



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca Field Office
5100 East Winnemucca Boulevard
Winnemucca, Nevada 89445
702-623-1500



In Reply Refer To:
(NV-22.11)
4120.2

May 29, 1998

Dear Interested Public:

Please find enclosed the Draft Wilder-Quinn Allotment Evaluation Summary. This document analyzed, interpreted and evaluated data from 1985 to present and has two livestock management alternatives.

Please provide your comments by July 3, 1997. If you have any questions, feel free to contact Richard Barry at (702) 623-1500.

Sincerely yours,

Colin P. Christensen
ADM, Renewable Resources

m 5/29/98
Roy

CC:

Denny Land & Cattle CO. LLL
Roger and Marsha Colby
Bob de Braga
Dufurrena Sheep CO.
Natural Resources Defense Council
Sierra Club-Toiyabe Chapter
Craig Downer
The Wilderness Society
USFWS Sheldon National Wildlife Refuge
Desert Bighorn Council
NDOW-Fallon
NDOW-Winnemucca
Mr. John Marvel
Nevada Cattleman's Association
Nevada Farm Bureau Federation
USFWS
Sagebrush Chapter, Trout Unlimited
Wild Horse Organ. Assist.
Commission for the Preservation of Wild Horses
Humbolt County Commissionars
Oregon Dept. of Fish and Wildlife

June 1, 1998

DRAFT WILDER-QUINN
ALLOTMENT EVALUATION SUMMARY

I. INTRODUCTION

- A. Wilder-Quinn (00047)
- B. Permittees - Denny Land and Cattle CO. LLL, Roger and Marsha Colby, Dufurrena Sheep Company
- C. Evaluation Period March 1, 1985 to present
- D. Selective Management Category I

II. INITIAL STOCKING LEVEL

A. Livestock

1. Grazing Use (AUMs)

- a. The total number of animal unit months of specified livestock grazing:

	<u>Denny Land and Cattle CO.</u>	<u>Colby</u>	<u>Alex Dufurrena</u>
	13,877	102	400

- b. Suspend Preference
- | | | | |
|--|---|---|---|
| | 0 | 0 | 0 |
|--|---|---|---|

2. Season of Use:

- A. Denny Land and Cattle Company: March 01 to February 28
- B. Roger and Marsha Colby: December 01 to February 28
- C. Alex Dufurrena: April 01 to May 20

3. Kind and Class of Livestock - Cattle (cow/calf), Sheep

4. Percent Federal Range:
 - A. Denny Land and Cattle Company: 92% - (1,207 AUMs exchange-of-use)
 - B. Roger and Marsha Colby - 100%
 - C. Alex Dufurrena - 83%
5. Grazing System

- A. Denny Land and Cattle Company:

1. The following is a basic schedule of the grazing system used by the Denny Land and Cattle Company (formally called the Quinn River Crossing Ranch) since 1995:

Spring Grazing:

Bog Hot

250 C 03/01 to 05/31 738 AUMs

North of Quinn River Ranch/Lone Mountain/Houghland
Seeding/Denio Seeding/Quinn Seeding/North Wilder

1210 C 03/01 to 05/31 3367 AUMs

400 C 06/01 to 06/30 363 AUMs

Antelope

200 C 03/01 to 06/30 738 AUMs

Summer/Fall Grazing:

Mahogany

150 C 06/01 to 08/15 345 AUMs

Summer Pastures (Maggie Creek/Cottonwood Creek and Wilder Creek/Little Wilder Creek/Sagehen/Shyster Creek)

1210 C 06/01 to 06/30 1098 AUMs
1810 C 07/01 to 08/15 2518 AUMs

The Maggie Creek/Cottonwood Creek and Wilder/Little Wilder/Sagehen/Shyster Creek use areas are used on a rotational basis with one use area being rested per year. In addition, livestock may be pulled out of the summer use area scheduled for use in late July/early August and into the Lone Mountain or North Wilder field due to water or forage conditions in the summer use area.

Lone Mountain/North Wilder/Denio Seeding/Quinn Seeding/Houghland Seeding/North of Quinn River Ranch

1810 C 08/16 to 08/23 438 AUMs
980 C 08/24 to 09/15 682 AUMs

South of Quinn River Ranch

300 C 09/01 to 10/15 408 AUMs

Winter Grazing:

Quinn River Ranch Use Area

638 C 11/01 to 02/28 2318 AUMs

Quinn River Ranch Use Area includes 1) south of Quinn River Ranch, 2) Bilk Creek, east of Quinn River Ranch/Dufurrena Lambing grounds, 3) west of Quinn River Ranch, 4) north of Quinn River Ranch

Bog Hot

250 C 11/01 to 02/28 907 AUMs

2. In 1985, the Wilder-Bilk Allotment was separated into the Wilder-Quinn and Bilk Creek allotment by rangeline agreement. The Wilder-Quinn Allotment occupies 82% percent of the old Wilder-Bilk allotment. Livestock numbers, use periods, and AUMs have

varied greatly year from year since 1985. The following is a basic schedule of the grazing system used by the Quinn River Ranch until 1994 when the base properties was sold to the Denny Land and Cattle Company:

Winter/Early Spring Use Areas

Bog Hot Ranch area and Continental Lake - includes McGee Mountain and Mustang Springs:

400 C 11/01 to 02/28 1452 AUMs
400 C 03/01 to 03/31 375 AUMs

North of Wilder Ranch

393 C 12/01 to 02/28 1054 AUMs
393 C 03/01 to 03/31 383 AUMs

Quinn River Ranch Use area (QRR)

400 C 12/01 to 02/28 1089 AUMs
400 C 03/01 to 03/31 375 AUMs

Quinn River Ranch Use Area includes 1) south of Quinn River Ranch, 2) Bilk Creek, east of Quinn River Ranch/Dufurrena Lambing grounds, 3) west of Quinn River Ranch

Spring Use Areas

Lone Mountain burn area

1225 C 04/01 to 05/31 2261 AUMs

Denio, Houghland and Quinn River Seedings

275 C 04/01 to 04/30 250 AUMs
275 C 05/01 to 05/31 258 AUMs

These seedings are in a three pasture rest-rotation system with one pasture being rested each year.

Antelope

450 C 04/01 to 05/31 830 AUMs

Summer Use Areas

Mahogany

150 C 06/01 to 08/15 345 AUMs

Maggie Creek/Cottonwood Creek, Big/Little Wilder Creeks,
Sagehen/ Shyster Creek use areas

1810 C 06/01 to 07/08 2026 AUMs

1810 C 07/09 to 08/15 2135 AUMs

These use areas are in a three pasture rest-rotation system with one use area being rested each year.

Lone Mountain burn use area

1810 C 08/16 to 08/23 438 AUMs

980 C 08/24 to 08/31 237 AUMs

Livestock are trailed out of the Maggie Creek/Cottonwood Creek, Big/Little Wilder Creeks, Sagehen/Shyster Creek use areas into the Lone Mountain burn use area and then trailed to the Quinn River Ranch.

South of Quinn River Ranch

200 C 09/01 to 10/31 369 AUMs

B. Colby Permit:

The Colby permit is as follows: 34 C 12/01 to 02/28 102 AUMs. Use is made in the flats east of Denio and west of Wilder Creek.

C. Dufurrena Permit:

In accordance with the 1985 Rangeline Agreement, the Dufurrena Sheep Company has a 400 AUM sheep preference for lambing and trailing in the

Wilder-Quinn allotment. Lambing occurs during the months of April and May with all sheep within the boundary of the Bilk Creek allotment by May 20. The lambing grounds are in the Deep Creek - Bilk Creek Reservoir area. The Dufurrena permit is as follows:

1467 S 04/01 to 05/20 400 AUMs

B. Wildlife Use

1. Wildlife Species

a.	Reasonable number	AUMs
1)	Mule deer	1,266
2)	Antelope	208
3)	Bighorn Sheep	63

b. Wildlife Use Areas

McGee Mtn. DW-8	900 acres
Quinn River DY-6	3,474 acres
Pine Forest DW-7	11,351 acres
Jackson Mountains DY-18	1,174 acres
Pine Forest DS-8	5,458 acres
Pueblo Mountain DY-16	2,394 acres
Lone Mountain DW-11	4,232 acres
Bilk Creek DS-7	14,135 acres
Bilk Creek DY-9	14,953 acres
Trout Creek DS-4	1,148 acres
Denio PY-1	84,348 acres
McGee Mtn. PW-1	2,708 acres
Alta Creek PW-2	1,140 acres
Alta Creek PS-1	1,597 acres
Pueblo Mountains PY-2	8,676 acres
Big Creek PY-4	245 acres
Deep Creek PS-5	11,063 acres
Trout Creek PS-4	8,940 acres
Black Mtn. PW-3	5,315 acres
Wilder Creek PW-6	10,668 acres
Pine Forest BY-7	19,257 acres
McGee Mtn. BY-10	902 acres
Pueblo Mountains BY-9	6,348 acres

C. Wild Horses and Burros

I. Wild Horses

The Wilder-Quinn Allotment intersects the Jackson Mountain HMA (Herd Management Area) at the extreme northern tip of the HMA. Approximately 3,400 acres of the HMA is in the allotment. The HMA boundary includes only the steep rough mountain at the north tip of the Jackson Mountains within the Wilder-Quinn Allotment. The current horse use area includes a descending ridge and associated flats out to the Leonard Creek Road. See appendix II, Map xx.

Wild horses occupied the Jackson Mountain area at the time of the passage of PL-92-195. As such, they will be managed as an integral component of the ecosystem. This allotment was not mentioned in a 1988 Land Use Plan amendment that did list adjacent allotments as horse management areas. Conversely, the area was not listed "horse free". It is not known why this oversight occurred. It is probable that the information available at that time was not complete and horses may well have been utilizing this allotment during the winter, as they now do. This possibility is based on the ease with which horses now move between the Happy Creek Allotment and the Wilder-Quinn. A major horse trail goes around the end of the fence where it ties into the rocks on the east slope of the Jackson Mountains. In addition, a gather conducted 12/88-1/89 captured and removed 15 horses from the Wilder-Quinn Allotment. A 1969 census flight identified horses near the area in question and a 1977 step 3 URA estimated 7 AUM's of horse use for the Wilder-Quinn Allotment.

The horses that use the Wilder-Quinn Allotment are part of the north herd which occupies the Jackson Mountains HMA. This herd currently utilizes portions of four allotments. Wilder-Quinn, Happy Creek, Bottle Creek and Deer Creek. Deer Creek is the only allotment on which an evaluation has been completed and an Appropriate Management Level (AML) has been established. This document, along with the Proposed and Final Multiple-use Decisions, will establish an AML for the Wilder-Quinn allotment. In addition, an allotment evaluation is currently being conducted for the Happy Creek allotment and an evaluation is scheduled for the Bottle Creek allotment this year. AML's will be established through both these documents.

At this time, 125/130 horses inhabit the four allotments. Movement between allotments has been managed as one herd regardless of the

allotment they may be inhabiting at any point in time.

2. **Burros**

Burros currently use the Bog Hot area of the Wilder-Quinn Allotment. At least 15 burros are presently within these boundaries. A group of seven has been seen along the west flank of the Pueblo Mountains; A band of six moves between BLM administered land and Sheldon Antelope Refuge in the vicinity of Bog Hot Well on the Alder Creek/Wilder-Quinn boundary fence; two have been observed in the vicinity of Continental Lake. **These burros are well outside HMA boundaries** (See map 1, appendix II for burro location).

The Alder Creek Allotment Evaluation Final Multiple Use Decision states in part, "Adjust the HMA boundary during the Resource Management Plan (RMP) Process to include Bog Hot and Gridley Lake pastures within the Alder Creek Allotment. Delete those portions of the HMA within the Wilder-Quinn and Knott Creek Allotments. Set the initial AML at 41 burros as per the Paradise-Denio Resource Area Management Framework Plan." This decision means burros will be removed from the Wilder-Quinn Allotment and burros in the Alder Creek Allotment be managed in the area identified as the Primary Burro Use Area south of the north boundary of Alder Creek Allotment.

The McGee burro herd and adjacent burros located on the Sheldon Natural Wildlife Refuge (SNWR) are believed to be the most northern herd of burros in the United States. These burros have probably never used the HMA except for the lower foothills along the east edge of the boundary. The decision to adjust the boundary to include the primary burro use area on the Alder Creek Allotment is logical. At least 44 burros are presently using this area which is near the established AML of 41.

Wild Burros have moved back and forth between the SNWR and BLM administered lands for years. The refuge has conducted at least one gather of burros in 1977 and it is believed this activity may have kept the numbers of burros down on BLM administer lands. The U.S. Fish and Wildlife Service is currently fencing its boundaries to eliminate livestock drift from public lands onto refuge lands. Once the last segment of the fence is complete, the movement of burros across jurisdictional boundaries should be minimized. This fence should be completed by the summer of 1996.

Even though land administered by the Fish and Wildlife Service are not covered under Public Law 92-195, they have identified wild horse and burro management as a legitimate use of their lands through their planning process. Between 75 and 125 wild horses and 30 to 60 burros is "a level which the Service believes would allow adequate forage for native wildlife species..." These are their target levels for management of Wild Horses and Burros in the refuge.

