the desert dace as threatened would provide for development of a recovery plan for this fish. Such a plan would draw together the State and Federal agencies having responsibility for conservation of the dace. The plan would establish an administrative framework, sanctioned by the Act, for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan would set recovery priorities and estimate the cost of the various tasks necessary to accomplish them. It would assign appropriate functions to each agency and a time frame within which to accomplish them.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under authority of the National Environmental Policy Act of 1969, need not be prepared in

connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

Regulatory Flexibility Act and Executive Order 12291

The Department of the Interior has determined that designation of critical habitat for this species will not constitute a major action under Executive Order 12291 and certifies that this designation will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). This rule contains no information collection or recordkeeping requirements as defined by the Paperwork Reduction Act of 1980.

Based on BLM's management of its portion of critical habitat, no significant economic impacts are expected to result from the designation of critical habitat on Federal land. In addition, there is no known involvement of Federal funds or permits for the private land included as critical habitat. Any conservation efforts by private landowners would be voluntary. Therefore, no significant economic or other impacts are expected to result from the critical habitat designation on private land. These determinations are based on a Determination of Effects that is available from the Regional Director, U.S. Fish and Wildlife Service, Suite 1692, Lloyd 500 Building, 500 NE. Multnomah Street, Portland, Oregon 97232.

Literature Cited

Deacon, J.E., C. Hubbs, and B.J. Zahuranec. 1964. Some effects of introduced fishes on the native fish fauna of southern Nevada. Copeia 1964:384–388.

Hubbs, C.L. and R.R. Miller. 1948. Two new, relict genera of cyprinid fishes from Nevada. Occ. Pap. Mus. Zool., Univ. Mich., No. 507, 30 pp.

Nyquist, D. 1963. The ecology of *Eremichthys acros*, an endemic thermal species of cyprinid fish from northwestern Nevada. M.S. Thesis, Univ. Nevada, Reno, 247 pp.

Wilson, B.L., J.E. Deacon, and W.G. Bradley. 1966. Parasitism in the fishes of the Moapa River, Clark County, Nevada. Trans. California-Nevada Wildlife Soc. 1966:12–23.

Author

The primary author of this final rule is Donald W. Sada, U.S. Fish and Wildlife Service, 4600 Kietzke Lane, Building C, Reno, Nevada 89502 (702-784-5227 or FTS 470-5227).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulations Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. Amend § 17.11(h) by adding the following, in alphabetical order under "Fishes," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Fishes							
Dace, desert	*Eremichthys acros*	U.S.A. (NV)	Entire	T	210	17.95(e)	17.44(m)

3. Add the following as special rules to 50 CFR 17.44:

§ 17.44 Special rules—fishes.

* * * * *

(m) Desert Dace (*Eremichthys acros*).

(1) No person shall take the species, except in accordance with applicable State fish and wildlife conservation laws and regulations in the following instances: For educational purposes, scientific purposes, the enhancement of propagation or survival of the species, zoological exhibition, and other conservation purposes consistent with the Act.

(2) Any violation of applicable State fish and wildlife conservation laws or regulations with respect to the taking of this species will also be a violation of the Endangered Species Act.

(3) No person shall possess, sell, deliver, carry, transport, ship, import, or export, by any means whatsoever, any such species taken in violation of applicable State fish and wildlife conservation laws or regulations.

(4) It is unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed, any offense defined in paragraphs (1) through (3) above.

* * * * *

4. Amend 50 CFR 17.95(e) by adding critical habitat of the desert dace as follows: (The position of this entry under § 17.95(e) will follow the same sequence as the species occurs in § 17.11).

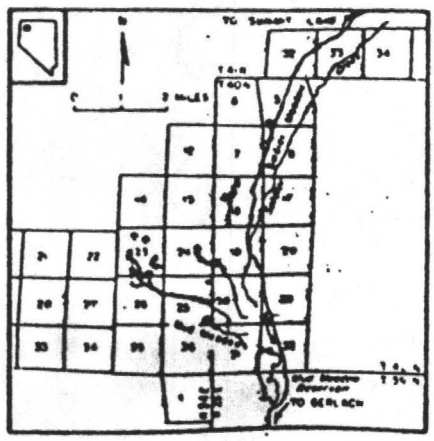
§ 17.95 Critical habitat—fish and wildlife.

(e) * * *

* * * * *

Desert Dace "(Eremichthys acros)"

Nevada. Humboldt County. Thermal springs and their outflows plus surrounding riparian areas for a distance of 50 feet from these springs and outflows in T40N, R25E, SW¼ Section 5, NW¼NW¼ Section 8, W½ Section 18, W½SW¼ Section 19; T40N, R24E, Section 23, N½SE¼ and S½NE¼ Section 24, SE¼ Section 25, N½ Section 25, and N½ Section 26.



Primary constituent elements of the habitat are considered to be quantity, and thermal and chemical quality of water in headpools and spring outflow streams; presence of a

stable, natural substrate supporting food plants for the fish; and length of outflow streams, adequate for seasonal movements in response to changes of water temperature.

* * * * *

Dated: October 8, 1985.

P. Daniel Smith,

Acting Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 85-29237 Filed 12-9-85; 8:45 am]

BILLING CODE 4310-55-M

4310-HC
4-20951-ILM

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WINNEMUCCA DISTRICT, NV

AGENCY: Bureau of Land Management

ACTION: Designation of public lands within the Sonoma-Gerlach Resource Area, Winnemucca District, as the Soldier Meadow Desert Dace Research Natural Area (RNA).

SUMMARY: Public lands within the Soldier Meadow area are designated a Research Natural Area under authority of 43 CFR Part 8223. The designated area contains 307.22 acres located in Humboldt County, Nevada and described as:

Mt. Diablo Meridian, Nevada

T. 40 N., R. 24 E., sec. 23, Lots 2, 3, 5, 6, 8, 9, 12.

The area can be located on U.S.G.S. 7.5 minute Mud Meadows Quadrangle.

EFFECTIVE DATE: The Soldier Meadow Desert Dace RNA designation becomes effective the date of this notice.

ADDRESS: Frank C. Shields, District Manager
Winnemucca District, Bureau of Land Management
Winnemucca, NV 89445

SUPPLEMENTARY INFORMATION: The primary objective in designating the Soldier Meadow RNA is to maintain and protect that portion of the warm springs ecosystem on public lands necessary for the desert dace (Eremichthys acros)

Dated: February 6, 1984

population endemic to the system. The dace has been declared rare by the State of Nevada and sensitive by the State of Nevada and the Bureau of Land Management. While public lands constitute only a small portion of the entire warm springs, designation can enable monitoring of the habitat system through the springs located on public lands.

The Soldier Meadow RNA was formally designated an Area of Critical Environmental Concern on September 6, 1982. The area is managed under a Habitat Management Plan approved on April 15, 1983.

Scientific research and day-use will be permitted as long as it complies with the non-destructive limitations which will leave the system unmodified and intact.

The area has not been withdrawn from mineral entry. Surface disturbance due to mineral entry will be regulated under 43 CFR 3809. Oil, gas and geothermal leasing will be allowed with the stipulation of no surface occupancy.

Rights-of-way, land disposal, campgrounds and organized events such as motorcycle races will not be permitted.

Allowable uses include hunting in accordance with state regulations and livestock grazing as authorized by the Bureau of Land Management.

Frank C. Shields

Frank C. Shields, District Manager

2/21/84

Date

Glossary of Terms

Actual use: a report of actual livestock grazing use certified to be accurate by the permittee or lessee. Actual use may be expressed in terms of animal unit months or animal months. (See 43 CFR 4100.0-5.)

Allotment Management Plan (AMP): a documented program which applies to livestock grazing on the public lands, prepared in consultation, cooperation, and coordination with the permittee(s), lessee(s), or other involved affected interests. (See 43 CFR 4100.0-5.)

Animal unit month (AUM): the amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month. (See 43 CFR 4100.0-5.)

Class of livestock: the age and/or sex groups of a kind of livestock.

Critical area: an area which must be treated with special considerations because of inherent site factors, size, location, condition, values, or significant potential conflicts among uses. Critical area is synonymous with crucial area.

Ecological site: a kind rangeland with a identifying a specific potential natural community and specific physical site characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management. Ecological site is synonomoun with range site.

Ecological Status: the present state of a vegetation of a range site in relation to the potential natural community for that site. Ecological status is use independent. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the potential natural community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential natural community and are called early seral, mid seral, late seral, and potential natural community, respectively.

Endangered species: any species which is in danger of extinction throughout all or a significant portion of its range.

Frequency: A quantitative expression of the presence or absence of individuals of a species in a population. It is defined as the percentage of occurrence in a series of samples of uniform size.

Key area: a relatively small portion of a rangeland selected because of its location, use, or grazing value as an area on which to monitor the effects of grazing use. It is assumed that key areas, if properly selected, will reflect the effects of current grazing management over all or a part of a pasture, allotment, or other grazing unit.

Key management area: An area of land that influences or limits the management opportunities of the land surrounding it. Key management area may be synonymous with key area.

Key species: (1) those species which must, because of their importance, be considered in a management program; or (2) forage species whose use serves as an indicator of the degree of use of associated species.