SUPPORT OF FINAL MUD FROM ALDER CREEK ALLOTMENT EVALUATION

The burros presently inhabit both allotments (Alder Creek and Wilder-Quinn) so they must be considered in both Allotment Evaluations. The Multiple Use Decision from the Alder Creek Allotment Evaluation has received review by effected interests and the decision is final. After monitoring and review of all pertinent information, the decision is supported in this evaluation due to the following:

1. The burros within the Wilder-Quinn Allotment range near Highway 140 which is a major paved highway between Denio and Lakeview Oregon. It is probable some burros will be hit by vehicles if we continue to allow them along the highway.
2. These burros are at least 7 miles outside HMA boundaries. They are on the other side of a fence and across a main highway from the HMA and the primary burro use area.
3. The fragmented nature of that portion of the Wilder-Quinn Allotment south of Highway 140 and the Sheldon Wildlife Refuge preclude burro management unless 4 miles of fence is removed and allotment boundaries are changed.
4. Centralizing burro management in one allotment will facilitate management.
5. Relocating the burros from the Wilder-Quinn Allotment to the Alder Creek Allotment is not an option because burro numbers are already above AML in the Alder Creek Allotment.

III. ALLOTMENT PROFILE

A. Description

The Wilder-Quinn River Allotment is located in the Denio Planning Unit. The Northwestern portion is approximately 115 miles northwest of Winnemucca, Nevada, along the Oregon border in the vicinity of Denio, Nevada. The southeastern portion is located north and south of State Highway 140 on Nine Mile Road near Quinn River Crossing. The elevation varies from 5,000 to 7,400 feet. Soils are volcanic and granite in origin. Lower elevation vegetation by shadscale and greasewood. The higher elevations have sagebrush, bitterbrush, aspen and Mountain Mahogany. Grass species include Indian ricegrass, bluebunch wheatgrass, Idaho fescue and Nevada bluegrass.

B. Acreage

1. Allotment Totals

- a. Total Acres 204,007
- b. Public Acres 189,626
- c. Private Acres 14,381

C. Objectives

1. Allotment Management Plan (AMP)

The following objectives were those listed in the 1972 Wilder-Bilk Allotment AMP:

- a. To distribute water over entire allotment so forage can be effectively utilized.
- b. To limit effect of fire and establish browse species.
- c. To separate spring and summer range, keeping livestock from moving higher before forage is ready.
- d. To decrease sagebrush, rabbitbrush and iris in wet meadows thus increasing sagegrouse habitat and reducing erosion.

- e. To increase useable forage production in the crested wheatgrass seedings.
 - f. To increase Sandberg bluegrass, squirreltail, Indian ricegrass, needlegrass and bluebunch wheatgrass on lower elevation ranges from 2% to 15%.
 - g. To increase the percentage of grasses (Mountain brome, Idaho fescue and red top plus those mentioned above) from 6% to 15% and the percentage of forbs such as hawksbeard, balsamroot, western yarrow, sweetanise and penstemon, over the entire allotment from 3% to 15%.
 - h. To slow down and or stop gully erosion along water channels.
 - i. To provide a multiple use orientated management plan for this allotment with the use of livestock.
 - j. To provide flexible turnout dates which correspond to forage readiness.
 - k. To develop water with wildlife needs in mind.
 - l. To develop a management plan which will restrict livestock movement thus giving deer more space to roam.
 - m. To develop a management plan that supplies adequate forage for all grazing animals regardless of annual fluctuations in forage production.
2. Land Use Plan (Resource Area Wide)
- a. Objective RM-1

To provide forage on a sustained yield basis through natural regeneration. Reverse downward deterioration of public grazing lands by improving 1,000,000 acres in poor condition to fair condition, and 400,000 acres in fair condition to good condition within 30 years.

b. Objective RM-2

Increase existing allocable livestock forage by artificial methods from the present 103,721 AUMs to approximately 193,472 AUMs (89,751 AUM increase) within 30 years.

c. Objective WL-1

Improvement and maintenance of a sufficient quantity, quality, and diversity of habitat for all species of wildlife in the planning area.

d. Objective W-1

Preservation and improvement of quality water necessary to support current and future uses.

e. Objective W-2

Provision of adequate water to support public land uses.

f. Objective W-3

Reduction of soil loss and associated flood and sediment damage from public lands caused by accelerated erosion (man-induced) from wind and water.

3. Rangeland Program Summary

These objectives were those that were listed prior to the 1985 rangeline agreement separating the Wilder-Bilk Allotment into the Wilder-Quinn and Bilk Creek Allotments.

a. Livestock Management Objectives

1. Increase available forage to sustain an active preference of 17,419 AUMs.
2. Improve range condition from poor to fair on 30,932 acres by implementing a combination deferred-rotation and rest-rotation grazing system on both the summer and spring seasonal use areas.

3. Fence, where necessary, crucial meadows and riparian areas.

b. Wildlife Management Objectives

1. Manage rangeland habitat and forage condition to support reasonable numbers of wildlife demand as follows:

Deer	1,266 AUMs
Antelope	208 AUMs
Bighorn Sheep	63 AUMs

2. Protect known sage grouse breeding complexes and future grounds identified.
3. Encourage the development of a beaver control program with NDOW.

4. Allotment Objectives

The allotment specific objectives tie the AMP, LUP, and RPS objectives together into quantified objectives for this allotment.

a. Short term

1. Utilization of key streambank plant species shall not exceed 50% on Maggie, S.Fk Cottonwood, Wilder and Little Wilder Creeks.
2. Utilization of key plant species on wetland riparian habitats shall not exceed 50%.
3. Utilization of key plant species in upland habitats shall not exceed 50%.
4. Utilization of crested wheatgrass in the seedings shall not exceed 50%.

b. Long Term

1. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 1,266 AUMs for mule deer, 208 AUMs for pronghorn, and 63 AUMs for bighorn sheep.
 - A. Improve to and maintain 59,219 acres of mule deer habitat in good or excellent condition.
 - B. Improve to and maintain 24,231 acres of pronghorn habitat in good condition. Improve to and maintain 110,394 acres of pronghorn habitat in fair or good condition.
 - C. Improve to and maintain 26,507 acres of bighorn sheep habitat in good or excellent condition.
2. Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 13,877 (AMP 1,c,f,g,i,j,l,m, RM-1, RM-2, W-3, RPS a 1-3)
3. Improve range condition from poor to fair on 155,836 acres and from fair to good on 25,364 acres. (AMP 1-a-m, RM-1, RM-2, RPS a-2)
4. Improve or maintain 29 acres of Ceanothus with good age class distribution (WL 1.4, 1.11).
5. Improve or maintain 1,370 acres of mahogany stands to ensure good reproduction and maximize recruitment within the stand (WL 1.4, 1.12, F 1, 1.2).
6. Improve or maintain 468 acres of aspen stands to ensure good reproduction and maximize recruitment within the stand (WL 1.3, 1.5, 1.11, 1.21, 1.24, REC 2.10).
7. Improve or maintain 259 acres of riparian and meadow habitat to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian

species (W1 1.5, 1.3, F 1.1, 1.3).

8. Improve the following stream habitat conditions from 55% on Wilder Creek, 41% on Little Wilder Creek, to an overall optimum to 60% or above. (AMP 1-h, RM-1, WL-1, W-1, W-2, W-3)
 - a. Streambank cover 60% or above.
 - b. Streambank stability 60% or above.
 - c. Maximum summer water temperatures below 70° F.
 9. Protect sage grouse strutting grounds and brooding areas. Maintain a minimum of 30% cover of sagebrush for nesting and winter use.
 10. Improve to and maintain the seeded pastures in good condition (5-10 acres per AUM). (AMP 1-g, RM-1, RM-2)
 11. Improve to and maintain the water quality of S. Fk. Cottonwood, Maggie and Wilder Creeks to the state criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wildlife propagation, and wading (water contact recreation). (AMP 1-e.k, WL-1, W-1, W-2, W-3)
 12. Improve or maintain 33,055 acres of mountain browse habitat with good reproduction and recruitment.
5. The following are the standards for rangeland health as developed in consultation with the Sierra Front-Northwestern Great Basin Area Resource Advisory Council, other interested publics and approved by the Secretary of the Interior on February 12, 1997.
- a. Soil processes will be appropriate to soil types, climate and land form.
 - b. Riparian/wetland systems are in properly functioning condition.
 - c. Water quality criteria in Nevada and California State Law shall be achieved or maintained.

- d. Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse.
- e. Habitat conditions meet the life cycle requirements of special species.

D. Forage Species Monitored

1. Upland Habitat

<u>Code</u>	<u>Scientific Names</u>	<u>Common Name</u>
STTH ₂	<u>Stipa thurberiana</u>	Thurber's needlegrass
SIHY	<u>Sitanion hystrix</u>	bottlebrush squirreltail
POSE	<u>Poa secunda</u>	Sandberg bluegrass
EICI ₂	<u>Elymus cinereus</u>	basin wildrye
AGIN ₂	<u>Agropyron intermedium</u>	intermediate wheatgrass
AGCR	<u>Agropyron cristatum</u>	crested wheatgrass
AGSP	<u>Agropyron spicatum</u>	bluebunch wheatgrass
FEID	<u>Festuca idahoensis</u>	Idaho fescue
BRMA	<u>Bromus marginatus</u>	mountain brome
PONE ₃	<u>Poa Nevadensis</u>	Nevada bluegrass
SPAI	<u>Sporobolus airoides</u>	alkali sacaton
CRAC ₂	<u>Crepis acuminata</u>	tapertip hawksbeard
SEIN	<u>Senecio integerimus</u>	lambstongue groundsel
BASA	<u>Balsamorhiza sagittata</u>	balsamroot
MEOF	<u>Medicago spp.</u>	alfalfa
RIBES	<u>Ribes spp.</u>	currant
AMELA	<u>Amalanchier spp.</u>	serviceberry
PUTR	<u>Purshia tridentata</u>	bitterbrush
SYMPH	<u>Symphoricarpus spp.</u>	snowberry
ATCO	<u>Atriplex confertifolia</u>	shadscale
SAVE	<u>Sarcobatus vermiculatus</u>	greasewood
ARSP	<u>Artemisia spinescens</u>	budsage
GRSP	<u>Grayia spinosa</u>	spiny hopsage
TEGL	<u>Tetradymia glabrata</u>	horsebrush
HOLDO	<u>Holodiscus spp.</u>	oceanspray
CEANO	<u>Ceanothus spp.</u>	ceanothus
CELE	<u>Cercocarpus ledifolius</u>	mountain mahogany

2. Riparian Habitat

<u>Code</u>	<u>Scientific Name</u>	<u>Common Name</u>
CAREX	<u>Carex spp.</u>	sedge
JUNCU	<u>Juncus spp.</u>	rush
SALIX	<u>Salix spp.</u>	willow
ROSA	<u>Rosa spp.</u>	rose
POPR	<u>Poa pratensis</u>	Kentucky bluegrass
POTR ₅	<u>Populus tremuloides</u>	Aspen
PRVI	<u>Prunus virginiana</u>	chokecherry

E. Other Information

1. The Wilder fires in July 1985, burned 32,005 acres of public and private land resulting in a fire closure and temporarily suspended 2,716 AUMs in the Wilder-Quinn allotment.

Rehabilitation projects for both fires were initiated and resulted in 6,450 acres being reseeded. For more information see project file listed above, located in the Paradise-Denio Resource area.

2. Habitat Improvement Projects

The Sagehen meadow exclosure and checkdams project were completed in 1967 to improve sage grouse habitat. Two artificial watering devices were constructed in 1985 to provide water for upland and big game.

3. Pronghorn populations have increased in the burned area in response to the rehabilitation of the Wilder fires.
4. In August, 1991, the Lovely Fire burned 3460 acres in portions of the Wilder-Quinn allotment. As a result of the fire, the Sagehen/Shyster Creek use area was rested from livestock grazing by agreement for two years. Livestock grazing was re-initiated in the use area in 1994.
5. In 1994, the Quinn River Ranch base properties were sold to the Quinn River Crossing Ranch, L.C. The company was later renamed the Denny Land and Cattle Company L.L.L.
6. In 1994, Nolan Edward's lease of the base property owned by Mary Waldkirch expired. This permit reverted back to Mrs. Waldkirch. In 1997, Mrs. Waldkirch sold the base property to Roger and Marsha Colby and

and a transfer of the grazing privileges was initiated and completed.

7. In 1995, the SNWR initiated construction of a boundary fence along the Refuge - public land boundary in the Bog Hot area to prevent livestock access onto refuge land. The fence was completed in late 1996.
8. In 1997, Denny Land and Cattle Company constructed the Cold Springs drift fence to prevent livestock drift from the Continental Lake area into the Antelope use area. In addition, the Wilder #4 and #3 drift fence are scheduled to be constructed in 1997.

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of the monitoring evaluation is to determine if current management practices are meeting the allotment specific and Land Use Plan objectives and to identify management changes needed to meet objectives.

B. Summary of Studies Data

1. Actual Use

a. Livestock

<u>Year</u>	<u>Quinn River Ranch</u>	<u>Denny Land & Cattle CO./ Quinn River Crossing Ranch</u>	<u>Waldkirch</u>	<u>Colby</u>	<u>Dufurrena</u>	<u>Total</u>
1997 ¹	0	11,121	0	102	404	11,627
1996	0	12,244	0	0	128	12,372
1995	0	11,895	0	0	253	12,148
1994	0	11,962	0	0	101	12,063
1993 ²	9,399	1,089	0	0	169	10,657
1992	11,389	0	24	0	83	11,506
1991	11,550	0	50	0	67	11,667
1990	5,366	0	97	0	272	5,736
1989	8,588	0	86	0	0	8,674
1988	6,342	0	0	0	39	6,381
1987	6,425	0	63	0	0	6,488
1986	7,287	0	0	0	0	7,287
1985	6,978	0	0	0	0	6,978

b. Wildlife (existing numbers)

California bighorn sheep were released in 1985 on Mahogany Mountain in the Pine Forest Range and now use this area as part of their normal use area. Additional bighorn sheep were released on the SNWR in 1987 and now use a portion of McGee Mountain on this allotment as part of their use area. Bighorn sheep which were released on the Oregon portion of the Pueblo Mountains in 1976 have extended their use area down to include the Nevada portion of that range including this allotment.

¹ Roger and Marsha Colby bought the base properties associated with the Waldkirch permit and initiated a transfer for the grazing privileges. The transfer was completed in 1997.

² In 1993, the Quinn River Crossing Ranch L.C. (now known as the Denny Land and Cattle CO). bought the base properties associated with the Quinn River Ranch permit and initiated a transfer of the grazing privileges. The transfer was completed in 1994.

Elk have been observed in this allotment in 1993, 1994, and 1995.

Table 1. Percentage of Mule Deer and Pronghorn Winter, Summer, and Yearlong Habitat in the Wilder-Quinn Allotment compared to units 031 and 032 as a whole

Species	Unit	Winter	Summer	Yearlong	Winter + Yearlong	Total Habitat
Mule						
Deer	031	9.82	13.74	15.60	14.80	14.49
Mule						
Deer	032	12.99	--	10.00	12.57	9.35
Pronghorn	031	37.71	8.54	20.16	23.25	19.21
Pronghorn	032	17.96	--	21.42	20.74	17.46

Using this information, estimates of mule deer and pronghorn numbers were derived by multiplying the above percentages for winter and yearlong habitat by the hunt unit estimate for mule deer and pronghorn populations. The total for each hunt unit is combined to arrive at an allotment estimate of mule deer use in numbers of animals. Next, the number of animals was multiplied by the number of months (12) the animals were expected to be present to arrive at an estimated annual forage demand for the allotment (Table 2).

Table 2. Estimated Numbers and Forage Demand for Mule Deer and Pronghorn in the Wilder Quinn Allotment for Years 1989 Through 1994.

Year fall of	Mule Deer* Number/AUMs	Pronghorn** Number/AUMs
1994	427/1281 AUMs	382/ 917 AUMs
1993	301/ 903 AUMs	349/ 838 AUMs
1992	317/ 951 AUMs	355/ 852 AUMs
1991	418/1254 AUMs	379/ 910 AUMs
1990	401/1203 AUMs	299/ 717 AUMs
1989	417/1251 AUMs	240/ 576 AUMs

* Evaluation methods used by Nevada Division of Wildlife (NDOW) beginning in 1989 differed from methods employed prior to that, therefore, estimates prior to 1989 were not included.

** Beginning in 1992, pronghorn populations were estimated using a computer model developed by NDOW.

Mule deer populations in the Wilder Quinn Allotment did not experience the large decline in numbers over the winter of 1992-93

that occurred in other parts of Northern Nevada. The significant change noted between 1993 and 1994 is due, in part, to a modification by NDOW to previous estimates of 1992/93 winter kill rates. It is now believed that winter death rates were not as widespread.

These allotment population estimates are not intended to be used as indicators of habitat condition or actual use in an allotment due to the fact that several factors annually influence the actual distribution of mule deer and pronghorn throughout their range. These same factors effect the accuracy of the population estimates calculated by NDOW. This information is, however, adequate to make determinations of long term trend for the area or the hunt unit. In general, wildlife numbers have been fairly stable for mule deer throughout the evaluation period, and increasing for pronghorn.

c. Wild Horses

Wild horses seem to use the Wilder-Quinn Allotment on a sporadic basis. During the spring and summer of 1995 wild horses were not observed on this allotment. On 8/31/95 3 horses were seen and 14 horses were observed on 9/6/95. These observations are consistent with movement of horses from the higher areas to the lower foothills and flats in the Buff Peak/Buckbrush Spring area in the SE corner of the allotment during August. Nine horses were identified using the area during the winter of 1993. On the ground observations of old manure piles substantiate the fact that the area is used regularly by wild horses. As more monitoring data is collected on these horses, their movement patterns and seasonal use of this allotment will be better understood. Water is not available within the HMA located in the Wilder-Quinn Allotment. Water is available at an unnamed spring located in the NE corner of the Happy Creek Allotment. This spring is easily accessible via a major horse trail.

Range Condition

Based on observation, the horses utilizing this allotment are not creating a problem in terms of range condition. Most of the use is being made during fall/winter months when the plants are dormant. Overlap of use areas between wild horses and domestic livestock

is minimal. It appears that horse use of this area is within the bounds of a "thriving ecological balance."

Wild Burros

At least 15 burros are presently within the Bog Hot area of the Wilder Quinn allotment. A group of seven has been seen along the west flank of the Pueblo Mountains; A band of six moves between BLM administered land and SWNR in the vicinity of Bog Hot Well on the Alder Creek/Wilder-Quinn boundary fence; two have been observed in the vicinity of Continental Lake.

2. Climate

Precipitation Data for Kings River NOAA (1985-1995)

<u>Year</u>	<u>Growing Season</u>	<u>Yearly "</u>	<u>Departure From Normal</u>
1985	2.05	6.35 M	M
1986	6.82 M	11.36 M	M
1987	4.42	8.65	M
1988	2.16	7.22	M
1989	3.46	6.98 M	M
1990	2.76	4.21	M
1991	8.92	9.75 M	M
1992	1.54 M	4.93 M	M
1993	3.68	10.02	-.41
1994	2.62	7.82 M	M
1995	NA	NA	NA
1996	3.61 M	9.69 M	NA

Growing season 01 March to 31 August

M - Partial or incomplete data

NA - Not Available

Precipitation Data
for
Denio NOAA Station (1985-1995)

<u>Year</u>	<u>Growing Season</u>	<u>Yearly "</u>	<u>Departure From Normal</u>
1985	2.32	6.45 M	M
1986	4.74	10.39	M
1987	5.44 M	8.74 M	M
1988	3.14	7.57	M
1989	4.37	7.35	M
1990	4.38	6.21	M
1991	9.69	11.43	M
1992	2.38 M	8.10 M	M
1993	8.77	13.53	M
1994	2.70	7.21	-1.96
1995	NA	NA	NA
1996	4.68	10.91 M	M

Growing season 01 March to 31 August

M - partial or incomplete data

NA - Not Available

3. Utilization

- a. The Key Forage Plant Method (KFPM) was employed to collect utilization measurements. These transects are at random locations throughout the allotment and no key areas have been established. The utilization classes are as follows:

No Use	0%
Slight	1-20%
Light	21-40%
Moderate	41-60%
Heavy	61-80%
Severe	81-100%

Utilization Data (KFPM)

<u>Year</u>	<u>Use area/ Pasture</u>	<u>Species</u>	<u>% Utilization</u>	<u>Class</u>
1985	Denio Seeding #3	AGCR	50	moderate
1985	Denio Seeding #2	AGCR	63	heavy
1985	Denio Seeding #1	AGCR	75	heavy
1985	Quinn River Seeding #1	AGCR	55	moderate
	#2	AGCR	44	moderate
1993	Maggie Crk (Spade Cabin Meadow)	Carex	71	Heavy
		Juncus	67	Heavy
	Maggie #1	Feid	48	Moderate
		Pose	10	Slight
		Agsp	46	Moderate
	Maggie #2	Feid	16	Slight
		Pose	5	Slight
		Agsp	46	Moderate
		Sihy	5	Slight
	Maggie #3	Feid	44	Moderate
		Pose	2	Slight
		Agsp	39	Light
	Maggie #4	Feid	40	Moderate
		Pose	11	Slight
		Sihy	6	Slight
1994	N. Shyster Crk.	Carex	56	moderate
		Juncus	53	moderate
1994	Sagehen Meadow	Carex	58	moderate
		Juncus	58	moderate

b. Use Pattern Mapping (UPM)

UPM (partial or complete) was completed in 1988, 1989, 1990, 1991, 1992, 1994, 1995, 1996. The following is a summary of this data.

The UPM is summarized below on a pasture by pasture, or use area, basis. Actual use and licensed use were utilized for AUM computations (see 3a of this section for utilization classes).

1988

Data collected 02/28/89, 03/13/89 and 04/11/89.

Bog Hot Use Area

Quinn River Ranch:

200 C - 12/06/88 to 01/01/89 - 163 AUMs
340 C - 01/17/89 to 02/05/89 - 206 AUMs
390 C - 02/06/89 to 02/28/89 - 271 AUMs
390 C - 03/01/89 to 03/31/89 - 257 AUMs
897 AUMs

Eighty percent of the Bog Hot use area was mapped. Approximately 3% of the area mapped received heavy use, 5% moderate, 5% light, 79% slight, and 8% no-use. Light use occurred approximately one mile northeast of Bog Hot Ranch. Moderate use occurred 3/4 mile north of State Route 140, on the road to Bog Hot Ranch. Heavy use occurred in the vicinity of Bog Hot Well and north of the Ranch. Slight and no-use was noted in remaining areas of the use area.

North Wilder Field

Quinn River Ranch:

137 C - 11/20/88 to 02/05/89 - 323 AUMs

One hundred percent of the Field was use pattern mapped. Approximately 5% of the pasture received heavy use, 15% moderate, 25% light, and 55% slight. Utilization was slight on the west side of the use area near Mud Spring, light for approximately 2 3/4 mile north of Wilder Ranch, moderate utilization was found east and west of the Wilder Ranch Road and north to the Oregon boarder. Heavy use was noted on crested wheatgrass in the vicinity of Wilder Creek.

1988 - 1989

Quinn River Ranch Use Area

Quinn River Ranch:

448 C 12/02/88 to 02/28/89 1206 AUMs

448 C 03/01/89 to 03/31/89 420 AUMs

Data collected 4/24, 4/27, 5/4, and 5/9/89

Approximately 75% of the area was use pattern mapped. 65% of the area received heavy utilization, 10% moderate, 8% light, 14% slight, and 3% no-use. Utilization was slight and light adjacent to the Quinn River Ranch, south of Dufurrena's Ranch, and adjacent to the west boundary fence north of windmill #4240. Moderate and heavy use occurred east and west of the windmill.

Utilization was heavy east of Leonard Creek Road with slight to light use west of the road down to the Quinn River. Bands of moderate use occurred adjacent to the areas of heavy use. Moderate use occurred southeast of the ranch in a meadow and associated upland areas.

Overall utilization was heavy in the Bilk Creek Reservoir area. Slight use occurred northwest of Ninemile Road and adjacent to Bilk Creek Reservoir and eastward to the boundary fence. Slight use occurred west of the reservoir to Lady Bird Well.

1989

Houghland Seeding

Quinn River Ranch:

232 C - 04/01 to 05/31 - 428 AUMs

Data collected 06/21/89

One hundred percent of the seeding was mapped. Seventy percent of the area received heavy use, 10% moderate, 7% light, 3% slight, and 10% no-use. Heavy utilization occurred in the central portion of the pasture with moderate use in the north, south and west portions of the pasture. Light

use was found north of the Highway Maintenance Station and slight use south of Houghland Spring.

Quinn River Seeding

Quinn River Ranch:

122 C - 04/01 to 05/31 - 225 AUMs

Data collected 06/21/89

The entire seeding was use pattern mapped. 35% received heavy use, 45% moderate, 10% slight, and 10% no-use. Utilization was heavy in the northern third of the area, moderate in the central portion and slight in the southeast corner. No use occurred in the southwest corner of the use area.

Antelope Use Area

Quinn River Ranch:

300 C - 04/01 to 06/01 - 563 AUMs

Data collected 06/21/89

The entire use area was use pattern mapped. 10% of the area received moderate use, 15% light, 50% slight, and 25% no-use. Moderate use was found in the Denio Summit, Emigrant Pass, north of Thacker Canyon, and north of the Harness Ranch. Slight and light use was found in remaining areas. No use occurred in steep areas north of Emigrant Pass and north of Mahogany Mountain.