Kind of livestock: species of domestic livestock--cattle, sheep, horses, burros, and goats.

Phenological: the relationship between climate and plant growth stages such as begin growth, peak flowering, seedripe, dormant, etc.

Potential natural community (PNC): the biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions. Natural disturbances are inherent in development. Includes naturalized non-native species.

Range site: a kind of rangeland with a specific potential natural community and specific physical site characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management. Range sites are defined and described with soil, species composition, and production emphasis. Range site is synonymous with ecological site.

Riparian zone: the banks and adjacent areas of water bodies, water courses, seeps, and springs whose waters provide soil moisture sufficiently in excess of that otherwise available locally so as to provide a more moist habitat than that of contiguous flood plains and uplands.

Seral community: one of a series of biotic communities that follow one another in time on any given area. Seral community is synonymous with seral stage, successional community, and successional stage.

Threatened species: any species which is likely to become an endangered species within the forseeable future throughout all or a significant portion of its range.

Trend: the direction of change in ecological status or a resource value ratings observed over time. Trend in ecological status is described as "toward" or "away from" the potential natural community or as "not apparent." Appropriate terms are used to describe trend in resource value ratings. Trends in resource value ratings for several uses on the same site at a given time may be in different directions, and there is no necessary correlation between trends in resource value ratings and trend in ecological status.

Utilization: the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). May refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

Bibliography

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USDA Soil Conservation Service. 1988. Major Land Resource Area D-23 Range Site Descriptions

_____. 1976. National range handbook.

_____. 1982. National list of scientific plant names. Vol. 1.

USDI, Bureau of Land Management. 1978. Bureau manual supplement 6671-NSO 6-38.

_____ 1979. Sonoma-Gerlach unit resource analysis, Buffalo Hills Planning Unit. Winnemucca District.

_____ 1982a. Sonoma-Gerlach management framework plan, Buffalo Hills Planning Unit. Winnemucca District.

_____ 1982b. Suggested criteria for determining intensity of monitoring studies. Nevada State Office Instruction Memorandum NV-82-72. Reno, NV.

_____ 1983a. Rangeland inventory, monitoring and evaluation. BLM manual 4400.

_____ 1983b. Wildlife habitat studies program procedures for the Winnemucca District.

_____ 1984. Winnemucca District Coordinated Monitoring Plan. 35 pp.

_____ 1984. Planning for Monitoring BLM Technical Reference. 4400-1

_____ 1984. Actual Use Studies BLM Technical Reference. 4400-2

_____ 1984. Utilization Studies BLM Technical Reference. 4400-3

_____ 1985. Trend Studies BLM Technical Reference. 4400-4

_____ 1985. Analysis, Interpretation and Evaluation. BLM Technical Reference. 4400-7

Endangered Species Act: Federal Listing Status

1. Endangered - any species which is in danger of extinction throughout all or a significant portion of its range.

2. Threatened - any species that is likely to become an endangered species in the foreseeable future.

3. Proposed - those species which have been officially proposed for federal listing as threatened or endangered with a publication in the Federal Register.

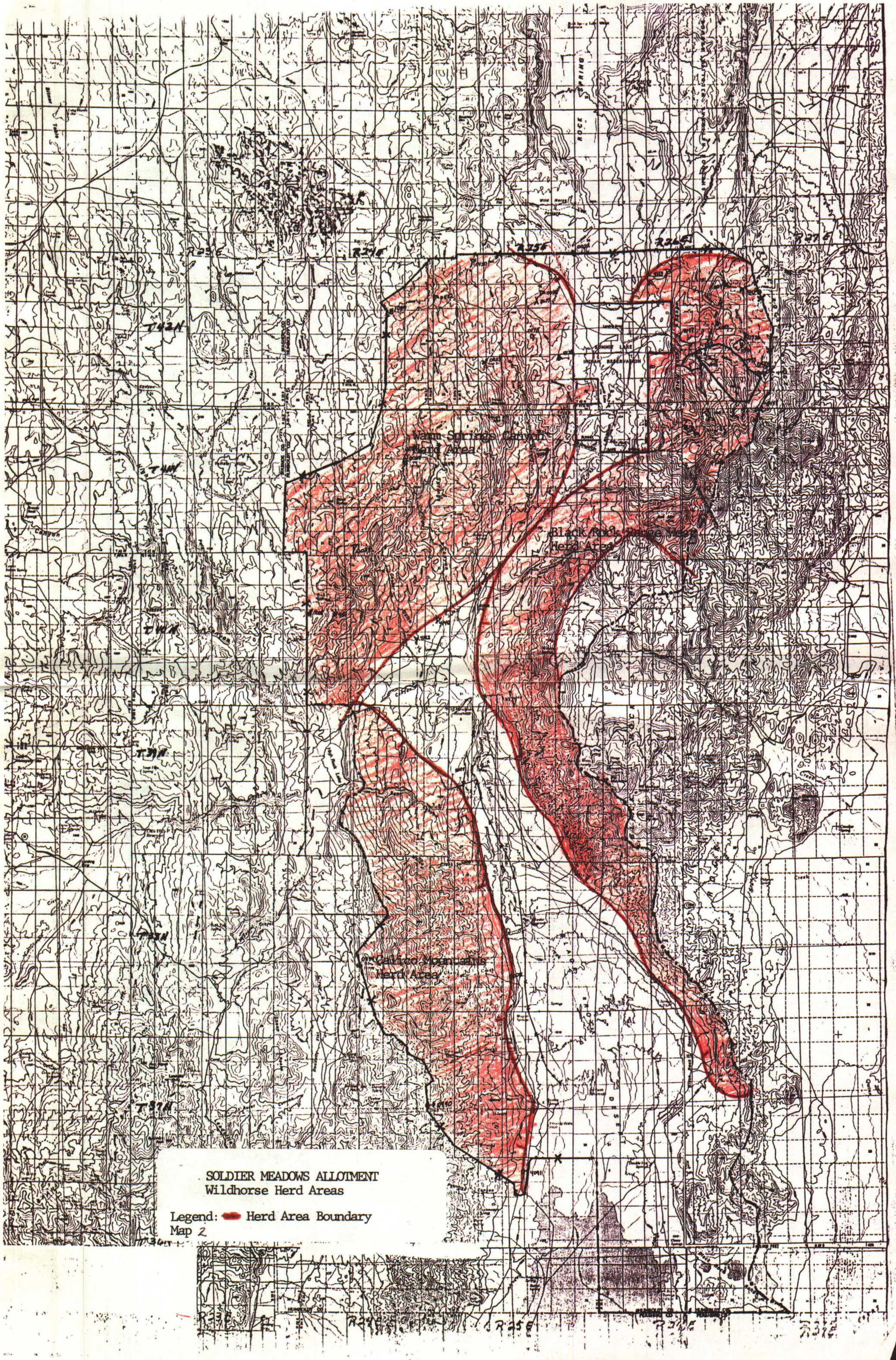
4. Candidate species - sensitive species at various stages of the listing process

   a. Category 1 - sufficient biological information to list, but not yet published in the Federal Register.

   b. Category 2 - information indicates listing may be warranted, but additional data is needed.

   c. Category 3 - data indicates listing is not or is no longer necessary.


Summer Use Pastures
Warm Springs Use Area
Year 1
500 - 05/21 - 10/30
Spring Use Pastures
Soldier Meadows
Use Area
White Rock Canyon
Use Area
Year 1
1200-2150 - 04/11-05/20 in Soldier Meadows and White Rock Can.
Blackrock - Winter Use Pasture
1500-2150 - 01/10-04/10
Each Year
Calico
Use Area
Year 2
1500-2150 - 04/11-05/20
SOLDIER MEADOWS ALLOTMENT
Livestock Use Areas
Legend:
Winter Use Area
Spring Use Areas
Summer Use Areas
Map 1


Warm Springs Canyon Herd Area
Black Rock Range Herd Area
Calico Mountains Herd Area
SOLDIER MEADOWS ALLOTMENT
Wildhorse Herd Areas
Legend: Herd Area Boundary
Map 2

wild horses

DW-7
Soldier

DS-1
Bear
Buttes

DW-8
Warm Springs

DS-2
Mahogany

DW-6
Soldier

DS-2
Pahute

DS-2
Big Mountain

DS-3
Black Mountain

DS-1
Donnelly

SOLDIER MEADOWS ALLOTMENT
Mule Deer Use Areas

Legend: DW Winter Use Area
DS Summer Use Area
Habitat Boundary

Map: 3

Mule deer

AS-2
Black Butte

AW-2
Warm Springs

AW-1
High Rock Lake

AW-1
Box Canyon

AS-1
Paiute

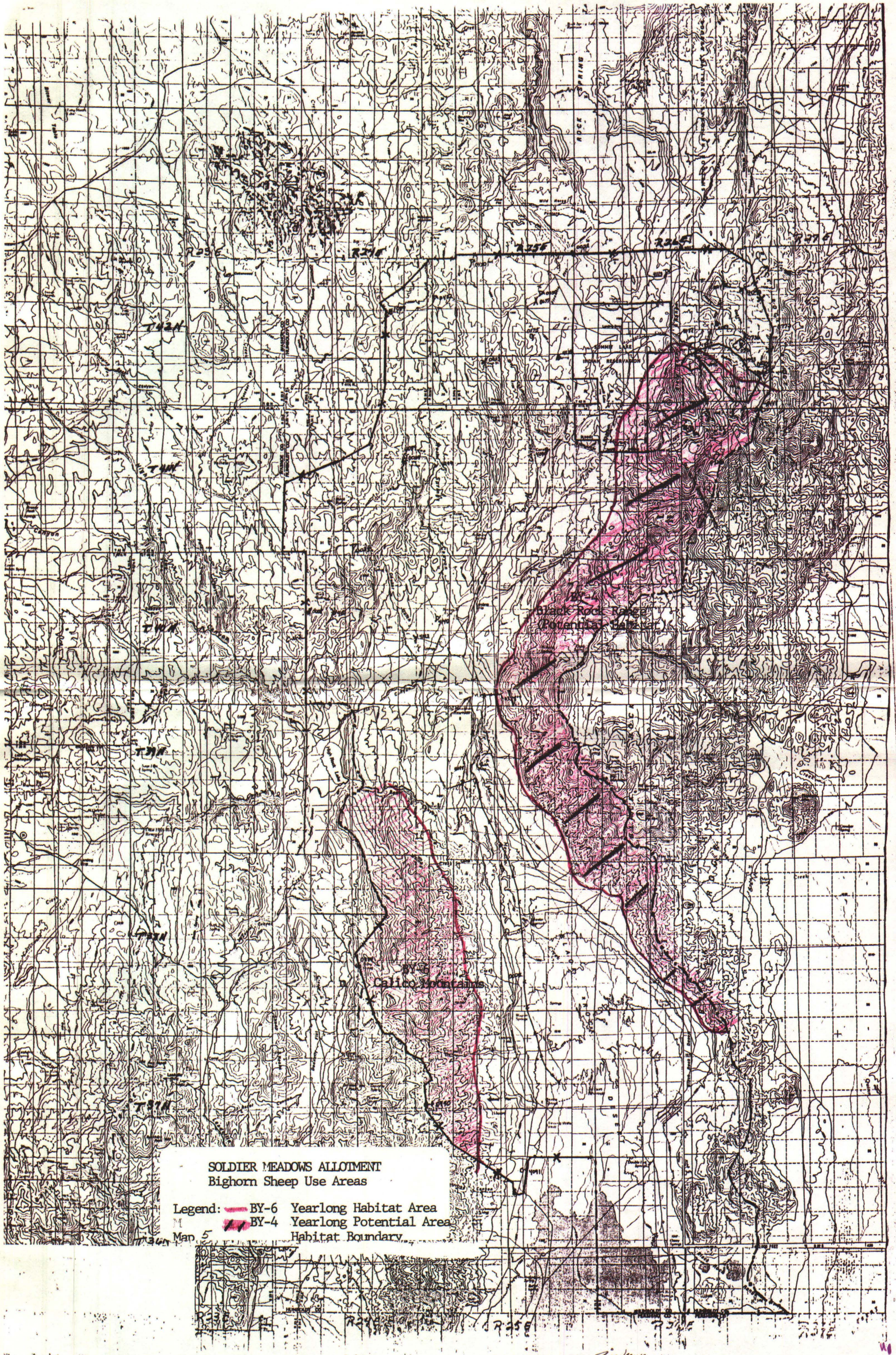
AS-1
Donnelly Peak

AW-1
Wagner Spring

SOLDIER MEADOWS ALLOTMENT
Pronghorn Use Areas

Legend: AW Winter Use Area
AS Summer Use Area
Habitat Boundary

Map 4


BY-4
Black Rock Range
(Potential Habitat)
BY-6
Calico Mountains
SUMMIT LAKE
INDIAN RESERVATION
ROCK SPRING
R25E
R24E
R23E
T42N
T41N
T40N
T39N
T38N
T37N
SOLDIER MEADOWS ALLOTMENT
Bighorn Sheep Use Areas
Legend: BY-6 Yearlong Habitat Area
BY-4 Yearlong Potential Area
Habitat Boundary
Map 5
— Bighorn —

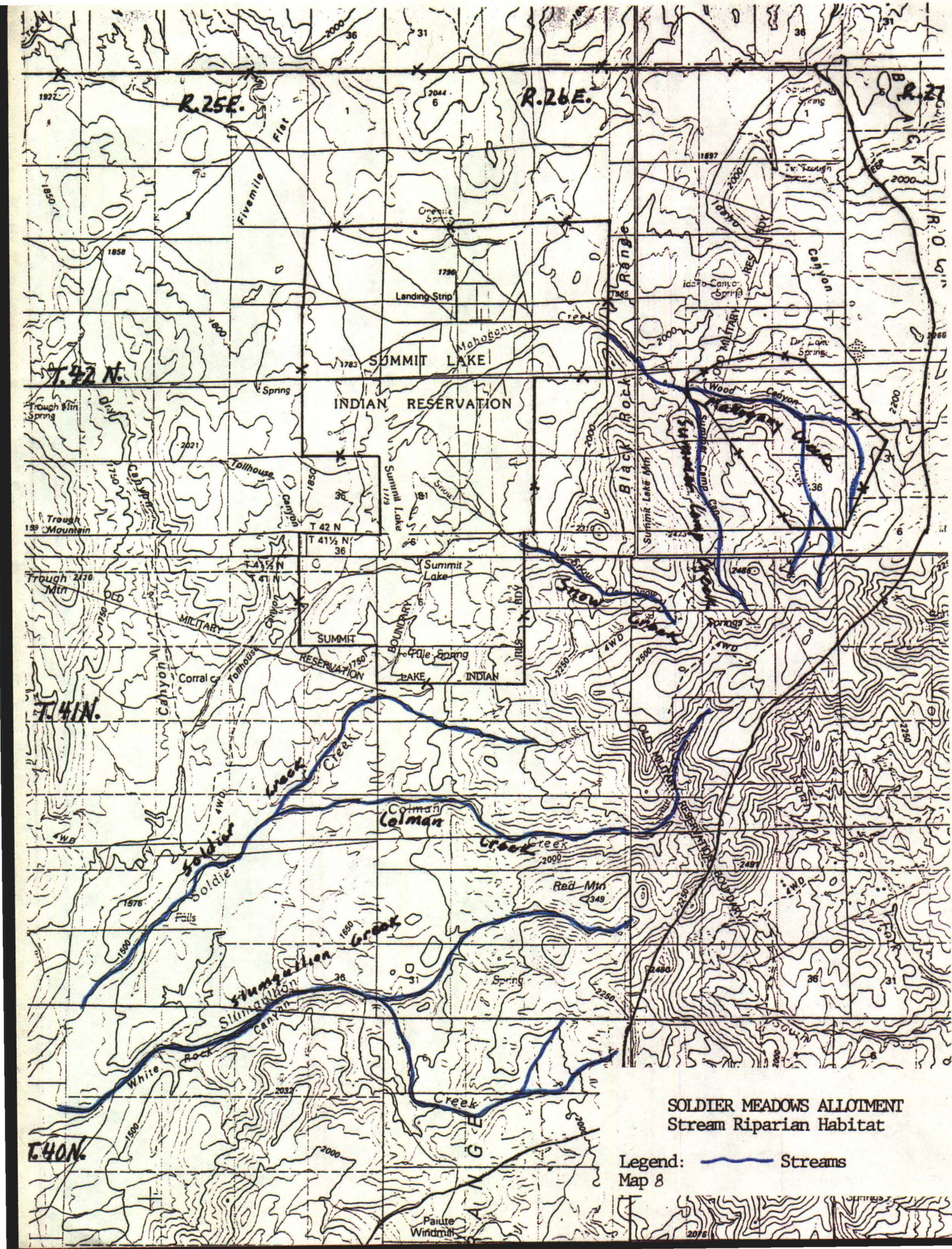
SOLDIER MEADOWS ALLOTMENT
Sage Grouse Habitat

Legend: Strutting Grounds
Brooding Areas
Habitat

Map 6

SOLDIER MEADOWS ALLOTMENT
Threatened and Endangered Species
Legend: Lahontan Cutthroat Trout
Desert Dace
Mentzelia mollis
Map:7 Potentilla basaltica