Lone Mountain

Quinn River Ranch:

Data collected 09/29,30, 10/03 -05/89

503 C - 04/01 to 05/31 - 928 AUMs

One hundred percent of the Lone Mountain use area was use pattern mapped. 10% of the area received heavy use, 15% moderate, 2% light, and 73% slight. Heavy and moderate use occurred in areas surrounding waters

and in the area west of Mud Creek which was seeded as a result of the Wilder Fires. Light use occurred in bands adjacent to areas of moderate use. Slight use was found in the majority of the pasture.

Sagehen/Shyster Creek

Quinn River Ranch:

367 C - 06/01 to 08/31 - 1,021 AUMs

Data collected 09/29,30, 10/03 -05/89

Seventy-five percent of the use area was use pattern mapped. Five percent of the area received heavy use, 80% moderate, and 15% slight. Heavy use occurred in upland meadows and associated creeks while moderate use occurred in uplands adjacent to riparian areas. Slight utilization levels occurred on Shyster Butte, below Split Peak, and south of the Sagehen Meadow complex.

Wilder/Little Wilder Creeks

Quinn River Ranch:

Data collected 09/29,30, 10/03 - 05/89

367 C - 06/01 to 08/31 - 1,021 AUMs

One hundred percent of the Wilder/Little Wilder use area was use pattern mapped. Approximately 5% of the area received heavy utilization levels, 2% moderate, and 93% slight. Heavy use occurred on the Wilder Creek and Little Wilder Creek riparian areas and associated meadows. Moderate use was found in adjacent upland habitats. Slight use was found in remaining upland sites away from the creeks.

1989 - 1990

Bog Hot/McGee Mt./Continental Lake

Quinn River Ranch:

249 C 11/29 to 04/14 1032 AUMs

One hundred percent of the use area was use pattern mapped. Approximately 5% of the area received heavy use, 7% moderate use, 10% light use, 50% slight, and 28% no-use. Heavy use occurred due east of the Bog Hot ranch on the upper fans and extended in to a small pass which leads towards Continental Lake, where heavy use occurred west of Highway 140. Utilization in the vicinity of the ranch was slight with heavy use along the USFWS/BLM boundary where small drainages flattened out. Light use occurred on the western edge of Continental Lake, adjacent to private land south of the ranch and southeast of Highway 1340 along the road leading to Alder Creek Ranch. Moderate use occurred approximately one mile due south of the ranch and extended south to Highway 140. Browse use was slight by livestock.

Heavy use was found in the vicinity of the Bog Hot Well. Light use was found on the road leading to the well. Slight use was found in remaining areas.

A small area of heavy use occurred north of the road leading to Cold Spring. Moderate use occurred at a road intersection in the eastern corner of the lake. Light use was found on the fringes of the lake. Slight use was found in the remaining portions of the use area. Isolated four-wing saltbush shrubs had moderate to heavy use.

Vicinity of Quinn River Ranch

Quinn River Ranch:

592 C 11/14 to 04/14 2722 AUMs

Dufurrena:

37 C	04/25 to 04/25	1 AUMs
43 C	04/26 to 05/08	18 AUMs
71 C	05/09 to 05/09	2 AUMs
120 C	05/10 to 05/28	<u>75 AUMs</u>
		96 AUMs

Total 2818 AUMs

One hundred percent of the area was mapped. 2% received heavy use, 10% moderate, 5% light, 63% slight, and 20% no-use. South of the ranch has slight utilization with a large area north of the Jackson Mountains receiving no use. Light use occurred adjacent to private land near Quinn River and east of the Ranch. Several isolated sand dunes sites and an area adjacent to the powerlines had heavy use. West of the ranch had slight use. Light use was found in bands adjacent to moderate use. The moderate use occurred adjacent to private lands and in the vicinity of Windmill #424 extending approximately one mile in all directions. Utilization was slight east of the ranch. Light use was found adjacent to private land near Bilk Creek Reservoir and near a gravel pit which was utilized as a water source. Temporary non-renewable livestock use was authorized for Alex Dufurrena in the Hot Springs Well area. Moderate use was found in the vicinity of the well with slight in remaining areas.

Heavy use occurred at Ladybird Well. Light use was found to the east at the end of the pipeline. A large area in the Deep Creek drainage had no livestock use. Use was slight west of Highway 140.

North Wilder Field

Quinn River Ranch:

70 C	11/30 to 03/31	259 AUMs
------	----------------	----------

Waldkirch:

93 C	02/01 to 03/31	<u>183 AUMs</u>
	Total	442 AUMs

One hundred percent of the field was use pattern mapped. Five percent of the area received heavy utilization, 10% moderate, 2% light, 20% slight, and 63% no-use. Heavy use occurred north of Wilder Ranch on both native and seeded species. Heavy use also was found in a drainage which parallels Wilder Creek. Moderate use occurred on crested wheatgrass on the flat north of the ranch and extended north along the drainage. Light use was found east of the drainage with slight use occurring in remaining areas.

1990

Maggie Creek/Cottonwood Creek

Quinn River Ranch:

530 C - 6/1 to 8/15 - 1218 AUMs
100 C - 8/16 to 9/30 - 139 AUMs
1357 AUMs

Data collected 8/9,10/10,11,13/90

Approximately 75% of Maggie Creek/Cottonwood Creek was use pattern mapped. Of the area mapped, 2% received heavy use, 13% moderate, 10% light, 40% slight, and 35% no use. Moderate use occurred along the Maggie Creek and the North and South branches. Regrowth was 1-6" throughout the riparian area. The area east of Jack Spade cabin had slight use which extended to the ridge top separating the Maggie Creek basin from the Little Wilder basin. Slight use also occurred adjacent to the private land up Maggie Creek. Moderate use occurred on the flat area along the ridge top leading to Cottonwood Creek. Large areas north of Maggie Creek received no use. Heavy use was noted at Maggie Creek Spring and associated meadows.

Holloway Mountain in the Cottonwood use area had no use in the upper reaches of the mountain. The lower areas on the mountain had slight use extending west toward private land along Cottonwood Creek. Two small areas of moderate use occurred in vicinity of a PWR on the east side of Miller corrals. Light and moderate use occurred east of Miller corrals with a small area of heavy in a small drainage. The remainder of the area adjacent to the main road west to the ridge top. Along the ridge top slight use was observed except for an area along a jeep trail that had a band of moderate use leading down from the ridge top. A large area of no use

occurred north of Butte Creek. The portion of this creek on public land had heavy use toward Cottonwood Creek which decrease to moderate as the terrain steepened in riparian areas. Regrowth was 2-4".

Wilder/Little Wilder:

Quinn River Ranch:

530 C - 6/1 to 8/15 - 1218 AUMs

Dufurrena:

1000 S - 8/10 to 9/5 - 178 AUMs
1396 AUMs

Data collected 8/9,10/10,11,13/90

Utilization levels were observed on approximately 40% of the use area. 3% percent of the area received moderate use, 95% slight, and 2% no-use. Utilization was moderate on Wilder Creek with upland areas on the west side of Granite Mountain had virtually no use except adjacent to Wilder Creek.

Little Wilder had moderate use in riparian areas. Regrowth of 1-6" was noted in all riparian areas. The upland areas observed had slight utilization. Large upland areas north and south of the Little Wilder Creek were not observed. Browse utilization was light.

Bog Hot

Quinn River Ranch:

Data Collected 04/04 and 04/17/91

350 C 11/03/90 to 02/28/91 1249 AUMs

Approximately 80% of the use area was mapped. 10% of the area mapped received heavy use, 5% moderate, 20% light, and 65% slight. The pass between Continental Lake and the Bog Hot Ranch received light use at the top of the pass and moderate use on the western base. Slight and light use was observed along the BLM/USFWS boundary. The areas around Mustang Spring and Lower Mustang Spring had slight use. Slight use was

observed southeast of the ranch while the vicinity of Bog Hot Well had moderate and heavy use.

The majority of the area east of Continental Lake received slight use. Light use occurred toward the base of the lake and on the west slope of the mountain. Use in the flats around the lake had little or no livestock use. Utilization of four-wing saltbush was slight to light through the area. Moderate use occurred in the vicinity of Cold Springs.

North Wilder Field

Quinn River Ranch:

Data Collected 04/04 and 04/17/91

300 C 11/04/90 to 02/28/91 1062 AUMs

Eighty percent of the pasture was use pattern mapped. 70% of the area mapped received heavy use, and 30% moderate. Heavy use was observed northeast of Mud Spring. The area north of private land at the Wilder Ranch received moderate use on native and seeded species. Heavy use was found in a drainage which parallels Wilder Creek. Moderate use was found northwest of the drainage.

1991

Data Collected 04/04, 04/17, 08/14, 10/15/91

Houghland Seeding

Quinn River Ranch:

400 C 04/01 to 04/30 363 AUMs

Sixty percent of the pasture was use pattern mapped. Two percent of the area received light use while the remaining areas of the pasture received slight use.

Denio Seeding

Quinn River Ranch:

400 C 05/01 to 05/31 375 AUMs

One hundred percent of the seeding was use pattern mapped. Approximately 20% of the seeding received moderate utilization levels, 55% light, and 25% slight.

Lone Mountain Burn

Quinn River Ranch:

620 C	04/01 to 04/17	319 AUMs
1090 C	04/18 to 05/19	1055 AUMs
1440 C	05/20 to 06/01	566 AUMs
1440 C	08/16 to 09/01	<u>740 AUMs</u>
		2680 AUMs

Seventy percent of the Lone Mountain use area was use pattern mapped. Of the area mapped, 2% received moderate utilization, 5% light, and 93% slight. Moderate and light use occurred around the Wilder Ranch area and in the vicinity of waters. Slight use was observed in remaining areas of the allotment.

Maggie Creek/Cottonwood Creek

Quinn River Ranch:

400 C	06/01 to 06/01	12 AUMs
875 C	06/02 to 06/02	26 AUMs
1440 C	06/03 to 07/31	2570 AUMs
1040 C	08/01 to 08/04	126 AUMs
565 C	08/05 to 08/15	<u>188 AUMs</u>
		2922 AUMs

Approximately 60% of the pasture was use pattern mapped. Of the area mapped, 30% received moderate use, 40% light, 20% slight, and 10% no-use. The western portion of the Maggie Creek use area adjacent to the Maggie Creek riparian area had slight use. The main stem of Maggie

Creek and the south branch had moderate use in riparian areas with adjacent areas receiving slight use. Slight use occurred southeast of Jack Spade cabin. Moderate use occurred east of the south branch to the saddle between Maggie Creek and Cottonwood Creek drainages to within one mile of Cottonwood Creek. Light use was found in uplands in the vicinity of Cottonwood Creek. No-use occurred on Holloway Mountain.

Bitterbrush west of Cottonwood Creek had slight to light use while oceanspray and snowberry had little to no use.

1993

Data collected 10/14, 10/20, 11/10, and 11/16/93

Cottonwood Creek/Maggie Creek

Quinn River Ranch:

1750 C 06/01 to 08/15 4023 AUMs

Fifty percent of the use area was mapped. Approximately 20% of the area had heavy utilization levels, 50% moderate, 20% light, and 10% slight. Upland meadows in the Maggie Creek drainage had heavy use while exchange-of-use lands, south fork of Cottonwood Creek, and meadows above Maggie Creek Spring had heavy use. Surrounding uplands had moderate and light use. Light utilization levels occurred on the ridge between Maggie and Cottonwood Creeks with areas of moderate and heavy use at meadows and springs.

Heavy use occurred on Maggie Creek at the mouth of the canyon. Slight use occurred on uplands where the canyon narrows. Moderate and heavy utilization occurred on meadows at the headwaters of Maggie Creek. In addition, livestock use was observed in the Wilder/Little Wilder use area. Light use was observed on Little Wilder Creek with slight use in upland areas. Moderate use occurred near Jensen Mine near Wilder Creek with light and slight utilization levels in remaining areas.

Lone Mountain

Quinn River Ranch:

1100 C 04/01 to 05/31 2030 AUMs

Approximately 50% of the use area was mapped. Five percent of the area received moderate use, 35% light, and 60% slight. Moderate utilization levels occurred at Mud Creek and along the Granite Canyon pipeline. Slight and light use occurred in remaining areas.

North Wilder Field

Quinn River Ranch:

500 C	08/25 to 08/31	106 AUMs
150 C	09/01 to 10/13	<u>195 AUMs</u>
		301 AUMs

Sixty percent of the pasture was use pattern mapped. Approximately 20% of the area mapped received moderate use, 35% light, 45% slight. Moderate use occurred on crested wheatgrass north of Wilder Ranch. Slight to light use was observed in remaining areas.

1994

Data collected 9/8, 9/9, 10/5, 10/7/94

North Wilder Field

Quinn River Crossing Ranch:

150 C	04/01 to 04/19	86 AUMs
300 C	04/20 to 05/31	<u>381 AUMs</u>
		467 AUMs

Approximately 70% of the pasture was use pattern mapped. Fifteen percent was heavy, 10% moderate, 20% light, and 55% slight. Moderate and heavy use was observed in the eastern portion of the field. Heavy use was found in the area surrounding Wilder Creek. Light and slight use was found in the remaining areas use pattern mapped.