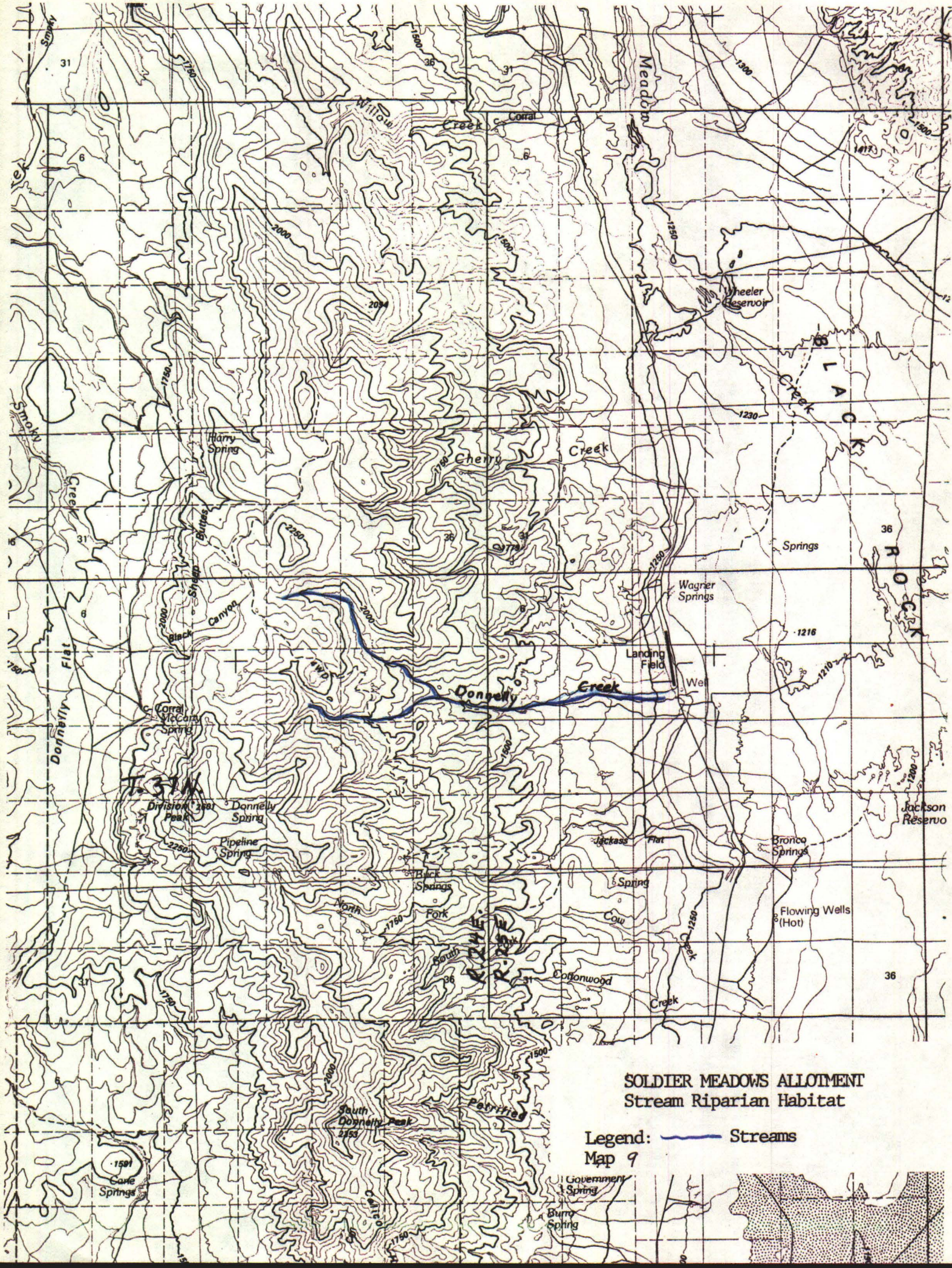
What about Snow Creek for LCT?
Done cc 1-17-90



SOLDIER MEADOWS ALLOTMENT
Stream Riparian Habitat

Legend: ~~~ Streams

Map 8

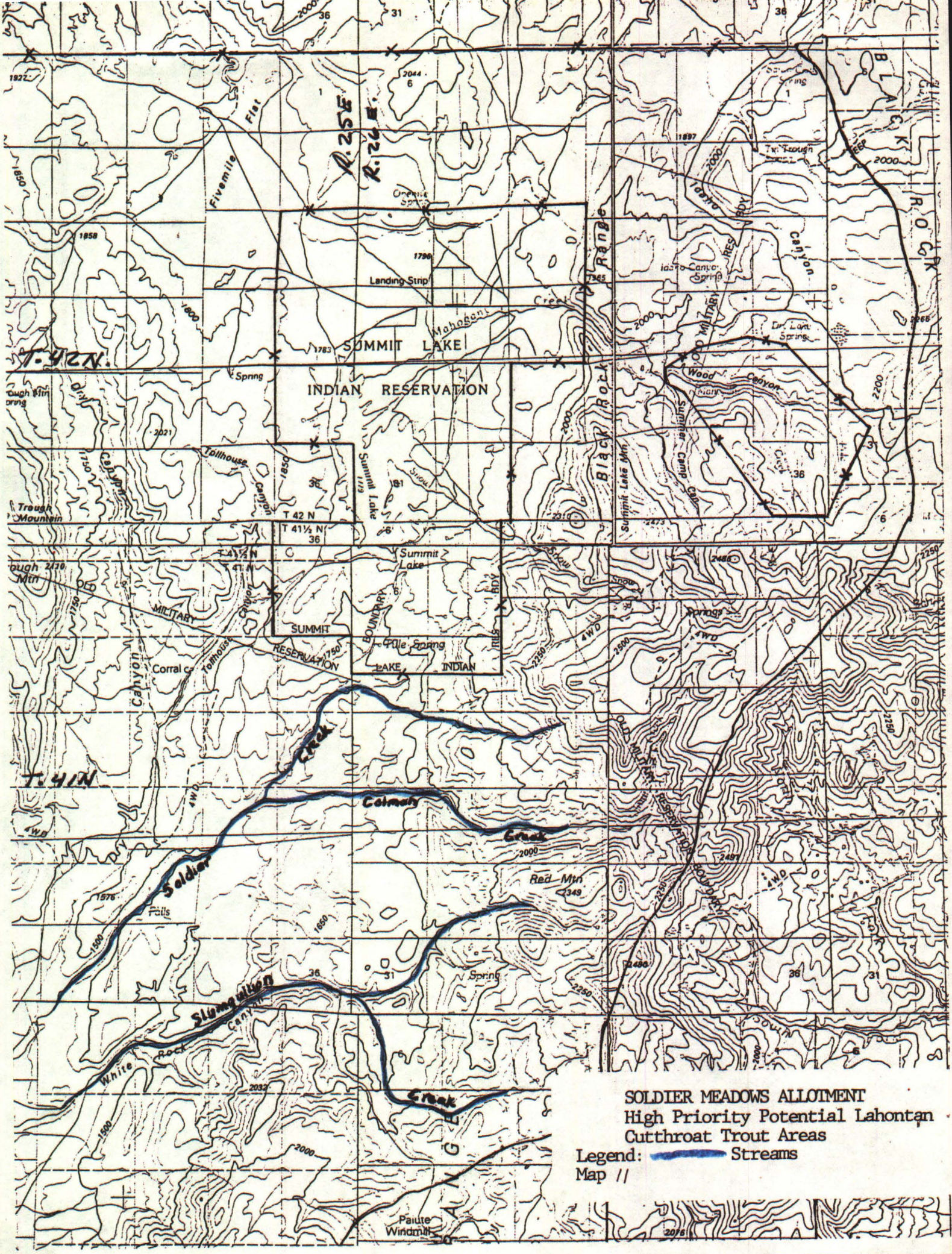


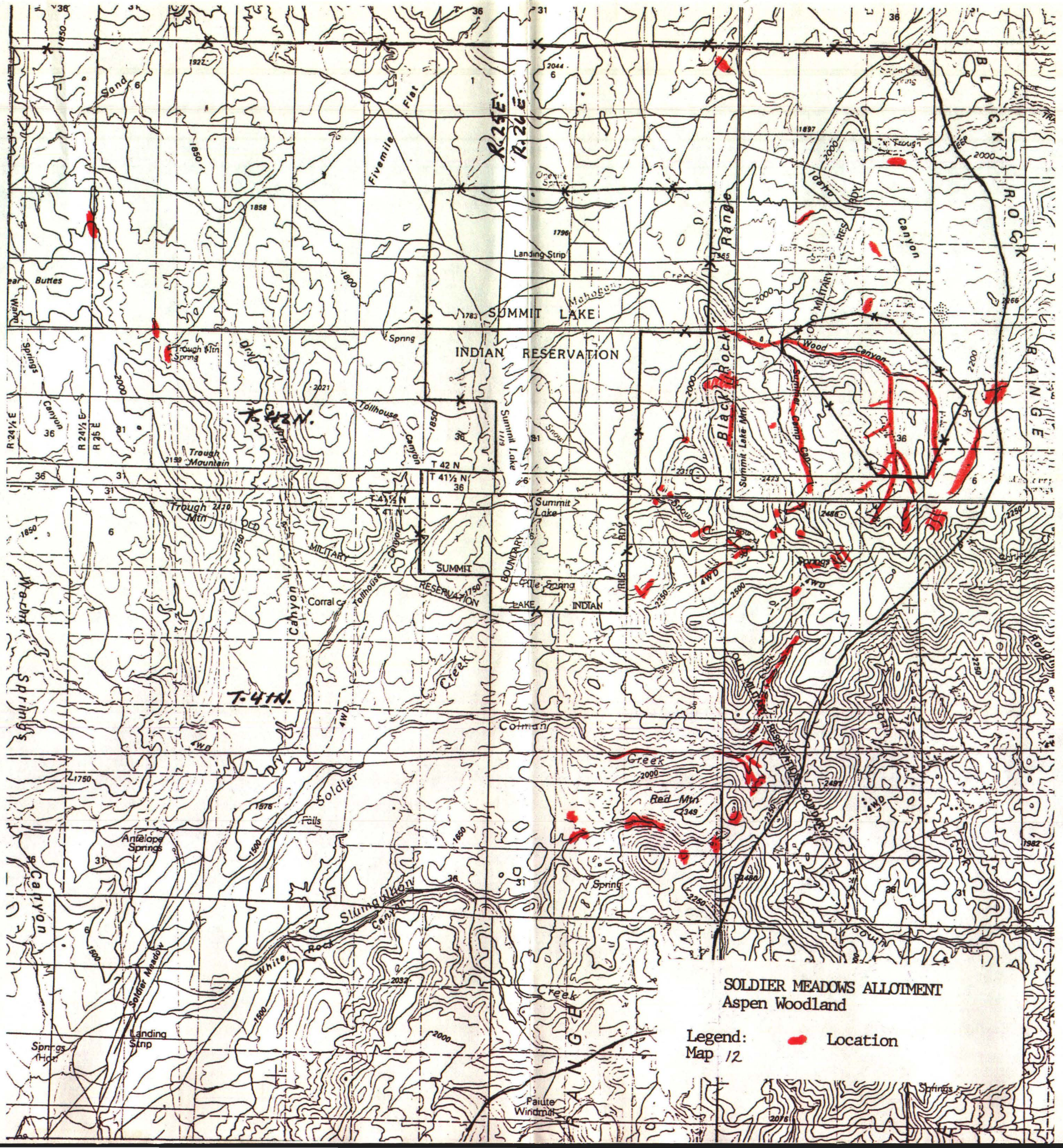
SOLDIER MEADOWS ALLOTMENT
Stream Riparian Habitat

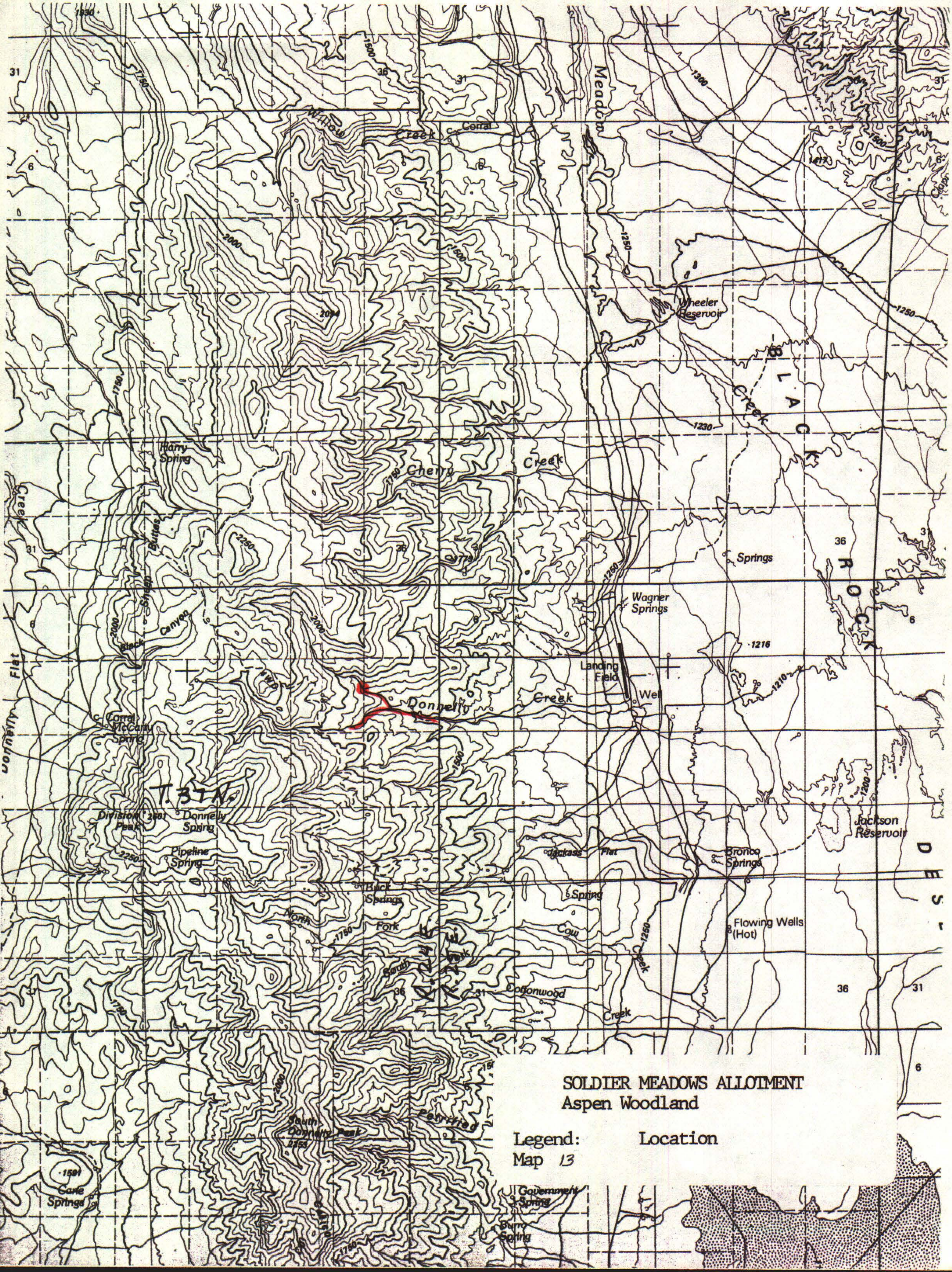
Legend: —— Streams

Map 9

SOLDIER MEADOWS ALLOTMENT
Existing Lahontan Cutthroat Trout Areas
Legend: Streams
Map: 10


R. 25 E.
R. 24 E.
T. 42 N.
T. 41 N.
SUMMIT LAKE
INDIAN RESERVATION
Summit Lake
Fivemile Flat
Landing Strip
Mahogany Creek
Black Rock Range
Tollhouse Canyon
Corral Canyon
Soldier Creek
Colmah Creek
Red Mtn
Slumgullion Canyon
White Rock Creek
Wood Canyon
Summit Lake Mtn
Trough Mountain
Pine Spring
Paiute Windmill
SOLDIER MEADOWS ALLOTMENT
High Priority Potential Lahontan Cutthroat Trout Areas
Legend: Streams
Map 11