Lone Mountain Burn Area

Quinn River Crossing Ranch:

1400 C 04/01 to 04/04 169 AUMs
 1550 C 04/05 to 05/31 2672 AUMs
 2841 AUMs

Eighty percent of the field was use pattern mapped. Approximately 20% of the area use pattern mapped had heavy use, 35% moderate, and 45% light. Heavy use was found along Mud Creek, in upland areas surrounding Wilder Ranch and into Wilder Creek, along the Granite spring pipeline and in the area surrounding a windmill west of Mud Spring. Moderate use was found in surrounding areas. Light utilization levels with small areas of moderate and heavy use near waters from state route 140 to Lone Mountain along the Wilder Ranch road.

Sagehen/Shyster Creek

Quinn River Crossing Ranch:

2030 C 06/01 to 07/15 2763 AUMs

Approximately 40% of the use area was use pattern mapped. Thirty percent of the area had moderate use and the remaining was light utilization. Moderate use occurred on Shyster Creek, Sagehen meadow complex and Summit Spring. Light use was found in upland areas.

Wilder/Little Wilder

Quinn River Crossing Ranch:

2030 C 07/16 to 08/31 2886 AUMs
 400 C 09/01 to 09/15 181 AUMs
 50 C 09/16 to 09/30 23 AUMs
 3090 AUMs

Thirty percent of the use area was use pattern mapped, mostly along Wilder Creek and Little Wilder Creek and associated uplands. Approximately 40% of the area had heavy utilization and 60% moderate. Heavy use was found along Wilder Creek and associated meadows. Heavy

utilization levels occurred along Little Wilder Creek with moderate use in surrounding uplands. Severe use occurred on willows and rose along both creeks. Moderate use occurred on aspen near the headwaters of Wilder Creek.

Quinn River Ranch Use Area

Data collected 03/29 and 03/30/95

Quinn River Crossing Ranch:

South of Quinn River Ranch	276 C	10/07 to 12/31	718 AUMs
	200 C	01/13 to 02/28	284 AUMs
Quinn River Ranch Ares	300 C	11/22 to 12/31	363 AUMs
North of Quinn River Ranch	200 C	01/13 to 02/28	286 AUMs
	100 C	02/16 to 02/28	<u>39 AUMs</u>
			1690 AUMs

Approximately 40% of the area west of Quinn River Ranch was use pattern mapped. Forty percent of the area had light use while remaining areas had slight use. Sixty percent of the area south of Quinn River Ranch was use pattern mapped with 100% of this area having slight use. Sixty percent of the area north of Quinn River Ranch in the vicinity of Bilk Creek Reservoir was use pattern mapped. Eighty percent of this area had non-use while the remaining 20% was slight. Light use was found west of Quinn River in the area adjacent to the ranch and in the area surrounding well # 424. Slight use was noted in remaining areas west of the ranch, south of the ranch, and areas adjacent to hay fields north of the ranch. Non use occurred west of Bilk Creek Reservoir in the vicinity of the gravel pit near State Route 140.

1995

Data collected 08/22, 09/20, 09/21, 11/7, and 11/8/95

Quinn River Crossing Ranch:

Maggie Creek/Cottonwood Creek

1387 C 05/27 to 08/04 2937 AUMs

Sagehen/Shyster Creek

900 S 07/03 to 09/05 354 AUMs

Lone Mountain

925 C 07/27 to 09/25 1708 AUMs

Dufurrena:

Sagehen/Shyster Creek

700 S 08/15 to 09/01 76 AUMs

Summer Use:

Approximately 40% of the Maggie Creek/Cottonwood Creek pasture was use pattern mapped. Sixty percent of the area use pattern mapped had moderate use and the remaining light. Moderate use was found along Maggie Creek, Cottonwood Creek, associated uplands and the ridge between the two creeks. Light use was found on side hills. During the 09/20 and 21 trip, utilization for riparian species was noted using height/weight curves developed by the U.S. Forest Service Intermountain Research Station (General Technical Report Int-GTR-308). The following species were evaluated: *Carex nebraskensis*, *Hordeum brachyantherum*, and *Poa pratensis*. Utilization was 50%, 54%, and 32% respectively for these species.

Approximately 70% of the Lone Mountain use area was use pattern mapped. Of this, 23% of the area received slight use, 70% light, 5% moderate, and 2% heavy. Heavy use was noted on Mud Creek on private exchange of use lands and Wilder Creek with moderate use occurring on adjacent uplands at both creeks. Moderate, light and slight use occurred in the seeded area west of Mud Creek. Moderate use was noted near the Wilder Ranch. Light use was noted near Bramlett Well and slight and light west of Wilder Ranch towards Mud Spring.

The Wilder/Little Wilder Creek and Sagehen/Shyster Creek use areas were scheduled to be rested from cattle grazing in 1995. Sheep grazing was authorized in these areas. However, due to incomplete fencing between the Maggie Creek/Cottonwood Creek pasture and the Wilder/Little Wilder use area, and the lack of fencing between the Lone Mountain and

Wilder/Little Wilder - Sagehen/Shyster Creek use areas, cattle were able to drift into the Wilder/Little Wilder Creek and Sagehen/Shyster Creek use areas throughout the summer months. These two use areas were inspected on 09/20 and 21 and again on 11/06 and 11/07. During the September inspections, utilization was noted on riparian habitats in the Sagehen Meadow and the Upper Wilder Creek using the height/weight curves developed by the Forest Service. Utilization in the Sagehen Meadow was as follows: Popr - 40%, and Juba - 31%. Utilization on the Upper Wilder Creek was as follows: Caro - 65%, and Juba - 72%. These use areas were use pattern mapped in November. Heavy use was noted on Wilder Creek and the Sagehen Meadows complex.

Quinn River/Denio Seedings

Data collected 11/7/95

Quinn River Crossing Ranch:

196 C 03/20 to 07/21 741 AUMs

One hundred percent of the Quinn River Seeding was use pattern mapped. Moderate use was found in the northeastern 1/3 of the seeding near Bramlett Well with slight use along the northern boundary of the field. Light use was found in remaining areas.

One hundred percent of the Denio Seeding was use pattern mapped. Approximately 25% of the pasture received heavy use, 20% moderate, and the remaining light. Heavy use occurred in the central portion of the pasture with moderate in the northern and eastern parts of the seeding. Light use was in the western portion of the field.

1996

Data Collected 07/10 and 07/12/96

Denny Land and Cattle Co.:

Houghland Seeding

250 C 04/20 to 05/31 318 AUMs

One hundred percent of the seeding was use pattern mapped. Sixty percent

of the field received moderate utilization and 40% light.

Antelope Field

100 C 04/01 to 05/31 185 AUMs

Fifty percent of the Antelope Field was use pattern mapped. Of the area mapped, approximately 30% had moderate use, 45% light and the remaining 25% slight. Moderate use was found north of Antelope Spring, between Thacker Canyon and Virgin Creek, and along the pipeline leading to Denio Summit. Light utilization was found in Thacker Canyon, the Denio Summit foothills, the flats leading into Emigrant Pass, and the northern most section of the pasture. Mahogany Mountain was not use pattern mapped.

1997

Data Collected: 09/25/97

Denny Land and Cattle Company:

Maggie Creek/Cottonwood Creek

1550 C	06/01 to 07/19	2297 AUMs
1150 C	07/20 to 07/21	70 AUMs
750 C	07/22 to 07/31	<u>227 AUMs</u>
		2594 AUMs

Moderate utilization was noted on both uplands and riparian areas during the inspection in the Maggie Creek drainage. Four to five inches of regrowth had occurred on herbaceous riparian species along Maggie Creek and associated meadows in comparison to conditions observed during the July inspection. In the Cottonwood drainage, heavy utilization occurred in meadows and along Cottonwood Creek. There was some regrowth of herbaceous riparian species in incised portions of the creek and at springs but overall utilization levels along the creek and its associated meadows were heavy.

Data Collected: 03/07/98

North Wilder Field

Roger and Marsha Colby

100 C 11/15 to 12/15 102 AUMs

Denny Land and Cattle Company

300 C 03/25 to 03/31 64 AUMs

600 C 04/01 to 04/03 54 AUMs

1100 C 04/04 to 04/09 200 AUMs

1480 C 04/10 to 05/31 2328 AUMs

2646 AUMs

Total AUMs (Colby's and Denny Land): 2748 AUMs

Of the area looked at, 50% received moderate utilization, 20% light, and 30% slight. Slight utilization was noted in the western portion of the field, which is native. Scattered individuals of native species such as thurbers needlegrass and bottlebrush squirreltail received moderate use. The western boundary of the seeded area had slight and light utilization levels with moderate utilization occurring on the flats. An utilization transect was conducted on crested wheatgrass with a 42% utilization level. The flat leading to the road and Wilder Creek had a utilization level of 55-60%, which is in the moderate utilization range. The native areas east of the road had moderate utilization on the flats and light in the foothills.

4. Trend

In 1985, Community Analysis Structure (CSA) Studies were established as a result of the Wilder Fire. The CSA method assigns an "importance value" to each species to describe its status in the community. This value is based on relative cover, relative density, and relative frequency. These studies were established in the vicinity of Lone Mountain - Mud Creek in 1985.

The study established north of Wilder Ranch is located in the North North Wilder Field and consists of one density study which was read once in 1988. The site averaged 5.6 crested wheatgrass plants per meter and the plants were of good health and vigor. It is estimated the seeding was in

excellent condition (<5 Acre/AUM) at the time of the study.

The studies established in 1985 are in the vicinity of Lone Mountain and Mud Creek. Two studies were established in seeded area and two studies in non-seeded areas. The studies located in seeded areas were read in 1986, 1987, 1991, 1993, and 1995 while the studies in non-seeded areas were read in 1986, 1987, and 1991. The following is a summary of the data:

Study CSA 0001 (Seeding)

	Year					Trend
	<u>86</u>	<u>87</u>	<u>91</u>	<u>93</u>	<u>95</u>	
%Cover						
Agcr/Agin	.7	1.1	1.6	2.5	5.2	upward
Meof	3.3	2.1	.8	.2	.6	down
%Frequency						
Agcr/Agin	17	20	25	35	53	upward
Meof	31	33	11	4	15	down
%Density						
Agcr/Agin	.2	1.7	2.1	2.9	3.2	upward
Meof	2.1	3.7	1.8	.3	.4	down

Study CSA 0002 (Seeding)

	Year					Trend
	<u>86</u>	<u>87</u>	<u>91</u>	<u>93</u>	<u>95</u>	
%Cover						
Agcr/Agin	.1	.9	3.3	1.8	4.3	upward
Meof	1.6	2.1	.6	.4	1.4	down
%Frequency						
Agcr/Agin	2	23	30	33	40	upward
Meof	1.6	23	12	6	10	down

%Density							
Agcr/Agin	1.4	1.8	1.3	2.5	31	upward	
Meof	4.0	1.8	1.4	.5	1	down	

Study WF-1 (Native) Loamy 5-8

	Year		
	<u>86</u>	<u>87</u>	<u>91</u>
%Density			
Atco	5.2*	5.2*	2.6
Sihy	.4	.4	.1
Arsp ₅	-	1.7*	1.3

* The purpose of WF-1 is to measure the recovery of shadscale (Atco) after the Wilder Fire. Density only was read at this site.

Study WF-2 (Native) Sandy 8-10

	Year			
	<u>86</u>	<u>87</u>	<u>91</u>	<u>Trend</u>
%Cover				
Stipa	5.8	3.6	7.0	upward
%Frequency				
Stipa	73	56	57	down
%Density				
Stipa	51	51	64	upward

The studies located in seeded areas indicates seeded grasses (Agcr/Agin) are increasing. However, the size of the crested wheatgrass is small with poor vigor. Seeded alfalfa (Meof) is decreasing. Alfalfa normally decreases over time. Alfalfa and both seeded grasses showed an increase in cover, density, frequency and vigor in 1995. This can be contributed to the wet winter/spring and the field being rested during the growing season.

Monitoring data indicates the shadscale site represented by WF-1 is fully recovered. The seedlings have developed into mature plants as indicated by the decrease in density. The data collected at the WF-2 study site indicates cover and density has increased for needlegrass while frequency has remained static since 1987. No sagebrush has established on the site. The area represented by WF-2 is considered static.

Three density studies were established in 1991 in the vicinity of Shyster Butte and the Sagehen Meadow Complex. This area is the eastern-most boundary of the Wilder Fire. The purpose of these studies is to measure shrub recovery in the Wilder Fire in comparison to the 1991 Lovely Fire, which burned east and adjacent to the Sagehen Meadow Complex.

The following is a summary of the data collected:

NV 23-7 Loamy 14-16 study # 1

<u>Species</u>	<u>Density</u>
Feid	5.2
Agsp	.4
Stipa	.8
Artrv	.7
Symph	1.18
Artr4	.41

NV 23-39 Loamy 10-14 study # 2

<u>Species</u>	<u>Density</u>
Agsp	.4
Stth2	.8
Artrv	.5

NV 23-39 Granite Slope 14-16 study # 3

<u>Species</u>	<u>Density</u>
Feid	7.1
Agsp	.4
Artrv	.06
Symph	1.69
Artr4	.16

The data indicates density study # 2 have limited shrub recovery while density studies 1 and 3 have good shrub recovery, especially snowberry.

5. Range Survey

- a. In 1978, a range survey was conducted using the Ocular Reconnaissance Method to provide baseline data for analysis

purposes in the Paradise-Denio EIS. The range survey, along with suitability criteria, indicated that 9,476 AUMs were available for livestock use in the Wilder-Bilk allotment. In 1985, the Wilder-Bilk allotment was divided into the Wilder-Quinn and Bilk Creek allotments. The Wilder-Quinn allotment comprises 82% of the old Wilder-Bilk allotment.

- b. A phase one watershed inventory was conducted in portions of the Paradise-Denio Resource Area from 1971-1974 for the Wilder-Bilk allotment. Livestock forage condition was determined based upon data from this inventory which resulted in the following condition classifications:

<u>Good</u>	<u>Fair</u>	<u>Poor</u>
7,094 acres	30,932 acres	192,041 acres

Appendix G, pg 28, of the Paradise-Denio EIS provides more discussion on livestock forage condition.

6. Ecological Status Inventory (ESI)

- a. An order 3 soil survey has been completed on this allotment. Ecological Site Inventory data has not been collected.

7. Wildlife Habitat Inventory

1. Priority Species: Mule deer, sage grouse, trout, pronghorn, bighorn sheep.
2. Other: Various other game and non-game bird and mammal species occur on the Wilder/Quinn Allotment.
3. Special Habitat Features
 - a. A special habitat features inventory was conducted in August and September, 1977. This inventory identified the location and acres of special habitats, listed observed plant and wildlife species, and documented ocular observations of the condition and utilization of these habitats. This information was analyzed in the Paradise-Denio EIS.

1. Riparian and Meadow habitat- 259 acres
 2. Aspen-468 acres
 3. Curleaf Mountain Mahogany- 1,370 acres
 4. Ceanothus- 29 acres
 5. Pine- 21 acres (located on Mahogany Mountain).
 6. Mountain Browse- 33,055 acres; Antelope Bitterbrush Purshia tridentata is the dominant mountain browse species in the Wilder Quinn Allotment, however significant amounts of Serviceberry Amelanchier sp., Snowberry Symphoricarpos sp., and Current Ribes sp. occur in various habitat types throughout the mid and upper elevation areas of the allotment particularly in the Bilk Creek Range and Pueblo Mountain sections of the allotment.
- b. This inventory recorded the following in 1977:

"Livestock utilization is heavy overall on riparian and meadow complexes. Meadow conditions are deteriorating due to continual heavy season long use by livestock which has resulted in headcutting, trampling, and the subsequent lowering of the water table. Very few riparian meadow sites were observed to have less than heavy use. Livestock and deer utilization levels on aspen, mahogany, and bitterbrush are moderate overall. Excessive browsing is hampering the vegetative reproduction in aspen. Meadows are in poor condition at best."

c. Wildlife Use Areas: (By Nevada Division of Wildlife Management "Hunt" Unit) in acres:

Hunt Unit 031

mule deer	acres	pronghorn	acres	bighorn sheep	acres
Bilk Creek DW-11	4,232	Bilk Creek PW-5	11,063	Pine Forest BY-7	20,177
Bilk Creek DS-7	4,149	Bilk Creek PW-6	12,763	Pine Forest BY-9	6,348
Bilk Creek DS-7conc	12,266	Bilk Creek PS-4	10,642	Bilk Creek BY-18	6,983
Bilk Creek DS-4	1,148	Pine Forest PY-1	28,020		
Bilk Creek DY-9	13,370				
Bilk Creek DY-9conc	9,092				
Quinn River DY-6	2,199				

Hunt Unit 032

mule deer	acres	pronghorn	acres	bighorn sheep	acres
Pine Forest DW-8	3,237	Pine Forest PW-2	1,140	Pine Forest BY-10	5,972
Pine Forest DW-7	8,584	Pine Forest PW-1	27,082	Pine Forest BY-8	31,292
Pine Forest DW-7conc	2,767	Pine Forest PY-1	43,844		
Pine Forest DS-5conc	5,458				

Sage Grouse- General distribution is identified throughout the allotment. A total of nine strutting areas were located during a survey in 1990 conducted by the Oregon Department of Fish and Wildlife. Additionally, 4 brooding areas are known in the allotment.

c. Habitat Evaluation

Mule Deer

Mule Deer habitat in the Wilder-Quinn allotment is extensive and varied. Both the Pine Forest, and Bilk Creek Mountains contain large populations of mule deer. Both of these ranges contain high elevation summer range, mid elevation spring/fall/winter range, and low elevation yearlong range. Habitat in the allotment varies from large dense mahogany woodlands such as on Mahogany Mountain, to more open mahogany pockets up in the Sage Hen area of the Bilk Creek Mountains to extensive open sagebrush/grass communities. Mountain browse species are very common with bitterbrush, snowberry, and serviceberry available as a component in the vegetation communities throughout many habitat types.

In September of 1995, baseline mule deer habitat condition and trend monitoring data was collected from seven key management areas in the Wilder Quinn allotment. These

key areas sampled important habitat parameters over a cross section of the crucial summer, spring, winter and yearlong habitat types in both the Pine Forest and Bilk Creek Mountain use areas. The following mule deer seasonal use areas were studied:

Bilk Creek Mountains	Pine Forest Mountains
Bilk Creek DS-7	Pine Forest DW-7
Bilk Creek DSP-3	Pine Forest DS-5

Bilk Creek Mountains

Bilk Creek DS-7 use area approximately 4149 acres represented

This habitat type is located in the mid to high elevation areas of the extreme eastern portion of the allotment within an elevational range of approximately 5800 to 7200 feet. Upland vegetation consists of two main habitat types. The first is a high elevation mountain browse type. Typically, two vegetation communities occur opposite each other on the north and south exposures. The south exposure slopes are dominated by mountain big sagebrush and bitterbrush with bluebunch wheatgrass and/or Thurber's needlegrass in the understory. Forbs are generally dominated by Arrowleaf balsamroot. The North facing slopes again have mountain big sagebrush and some bitterbrush, but snowberry, serviceberry, and gooseberry are also common. Grasses consist mainly of bluebunch wheatgrass and mountain brome, and forbs include paintbrush, mint and balsamroot.

The second major habitat type is a post fire recovering mountain browse community. This community is composed mainly of needlegrass, wheatgrass and balsamroot. In the ten years since the burn, sagebrush, rabbitbrush, and some bitterbrush is beginning to return. Serviceberry on north slopes does not appear to be coming back well after the fire.

Both of these two main habitat types were studied using BLM manual 6630 habitat evaluation procedures. Key area

number DS-WQ-06 was established in the unburned habitat. Key area number DS-WQ-07 was established in the burned habitat.

The objective for Key area DS-WQ-07 was to develop some baseline data to document the condition of the burn after ten years of recovery and to enable future monitoring of the progress of the area back toward a mid seral vegetation community. For this reason, a modified study was implemented at the site. This modified study does not allow a determination of condition at this time, however, the baseline data is presented below for review.

DS-WQ-06 was established to monitor habitat condition and trend in the Bilk Creek DS-7 use area. The key management area established baseline cover, species composition and browse age and form class data. The following table summarizes the site conditions for the approximately 3,000 acres of the Bilk Creek DS-7 use area which are represented by these key areas.

Summary of Data Collected in the Bilk Creek DS-7 use area in the Wilder Quinn Allotment in 1995.

Key area Season of Use Use area	Mule Deer Forage Preference Value	Condition	%Composition Line Intercept Method	% Frequency of Occurrence, Quadrat Frequency Method	#Species Encountered (Sp. Richness)	Canopy Cover (Artem/Total)	Cover Height (in.) Average value
DS-WQ-06	1.0	good	PUTR2	16.1	16	11.4/46.7	42.6
Summer	0.1	poor	ARTRV	24.6			
Granitic Slope 16+"	0.5	fair	SYMPH	24.0			
	1.0	good	AMEL	3.4			
NV023XY048	0.1	poor	CHRY5	1.0			
	0.5	fair	RIBES	17.9			
Habitat	0.1	poor	FEID	5.7			
Condition	0.1	poor	BRMA5	0.4			
Rating = 86.4	0.1	poor	SIHY	1.3			
	0.1	poor	POSE	0.8			
	0.1	poor	AGSP	0.7			
	0.1	poor	LEPTO2	2.3			
	0.1	poor	LUPIN	0.6			
	1.0	good	CASTI2	0.4			
	0.5	fair	ERIOG	0.1			
	0.5	fair	BAGA3	0.4			
DS-WQ-07	0.1	poor	CHRY5	8.0	11	--/--	11.7
Summer	0.5	fair	SYMPH	20.5			
Granitic South Slope 12-14"	0.1	poor	ARTRV	4.5			
	0.5	fair	BAGA3	27.5			
NV023XY042	0.1	poor	LUPIN	23.5			
	0.1	poor	PENST	1.0			
Habitat	0.1	poor	ELCI	9.5			
Condition	0.1	poor	POSE	9.0			
Rating- not Possible	0.1	poor	STTH8	5.5			
	0.1	poor	AGSP	10.5			
	0.1	poor	SIHY	3.0			

Key area DS-WQ-06 is located on a Granitic Slope 16+ inch range site. According to the range site description for this site, the potential native vegetation is dominated by mountain brome with lesser amounts of basin wild rye, needle grass and Idaho fescue. Mountain big sagebrush is identified as the dominant shrub species. Potential vegetative composition is about 55% grasses, 15% forbs and 30% shrubs.

Under degraded conditions, brome and needle grasses decrease and mountain big sagebrush, snowberry, and arrowleaf balsam root increase, as does sandberg bluegrass. Without comparable data, a conclusion as to the current status of this community cannot be made, however the available data suggests that this habitat type is something less than its potential. There is no evidence that these conditions are being maintained or enhanced by the current livestock grazing practices. The current conditions are most likely due to effects of grazing past practices and serve to emphasize the slow rate of change in vegetation communities in the Great Basin.

The current site conditions are beneficial to mule deer. The overall mule deer habitat condition rating is excellent. Several habitat parameters were analyzed in determining the overall habitat condition rating including: thermal and hiding cover quality, degree of human disturbance and interference, water availability, forage quality, and key browse age and form class.

Thermal cover is excellent with elements of both vegetative and topographic cover present. Average vegetation height is nearly four feet. The available vegetation in the area, with respect to summer mule deer forage can be described as good with the low composition of quality forbs being the primary limiting factor. Overall, only two forage species encountered in this habitat type are considered good mule deer summer forage with over half of the total species encountered being rated as poor mule deer summer forage. Overall vegetation quality is fair.

The following three species were selected as key browse: bitterbrush, snowberry, and serviceberry. These species were evaluated using the Cole Browse method to determine age and form class.

Age class observations are made to determine the condition and trend of the stand with respect to regeneration. Form class is an observation of the availability of a plant relative to current and past use. The form class of a forage plant has a direct impact on how productive the plant is annually as well as how available its herbage is for consumption. Age class is directly related to a stand's long term survivability. A healthy age class would be present if there was sufficient reproduction to replace mature and overmature plants as they die out, and to buffer the stand from larger scale losses, such as from insects.

Age and form class data is collected by ocularly estimating or directly measuring the degree of current and past utilization made on the plant. Typically, direct measurement of the percent use is utilized if form class conditions are unsatisfactory.

Both bitterbrush and snowberry were found to have satisfactory age and form classes. Form class was unsatisfactory, however on Serviceberry. Utilization levels on serviceberry were moderate to heavy with the evidence suggesting deer use was the primary contributor to this condition. Serviceberry density was very low overall with few total plants being observed. The plants which were observed however were young. The overall rating for key browse vigor was good for both age and form class.

Disturbance/interference in the area represented by the key area is low with the primary source being livestock grazing pressure during the summer months.

Water was very abundant throughout the Bilk Creek DS-7 use area with few areas greater than 1.5 miles from a water source.

Key area DS-WQ-07 was established in a Granitic South Slope 12-14" range site to monitor the rate of recovery of the portion of the Bilk Creek DS-7 use area that burned in 1985. Because the objective of this key area is not to ascertain habitat conditions, a modified monitoring scheme was selected which would enable better interpretation of the changes occurring at the site. The following habitat parameters were selected for monitoring: species diversity (perennial species), species density (perennial species), forage quality, and cover quality.

According to the range site description for this habitat type, the potential native vegetation is dominated by bluebunch wheatgrass and thurbers needlegrass, with mountain big sagebrush and bitterbrush being the dominant shrub species. Potential vegetation composition is about 60% grasses, 10% forbs and 30% shrubs. There were no islands of unburned vegetation to judge the pre-burn conditions, but residual woody material suggests there was a high shrub content.