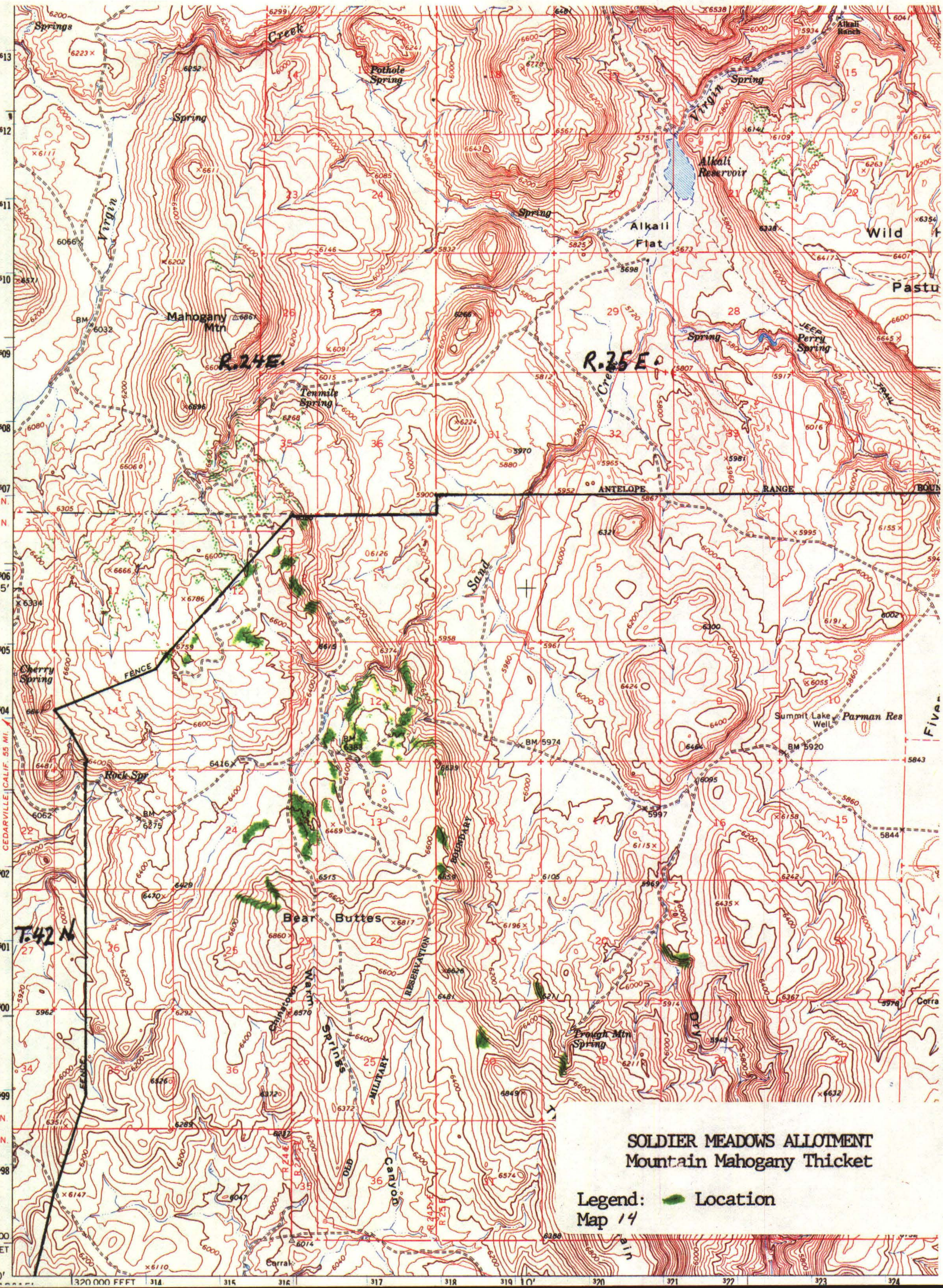

SOLDIER MEADOWS ALLOTMENT
Aspen Woodland
Legend:
Location
Map 12
BLACK ROCK RANGE
SUMMIT LAKE
INDIAN RESERVATION
Black Rock Range
Summit Lake
Landing Strip
Fivemile Flat
R.25E.
R.26E.
T.42N.
T.41N.
T 42 N
T 41½ N
Trough Mountain
Trough Mtn
Trough Mtn Spring
Tollhouse Canyon
OLD MILITARY RESERVATION BOUNDARY
Wood Canyon
Summit Lake Mtn
Red Mtn
Colman Creek
Soldier Creek
Soldier Meadow
Falls
Antelope Springs
Slumgullion Canyon
White Rock Canyon
Warm Springs Canyon
Buttes
Paiute Windmill
Corral
Canyon
Spring
R 24½ E
R 25 E



Willow
Creek
Corral
Meadow
Wheeler Reservoir
BLACK
ROCK
Creek
Cherry
Creek
Harry Spring
Buttes
Black Canyon
Springs
Wagner Springs
Landing Field
Well
Donnelly
Creek
Corral
McCann Spring
T.37N.
Division Peak
Donnelly Spring
Pipeline Spring
Jackass Flat
Bronco Springs
Jackson Reservoir
Buck Springs
North
Fork
Spring
Cow
Creek
Flowing Wells (Hot)
Cottonwood
Creek
South Donnelly Peak
Petrified
Government Spring
Burro Spring
Cane Springs
DES

SOLDIER MEADOWS ALLOTMENT
Aspen Woodland

Legend: Location
Map 13

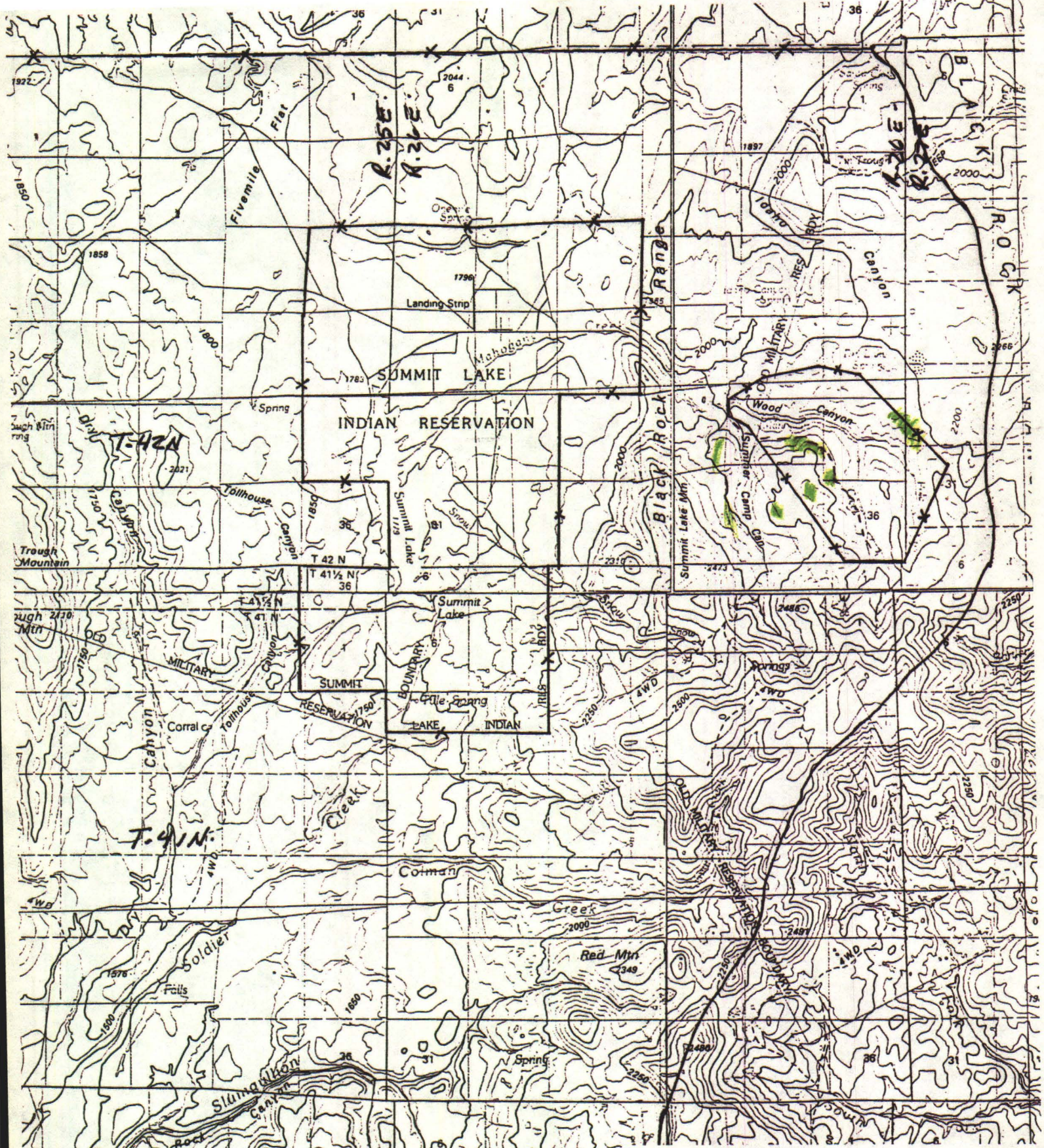


Springs
Creek
Pothole Spring
Alkali Ranch
Spring
Virgin
Alkali Reservoir
Alkali Flat
Wild
Pastu
Mahogany Mtn
R.24E.
R.25E.
Tenmile Spring
Jeep
Perry Spring
ANTELOPE
RANGE
Sand
Cherry Spring
FENCE
Summit Lake Well
Parman Res
Rock Spr
Bear
Buttes
T.42 N.
Warm Springs
Military
Reservation
Boundary
Trough Mtn Spring
Dry
Old
Canyon
Corral
43 N.
42 N.
41 N.
CEDARVILLE, CALIF. 55 MI.
320 000 FEET