While densities were low, essentially all pre-burn vegetation indicated in the range site description is represented at the key area. Snowberry, which is capable of re-sprouting following fire was the dominant shrub species. Rabbitbrush which is often dominant following fire due to its similar re-sprouting capabilities was much less dominant than was expected. Sagebrush was returning to the site, as was bitterbrush, though bitterbrush was not encountered in the transect. Most of these plants appeared to be several years old, some appeared to have germinated or regenerated within a year after the fire. Bitterbrush appeared to have re-sprouted in at least two instances. The sagebrush was very healthy and was vigorously producing seed stalks. Bitterbrush form class indicated moderate to heavy use has occurred frequently, though current use was light. Arrowleaf balsamroot and lupin were the dominant forb species which is characteristic of many burns in the mountain big sagebrush vegetation type. The dominant grass species was bluebunch wheatgrass which responds well to fire. In terms of forage quality, most species encountered were considered poor quality summer forage. Deer pellet groups in the area suggest that there is a

significant amount of use made by deer in the fall, spring, or early winter. This shift in use would be expected due to the flush of herbaceous grass and forb species which green up in these periods. Also, the lack of cover would make this forage available longer into the winter and would also allow these sites to be free of snow earlier in the spring.

As was alluded to above, the thermal and hiding cover component is lacking in this habitat type. The recovery of this habitat component is underway as evidenced by the presence of several shrub species, however this process is expected to be on a long term scale. There does not appear to be any current conflicts with livestock grazing in this area, though this particular portion of the burn was "rested" the year of the survey.

Bilk Creek DSP-3 use area approximately; 10,000 acres represented.

This habitat type is located in the mid elevation areas of the northern Bilk Creek Mountains within an elevational range of 5,500 to 6,500 feet. There are three major habitat types. The first, and largest is the mountain browse community which is dominated by mountain big sagebrush and bluebunch wheatgrass. The next type is the mountain big sagebrush and Idaho fescue type. The final major type is a burned mountain brush community. Lesser habitat types include some fairly large aspen woodlands and some scattered mountain mahogany woodlands.

Mule deer habitat condition and trend monitoring transects (DSP-WQ-03, DSP-WQ-04) were established on the two major unburned habitat types, and a modified habitat monitoring transect (DSP-WQ-08) was established in the burned area. The following table summarizes the site conditions for the approximately 10,000 acres of the Bilk Creek DS-7 use area which are represented by these key areas.

Summary of Data Collected in the Bilk Creek DSP-3 use area in the Wilder Quinn Allotment in 1995.

Key area Season of Use Use area	Mule Deer Forage Preference Value	Forage Line Intercept Method	%Composition Line Intercept Method	% Frequency of Occurrence, Quadrata Frequency Method	#Species Encountered (Sp.Richness)	Canopy Cover (Artem/Total)	Cover Height (in.) Average value
DSP-WQ-03	0.5	fair	ARTR4	44.8	9	16.2/36.2	11.3
Spring/fall	1.0	good	SYMPH	23.7			
Gravelly North Slope	0.1	poor	CHRY5	0.5			
NV023XY053	1.0	good	FEID	21.5			
Habitat	0.5	fair	LUPIN	1.0			
Condition	1.0	good	POSE	3.4			
Rating = 75.6	0.5	fair	PHHO	3.4			
	0.1	poor	ERIOG	1.6			
	0.1	poor	COLLO	0.1			
DSP-WQ-04	1.0	good	PUTR2	48.9			
Spring/fall	0.1	poor	ARTRV	27.2			
South Slope 12-16"	0.5	fair	CHRY5	7.8			
NV023XY016	0.1	poor	SIHY	0.8			
Habitat	0.1	poor	AGSP	8.2			
Condition	1.0	good	POSE	6.4			
Rating = 79.2	0.5	fair	ERTE	0.7			
	0.1	poor	BASA	1.5			
	0.1	poor	COPA	0.2			
DSP-WQ-08	0.5	fair	ARTRV	1.5	16	--/--	8.4
Winter/fall	1.0	good	PUTR2	2.0			
Granitic South Slope 12-14"	0.1	poor	TETR	3.5			
NV23XY042	0.5	fair	SYMPH	13.0			
Habitat	0.5	fair	CHRY5	11.0			
Condition	0.5	fair	LUPIN	6.5			
Rating = Not Possible	0.5	fair	PENST	0.5			
	0.1	poor	CRAC2	3.0			
	0.5	fair	BASA	50.0			
	0.5	fair	AGSP	7.5			
	1.0	good	POSE	80.5			
	0.5	fair	ERTE	9.0			
	1.0	good	FEID	4.5			
	0.1	poor	STTH8	38.5			
	0.5	fair	ELCI	0.5			
	0.5	fair	SIHY	17.5			

Key area DSP-WQ-03 is located on a Gravelly North Slope range site. According to the range site description for this site, the potential native vegetation is dominated by Idaho fescue and three-tip sagebrush. Potential vegetative composition is about 60% grasses, 10% forbs and 30% shrubs.

Under degraded conditions, Idaho fescue decreases in the understory and three-tip sagebrush increases. Snowberry also increases on the higher elevation sites. The current status of this community cannot be determined for this site without comparable data, however, the available data suggests that this habitat type is not at its potential condition. Current livestock grazing practices are not contributing to the maintenance of this condition, but past activities were very likely a major cause.

The current site conditions are neither beneficial nor detrimental to the habitat conditions of this site, given the

season of use. The overall habitat condition rating for this portion of the Bilk Creek DSP-3 use area is good. The overall habitat condition rating was determined by evaluating several crucial habitat parameters including cover, forage quality, water availability, key browse age and form class, and disturbance.

Thermal cover is of fair quality. Cover quality in this habitat type is limited by the low stature of the vegetative community and the limited topographic relief. The available vegetation in the area, is good with two thirds of the species encountered rating as good or fair mule deer spring/fall forage. Overall vegetation quality is good.

Snowberry was selected as the key browse species. Both age and form class were found to be satisfactory. The disturbance/interference rating was good, with limited human disturbance during the hunting season in late September to mid October being the primary impact. Finally, water was abundant throughout the study area.

Key area DSP-WQ-04 is located on a South Slope 12-16" range site. According to the range site description for this site, the potential native vegetation is dominated by bluebunch wheatgrass and mountain big sagebrush. Potential vegetative composition by weight is about 70% grasses, 10% forbs, and 20% shrubs.

Under degraded conditions, bluebunch wheatgrass and Thurber's needlegrass decrease and sagebrush increases. Based on the available data, the composition of bluebunch wheatgrass appears to be low and sagebrush is high. There was abundant evidence that livestock frequented this habitat type in the vicinity of the key area. The form class of the key browse species provides another indication that recent grazing practices have influenced the current conditions. The key browse species further indicates that over the last three years, these impacts have not been as pronounced. This use area was rested from cattle grazing in 1995.

The overall habitat condition rating for this habitat type is good. The quality of thermal and protective cover and

browse form class are the two factors limiting the attainment of excellent condition deer spring range in this portion of the Bilk Creek DSP-3 use area. Thermal and protective cover was rated as fair and is a result of the open nature of the vegetative community on a south facing slope. Significant improvement in this habitat parameter is not expected.

Bitterbrush was selected as the key browse species and was found to have satisfactory age class distribution, but poor form class. The form class is improving in the stand, as evidenced by at least three years of lower livestock and deer use of the annual growth. The current utilization level, at the time of survey was slight, which follows with the conclusion that livestock have been the primary cause of the poor form class, and also that the principle deer use occurs in the fall. The disturbance and interference parameter was rated excellent, as human activity during the season of mule deer use is limited to infrequent low intensity hunter pressure. Water distribution, as is the case for much of the mule deer habitat in the Bilk Creek Mountains, is excellent.

Key area DSP-WQ-08 was established in a Granitic South Slope 12-14" range site to monitor the rate of recovery of the portion of the Bilk Creek DSP-3 use area that burned in 1985. A modified monitoring protocol similar to that used on DS-WQ-07 was used on this site. Like DS-WQ-07, the objective for DSP-WQ-08 is to determine the current status of the burned plant community after 10 years and to enable future monitoring of how the community progresses back toward preburn conditions.

According to the range site description for this habitat type, the potential native vegetation is dominated by bluebunch wheatgrass, Thurber's needlegrass, mountain big sagebrush, and antelope bitterbrush. The potential vegetation composition is about 60% shrubs, 10% forbs and 30% shrubs (by weight). There is no available data to establish what the preburn conditions were, but all of these species are present in the current community. Cheatgrass was the only annual species inventoried along with the perennial

species, therefore the actual density of other undesirable species is not known. However, the abundance of desirable perennial grass species and the emergence of both sagebrush and bitterbrush is a good indication that the greatest competitor, Cheatgrass, is not a significant competitor in this particular range site following a burn. The overall low frequency of occurrence verifies this conclusion.

Overall, the vegetation community was very diverse compared to DS-WQ-07. Comparatively, forage quality was much better for this site as well, though this was due mostly to the different season of mule deer use and the preference of different species during the fall/winter period.

Average cover height was lower than at DS-WQ-07. This is believed to be a result of the increased abundance of grass species. Rabbitbrush is slightly more dominant than snowberry on this site as compared to DS-WQ-07.

In the spring of 1994, the Ranch Manager of the Wilder-Quinn Allotment, who is also the permittee of the Bilk Creek Allotment contacted the BLM to propose the re-initiation of sheep grazing in the Wilder Quinn Allotment. The proposal was to allow sheep grazing in the summer pasture scheduled to be rested from cattle grazing. The allotment had been adjudicated for sheep use and later in the spring, sheep use began. The first years use was in the Maggie Creek/Cottonwood Creek pasture. Cattle use was in the Wilder/little Wilder/Sagehen area. Due to a concern over the effects of initiating grazing by sheep in cattle rested pastures, browse utilization monitoring was initiated. Bitterbrush, snowberry, serviceberry, and Arrowleaf balsamroot were selected for inspection as the key browse species. Utilization monitoring sites were not permanently established to allow for flexibility in monitoring from year to year.

Monitoring was conducted two times in 1994, before sheep use and at the end of the season. Both visits resulted in the same conclusion. By far the primary sheep grazing pressure was on arrowleaf balsamroot. Utilization was

concentrated on the flowers. Some discernible use was also observed on snowberry and bitterbrush, but it was less than 50%. Close inspection of the bitterbrush in the area indicated significant use approaching 90% on current years leader growth had occurred fairly regularly in past years, but had not occurred in the last few years. Snowberry bared similar evidence, but was less pronounced. The overall conclusion for the re-initiation of domestic sheep use in the summer pastures was that there did not appear to be a conflict with the principle goals of a rest rotation grazing system as dietary overlap between sheep and cows was limited.

In 1995 cattle use was not scheduled in the Wilder/little Wilder/Sagehen area and domestic sheep were. Overall, the findings in this use area were the same as in 1994 with the following exception. Acting on a report by a hunter in August, a bedding area was located on top of Granite Mountain. The utilization of bitterbrush, which was the dominant shrub species in the area was heavy and surface soil disturbance was extreme on the granitic soils. Few understory species were observed outside of the direct protection of the shrub canopy. The conclusion of these findings was that bedding areas need to be rotated more frequently and more areas need to be developed to minimize the impacts to any one area.

Pine Forest DS-5 (concentration) use area approximately 5,000 acres represented.

This habitat type is located on Mahogany Mountain at the north end of the Pine Forest Mountains. This habitat type generally occurs above 5800 to 6000 feet. This use area contains two basic habitat types. The largest, representing approximately 70% of the use area is a mountain sagebrush/grass community. The majority of the remaining habitat is an extensive mahogany woodland. A mule deer habitat condition and trend study was established in the mountain brush habitat type. Refer to the table below for a summary of the habitat conditions found at DS-WQ-02 which is in a Granitic South Slope 12-14" range site.

Summary of Data Collected in the Pine Forest DS-5 use area in the Wilder Quinn Allotment in 1995.

area	Mule Deer Forage	*Composition	#Species	Canopy Cover	Cover Height	Key
Season of Use	Preference Value	Line Intercept	Encountered	(Artem/Total)	(in.)	
Use area		Method	(Sp.Richness)		Average value	
DS-WQ-02	0.1	poor	ARTRV	29.1		
Summer	1.0	good	PUTR2	59.1		
Granitic South	0.5	fair	RIBES	2.5		
Slope 12-14"	0.5	fair	PHLOX	0.2		
NV023XY042	0.1	poor	LUPIN	0.1		
Habitat	0.1	poor	COPA2	0.1		
Condition	0.5	fair	CRAC	0.1		
Rating = 82.8	0.1	poor	STTH	2.6		
	0.1	poor	FEID	3.5		
	0.1	poor	SIHY	2.2		
	0.1	poor	POSE	0.3		
			11	17.5/59.7	20.0	

According to the range site description, the potential community is dominated by bluebunch wheatgrass and Thurber's needlegrass, with mountain big sagebrush and bitterbrush being the dominant shrub species. Potential vegetation composition is about 60% grasses, 10% forbs, and 30% shrubs (percent by air-dry weight). The vegetation profile of a degraded Granitic South Slope 12-14" range site would consist of reduced frequency and density of wheatgrass and needlegrass and increases in sagebrush, snowberry, arrowleaf balsamroot, and rabbitbrush. While the data collected is not directly comparable to the composition figures presented in the range site description, the high composition of brush and low composition of grasses indicates that this habitat type is not at its potential vegetation composition,

There was abundant evidence of past livestock impacts in the area, particularly within the mahogany woodland type, but also in the mountain brush habitat studied at the key area. The form class indicated significant livestock use on mahogany serviceberry and bitterbrush. This area has not had scheduled livestock use since 1993 due to a problem with fencing and changes in operators. The available evidence supports this fact. Current utilization rates at the time of study were slight on all browse species.