SOLDIER MEADOWS ALLOTMENT
Mountain Mahogany Thicket

Legend: Location

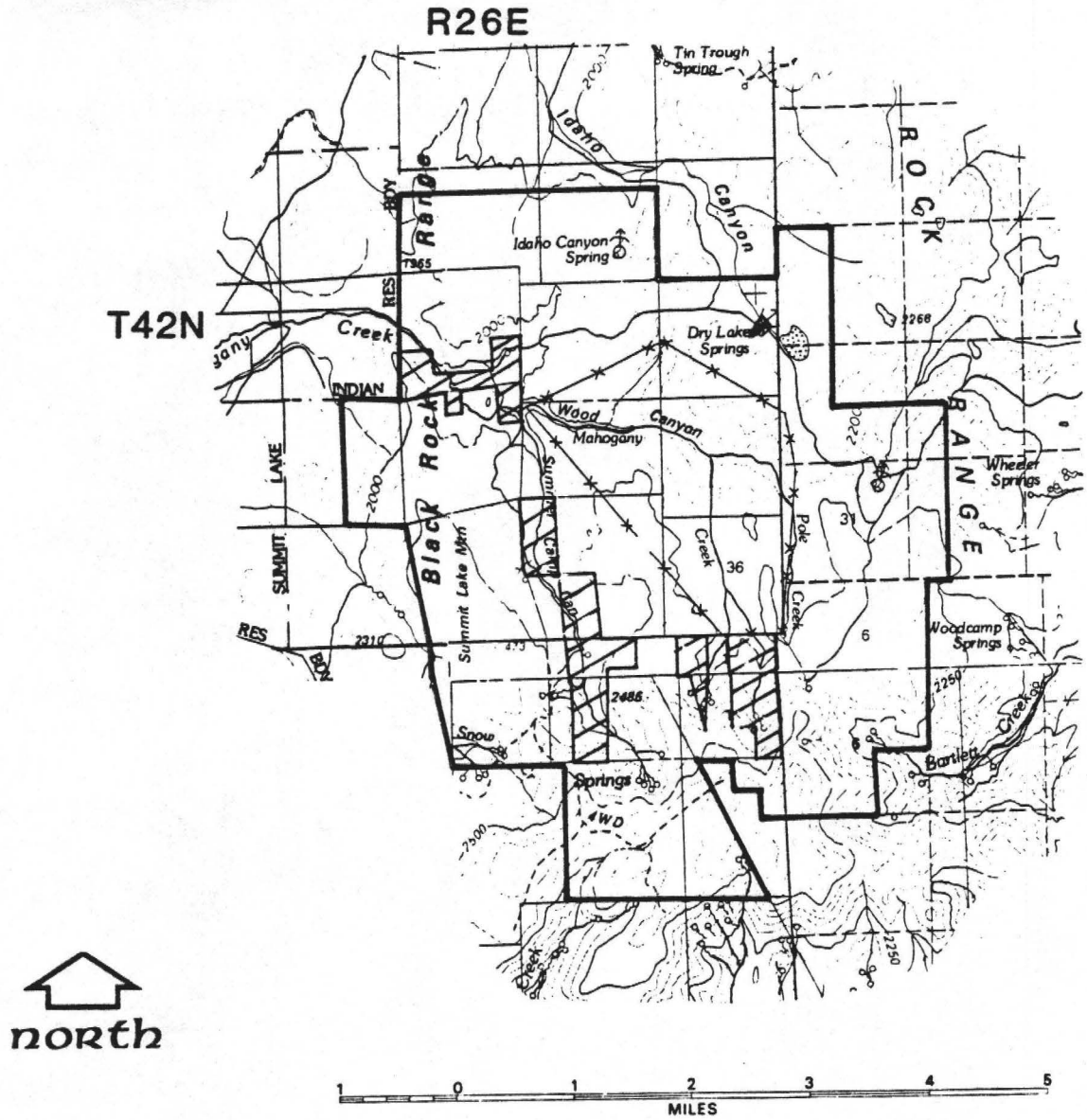
Map 14



SOLDIER MEADOWS ALLOTMENT
Mountain Mahogany Thickets

Legend: Locations

Map 15



PRIVATE LAND

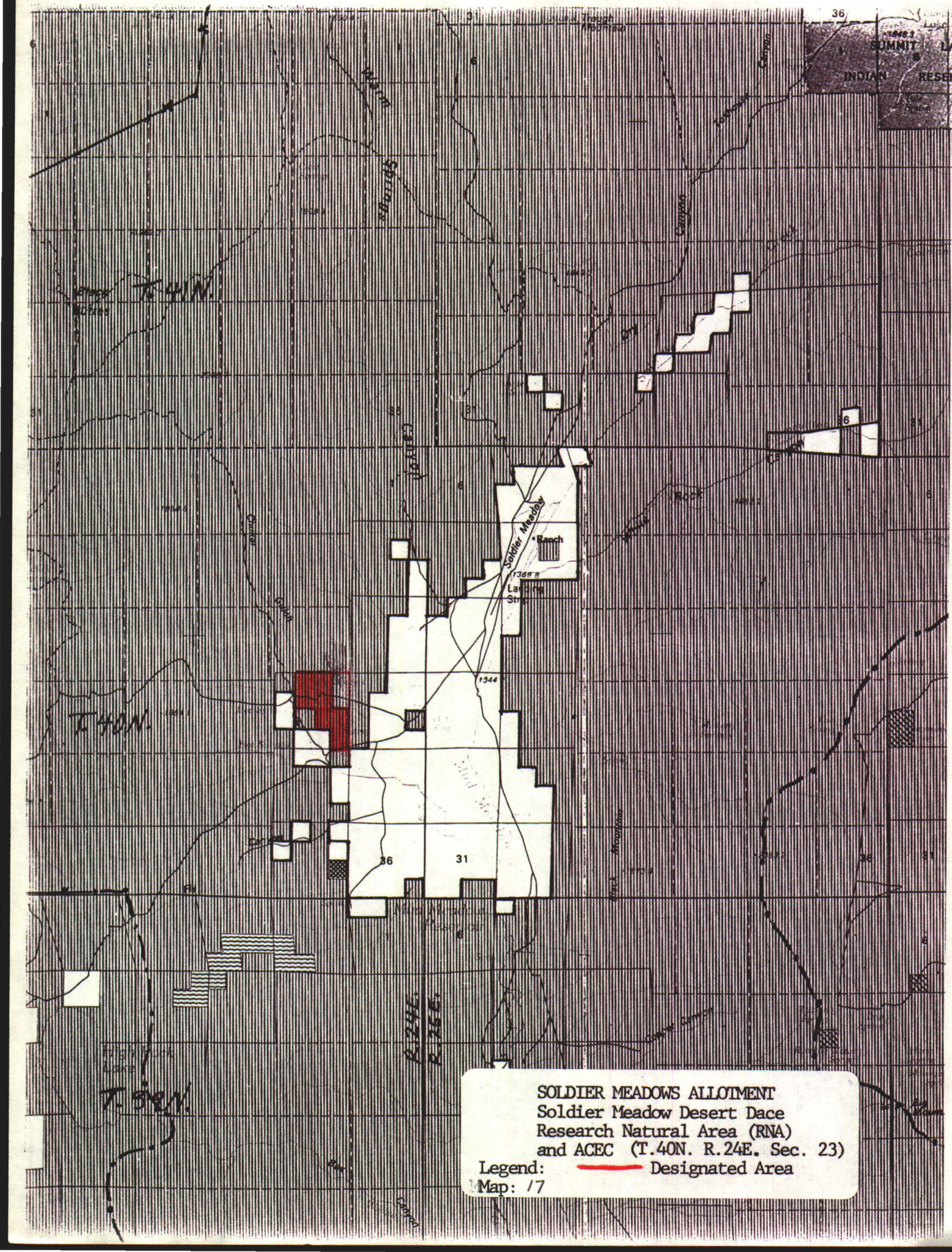
FENCE

RESERVOIR

DEVELOPED SPRING

SOLDIER MEADOWS ALLOTMENT
Lahontan Cutthroat Trout
Natural Area and Instant Study
Area (ISA)

Legend: boundary
Map: 16



SOLDIER MEADOWS ALLOTMENT
Soldier Meadow Desert Dace
Research Natural Area (RNA)
and ACEC (T.40N. R.24E. Sec. 23)

Legend: Designated Area

Map: /7

North Black Rock Range
NV-020-627

East Fork High Rock Canyon
NV-020-006A
NV-020-914

Pahute Peak
(South Black Rock)
NV-020-628

High Rock Lake
NV-020-007

Called Mine
NV-020-618

SOLDIER MEADOWS ALLOTMENT
Wilderness Study Areas

Legend: Area Boundary

Map: 18

SOLDIER MEADOWS ALLOTMENT
Study Site Locations

Legend:

- old Study Sites
- Exclosures

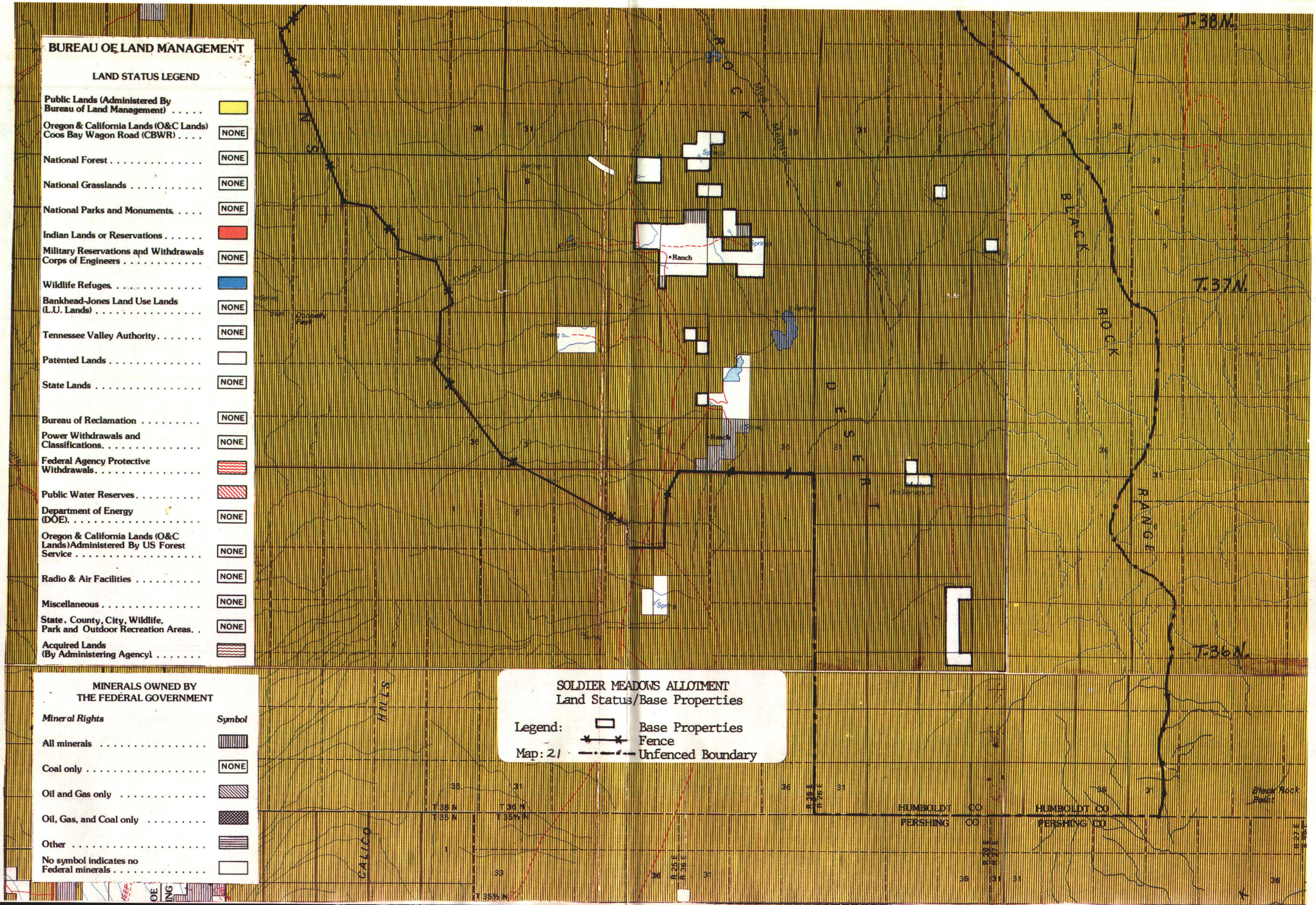
Map 19

R.24E. R.25E R.26E. T.43N T.42N T.41N T 40 N T39N T38N T.37N. T.36N.

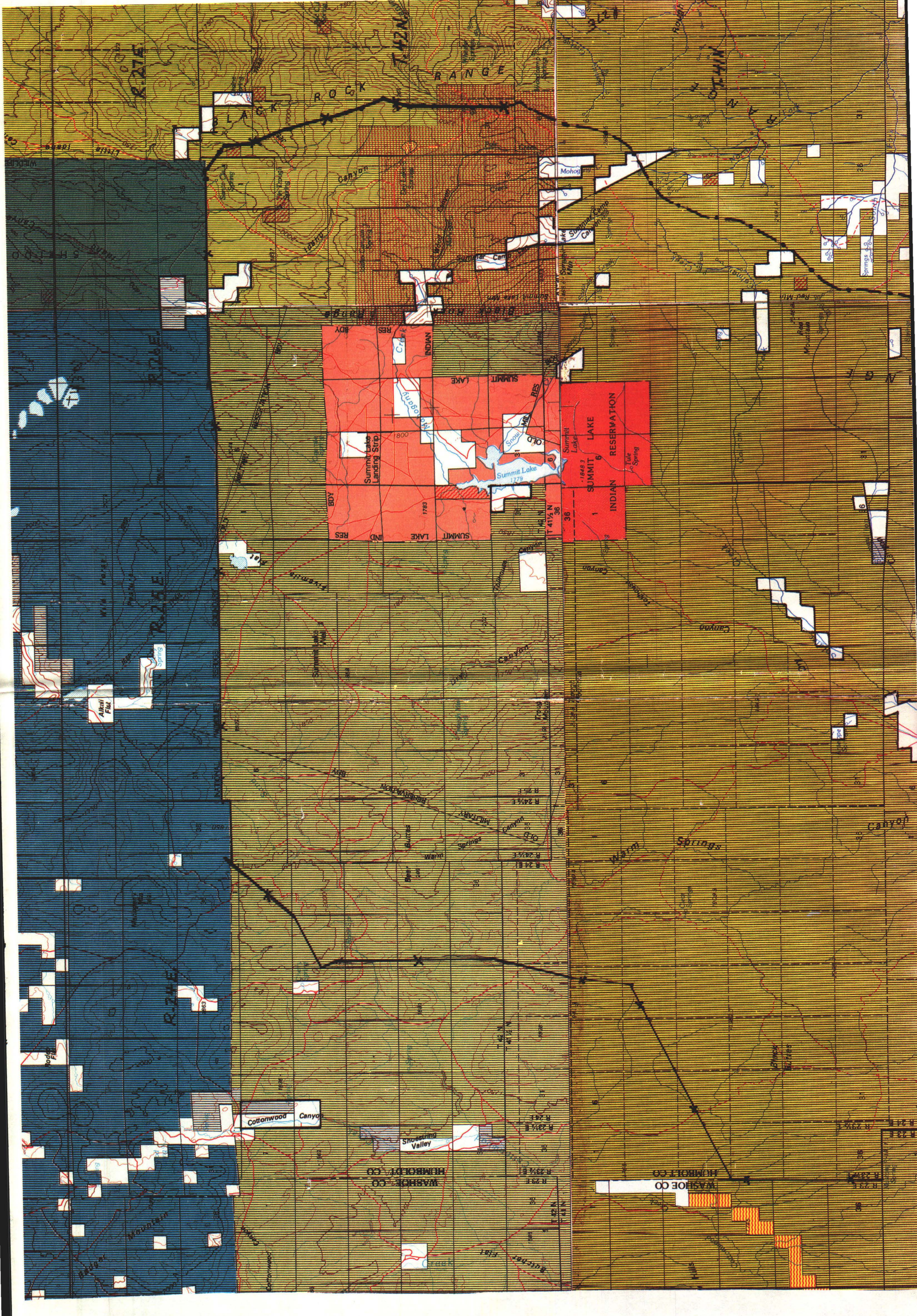
0022 0893 0074 0450 4113 0014 0092 0350 0452 4114 0677 2089 0772 4093 4087 0736 4847 4846 4128 0175 0723 0520 0524 C-N-2 0448 4089 0029 4299 4090 4725 0023 0008 4111 4140 4142 0337 4088 0025 0984 0770 0990 4091

SOLDIER MEADOWS ALLOTMENT
Existing Range Improvements

Legend: 1000 Project Number
Map 20


BUREAU OF LAND MANAGEMENT
LAND STATUS LEGEND
Public Lands (Administered By Bureau of Land Management)
Oregon & California Lands (O&C Lands) Coos Bay Wagon Road (CBWR) NONE
National Forest NONE
National Grasslands NONE
National Parks and Monuments NONE
Indian Lands or Reservations
Military Reservations and Withdrawals Corps of Engineers NONE
Wildlife Refuges
Bankhead-Jones Land Use Lands (L.U. Lands) NONE
Tennessee Valley Authority NONE
Patented Lands
State Lands NONE
Bureau of Reclamation NONE
Power Withdrawals and Classifications NONE
Federal Agency Protective Withdrawals
Public Water Reserves
Department of Energy (DOE) NONE
Oregon & California Lands (O&C Lands) Administered By US Forest Service NONE
Radio & Air Facilities NONE
Miscellaneous NONE
State, County, City, Wildlife, Park and Outdoor Recreation Areas. NONE
Acquired Lands (By Administering Agency)
MINERALS OWNED BY THE FEDERAL GOVERNMENT
Mineral Rights
Symbol
All minerals
Coal only NONE
Oil and Gas only
Oil, Gas, and Coal only
Other
No symbol indicates no Federal minerals
SOLDIER MEADOWS ALLOTMENT
Land Status/Base Properties
Legend:
Base Properties
Fence
Unfenced Boundary
Map: 21
T.38N.
T.37N.
T.36N.
BLACK ROCK DESERT
BLACK ROCK RANGE
CALICO HILLS
Ranch
Ranch
HUMBOLDT CO
PERSHING CO
HUMBOLDT CO
PERSHING CO
Black Rock Point
R 25 E
R 26 E
R 27 E

T.40N.
T.39N.
T.38N.
BLACK ROCK
RANGE
Paiute Meadows
Butte Creek
Deer Creek
Soldier Meadow
Mud Meadow
Mud Meadow Reservoir
Hot Spring
Springs
Black Mountain
BLACK ROCK
CALICO
MOUN
CANYON
Canyon
BUREAU OF LAND MANAGEMENT



BLACK ROCK RANGE
Summit Lake
SUMMIT LAKE RESERVATION
INDIAN
Summit Lake Landing Strip
Mohop
Tule Spring
Warm Springs
Canyon
Cottonwood Canyon
Shoestring Valley
Alkali Flat
WASHOE CO
HUMBOLDT CO
R 24 E
R 25 E

COMMISSION FOR THE PRESERVATION OF WILD HORSES
Stewart Facility
Capitol Complex
Carson City, Nevada 89710
(702) 885-5589

June 26, 1990

Bud Cribley, Manager
Sonoma-Gerlach Resource Area
Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

Dear Bud,

Thank you for the opportunity to review and provide comments on the draft AMPs for Soldier Meadows and Rodeo Creek allotments.

The documents appears to be very comprehensive and well done.

The only concern I have is regarding the proposed range improvements in the riparian areas of the Soldier Meadows allotment. While the Commission's policy supports protection of riparian areas, there are concerns regarding placement of fences.

We understand that it is usual to consult with the permittee on the placement of the fences that would bring about the range improvements. The Commission would request that we be notified of these consultations so that we may have a representative present. This will provide us with a better understanding of the placement in relationship to the wild horse herd movements.

As a possibility, it may be appropriate to request funds from the Commission for the proposed range improvements that will benefit wildlife, wild horses and livestock.

If we can provide you further information, please give us a call.

We look forward to working with you.

Sincerely,

TERRI JAY
Executive Director

TJ/cb