Bitterbrush was selected as the key browse species and was found to have satisfactory form class but deficient age class distribution. This data is somewhat deceiving, as there was abundant reproduction occurring, however, the primary age class in the community was decadent overmature plants. The total vegetative canopy cover was over 50%, This is unusual and combined with the overmature status of the key

browse species may be an indication of the trend of this community toward a grass dominated potential natural community.

From a forage perspective, the vegetation encountered in the portion of the Pine Forest DS-5 use area represented by DS-WQ-02 is fair to good summer forage. Nearly half of the species encountered are considered good or fair summer forage. Together these good and fair species accounted for just over 61% of the total species cover at the key area.

Thermal and protective cover rated good due to the extensive mahogany cover and nearly 20 inch average vegetation height outside the woodland. Disturbance/interference was minimal due to very limited/rough access and received a high rating. Water was slightly more limited than found in summer and spring habitats in the Bilk Creek Mountains, but was still rated as good. The overall mule deer habitat condition rating was excellent.

Pine Forest DW-7 use area; approximately 2,000 acres represented.

This habitat area encompasses the corridor around Mahogany Mountain out to the toe of the mountain, and extends north along the ridge past Emigrant Pass toward Black Mountain. There are several different vegetation types within this seasonal use area, but the largest is a bitterbrush/sagebrush/bluebunch wheatgrass community which encompasses about 40% of the total use area. Key area DW-WQ-01 was established in this habitat type.

Key area DW-WQ-01 was established in a transition zone between the Granitic South Slope 8-12" and Granitic South Slope 12-14" range sites. Both range sites are dominated by bluebunch wheatgrass and Thurber's needlegrass with Wyoming big sagebrush in the 8-12" range site and mountain big sagebrush in the 12-14" range sites under potential native vegetation conditions. The drier 8-12" range site contains about 55% grasses, 5% forbs and 40% shrubs as its potential vegetation composition, while the

wetter 12-14" site contains 60% grasses, 10% forbs and 30% shrubs. In both instances, a degraded site typically has reduced composition of the dominant grasses and increases in the shrubs. Arrowleaf balsamroot which is found in the wetter range site also increases. While the conditions at the key area do not fit neatly into either range site, the site conditions are consistent with the description of a degraded community found in both range site descriptions.

The overall habitat condition rating for the portion of the Pine Forest DW-7 use area represented by the key area is good. Bitterbrush was selected as the key browse species and was found to have satisfactory age and form class. Thermal and hiding cover was poor however. This parameter was limited by the open nature of the vegetation community and a low overall average vegetation height. Disturbance/Interference was rated fair/good due to the accessibility and high hunter pressure during the season of use. Water availability was not factored into the determination of condition due to its reduced importance during the winter. The following table summarizes the habitat conditions found at DW-WQ-01.

Summary of Data Collected in the Pine Forest DW-7 use area in the Wilder Quinn Allotment in 1995.

Key area Season of Use Use area	Mule Deer Forage Preference Value	%Composition Line Intercept Method	#Species Encountered (Sp.Richness)	Canopy Cover (Artem/Total)	Cover Height (in.) Average value
DW-WQ-01	0.5	fair	ARTR4	64.6	
Winter	1.0	good	PUTR2	13.5	
Granitic South	0.5	fair	CHRYE	3.5	
Slope 12-14"	0.5	fair	BASA	0.4	
NV023XY049	0.1	poor	PHLO	1.2	
Habitat	0.1	poor	ASTER	0.1	
Condition	0.5	fair	ERIOG	0.9	
Rating = 66.1	1.0	good	POSE	13.3	
	0.1	poor	STTH	2.1	
	0.1	poor	CAPI	0.1	
				10	15.5/24.0
					11.2

Pronghorn

Pronghorn habitat in the Wilder Quinn allotment is fairly extensive over the lower elevation valley bottom areas in the allotment. Only one antelope condition and trend study was monitored in the Wilder Quinn allotment. The study consisted of measurement of total vegetative production and cover height. The study site is located within the perimeter of the 1985 Wilder fire and subsequent reseeding and was numbered AW-WQ-08 to denote the primarily winter

antelope use.

AW-WQ-08 is located in a reseeded-burned Wyoming Big sagebrush/Sandberg bluegrass/Thurber's needlegrass community at an elevation of approximately 4700 feet. The area is dominated by crested wheatgrass and Ladak alfalfa with interspersions of intermediate wheatgrass, and the native bluegrass and needlegrass. Average vegetation height was ten inches.

Total vegetative production was quite high at 1,133 pounds/acre, but was of overall low quality with respect to antelope winter forage value. Water was quite dispersed with the distance to water averaging 3-4 miles. As a result of these findings, the overall habitat rating was poor. The primary limiting factors were distribution and abundance of quality winter forage species, forage diversity, water availability, and availability of cover.

There was some question as to the validity of this conclusion, given the rapid growth of the resident antelope population after the fire. Consultation with NDOW personnel indicated that the increase in antelope numbers has been primarily around the perimeter of the burn areas where the above mentioned limiting factors were less pronounced. According to NDOW, resident antelope rarely venture far from the burn edge and are thus not limited by the shortcomings of the habitat represented by the key area. This conclusion was further supported by the livestock manager who indicated that the principal area of antelope sightings is around the perimeter of the fire.

There was abundant evidence throughout the interior of the fire that progress is being made toward minimizing several of the identified limiting factors. This evidence is in the form of numerous areas of sagebrush re-establishment within the burn, as well as areas of native forb reestablishment including arrowleaf balsamroot, lupine and penstemon. These areas are currently in the early stages of establishment and are therefore locally dense, but very dispersed. The key area was not located in an area to allow detection of these changes, but is representative of the

majority of the Bilk Creek PW-6 use area.

California Bighorn Sheep

Bighorn sheep have been established in two areas in the Wilder Quinn allotment. The first transplant occurred in 1985 at McGee Mountain. This release was in conformance with the Pine Forest Habitat Management Plan. From the initial transplant population of the McGee Mountain has expanded over five fold. The rate of growth of this population has begun to slow as the population reaches its carrying capacity based on the most limiting factor of water.

The second transplant occurred in 1987 at Mahogany Mountain. This group has also expanded approximately five fold from the initial population of 20 animals. The population continues to grow rapidly toward its carrying capacity, but is still far from its potential of over 1,000 individuals over the entire Pine Forest range. This population makes its home primarily on the west side of Mahogany Mountain.

Specific bighorn sheep habitat condition studies have not been established. However, population growth rates are an excellent indicator of habitat conditions. Since populations were established in the Mahogany Mountain - McGee Mountain areas, they have expanded over five-fold. The growth of these population has been, to date, an expansion of animals towards the carrying capacity of the habitat. Nevada Division of Wildlife have described habitat conditions in these two areas as good to very good.

The McGee Mountain population has experienced a slowing of growth in recent years. This slowed growth can be attributed to near attainment of carrying capacity for that range. Water is the limiting factor for this range.

The Mahogany Mountain herd has continued to expand into new habitat and is not experiencing any significant habitat related conflicts.

The south end of the Pueblo Mountains has been the site of increasing pioneering activity by bighorn sheep coming from the north end of the Steens and Pueblo Mountains in Oregon. These sheep originated from a 1976 transplant operation conducted by the Oregon Department of Fish and Wildlife. Again the lack of reliable perennial water has hindered establishment of a permanent population here. In general, habitat conditions for California bighorn sheep in the Wilder-Quinn allotment are good to excellent.

Potential habitat in the Bilk Creek Mountains is not likely to be re-established with sheep due to active domestic sheep grazing in both the Wilder-Quinn and the neighboring Bilk Creek allotments.

Elk

Elk are infrequent visitors to the Wilder Quinn allotment, primarily in the northern end near Mahogany Mountain. In recent years, reports of elk have been more frequent as populations in Oregon approach carrying capacity and overflow populations begin pioneering into new suitable habitats. Habitat conditions in the Pine Forest portion of the allotment are excellent.

Sage Grouse

Sage grouse habitat in the Wilder Quinn allotment is extensive with many areas having been impacted by fire. The most significant fire occurred in 1985 when substantial portions of the lower and mid elevation habitat areas were burned. An additional large portion of summer habitat in the Shyster Creek drainage was burned by the 1991 Lovely fire.

Livestock have also had an impact on the condition of sage grouse summer habitat in meadows and riparian area which serve as crucial late summer brood rearing and foraging areas. These impacts include removal of hiding cover and competition for and reduction of forage due to heavy grazing.

Crucial habitat parameters were determined using several sources, particularly The Western States Sage Grouse Committee which presented a comprehensive guide to habitat requirements for sage grouse in their 1974 Guidelines for Habitat Protection in Sage Grouse Range (Report). In this report, habitat conditions which resulted in the highest reproductive success for sage grouse strutting, nesting, brood rearing, and wintering ranges in the west are summarized.

The following criteria were found to sustain the highest levels of use and resulted in the highest reproductive success by sage grouse:

Strutting Habitat

Low sagebrush or brush free areas for strutting and nearby areas of sagebrush having 20-50% canopy cover for loafing.

Nesting Habitat

1. Areas within 2 miles of strutting grounds.
2. Sagebrush between 7 and 31 inches in height (Optimum = 16 inches)
3. Sagebrush canopy cover of 20-30% (optimum = 27%).

Brood Rearing habitat

1. Sagebrush canopy cover of 10-21% (optimum = 14%).
2. High composition of forb species.
3. Vigorous-available meadow vegetation in late summer and fall.

Winter habitat

1. Greater than 20% sagebrush canopy cover.
2. Areas do not maintain high winter snow depth due to

either elevation or topography.

In addition NDOW personnel cited various literature sources which indicated the importance of good understory growth beneath and surrounding the nest bush. Understory cover helps to conceal the nests from predation from the air and creates a microclimate around the nest which is warmer than the ambient air temperature.

Specific sage grouse habitat condition studies have not been established. Forage condition and vigor, "edge", forage diversity (species richness), and forb composition are factors known to be of critical importance in habitat selection behaviors in sage grouse. The studies data collected from the seven mule deer and one pronghorn condition and trend studies are, however, suitable for assessment of sage grouse habitat condition. This studies data was evaluated with respect to the criteria identified above for strutting, nesting, brood rearing, and/or wintering habitat. For the key areas representing burned habitat, the current suitability is assessed, as well as the potential suitability based on the range site description.

Bilk Creek Mountains Habitat Area

This use area is represented by six key areas. Three of these key areas are located in the area burned by the 1985 Wilder fire. A total of seven brood rearing areas and 1 strutting area are located within this habitat area. The surveys which located these sites are incomplete for this habitat area however.

DS-WQ-6

DS-WQ-6 is located on a southwest facing slope at an elevation of 6,520 feet. Total vegetative canopy cover is 46.7% and sagebrush canopy cover is 11.4%. Average vegetation height is 42 inches. Based on these conditions, the habitat represented by DS-WQ-06 appears to be capable of supporting nesting and brood rearing.

Nesting Habitat Quality

Strutting grounds as well as brood rearing areas have been documented within or close to the habitat type represented by DS-WQ-06. Sagebrush is taller than the recommended height for optimum nesting habitat, but sagebrush canopy cover is deficient. Observations made at the site indicated that there was adequate understory nesting cover. Based on this information, the habitat represented by DS-WQ-06 is estimated as good quality nesting habitat.

Brood Rearing Quality

Sagebrush canopy cover is within the recommended range. However, forb composition is limited with only four percent composition. Livestock grazing practices have not been conducive to providing vigorous available meadow vegetation in late summer and fall due to the high utilization rates that have been recorded. Overall brood rearing habitat quality is estimated to be poor to fair.

DS-WQ-07

This key area is in a burned habitat on a south exposure at an elevation of 6200 feet. Vegetation height is 11 inches and sagebrush canopy cover is less than five percent. Forb composition is low and available meadow vegetation has been significantly impacted by livestock. The range site description indicated that this habitat potentially supports a vegetation community historically providing quality nesting and brood rearing habitat. Prior to the burn, nesting and brood rearing habitat quality was probably similar to that found at DS-WQ-06. The current habitat conditions are no longer suitable as nesting or brood rearing habitat but are suitable as low quality sage grouse strutting grounds. Overall, strutting habitat quality is poor to good depending on the proximity of the habitat to the unburned edge and the surrounding topography. Few areas in this portion of the burn are good quality potential strutting grounds.

DSP-WQ-03

The vegetation community represented by this key area is located on north facing slopes with an average vegetation height of 11 inches. Sagebrush canopy cover is at 16% and forb composition is low. Proximity to riparian vegetation is not a limiting factor, however, the availability of this resource is extremely limiting due to conflicts with season long livestock grazing. Elevation is a limiting factor to the ability of this site to support significant winter use. There was evidence that this site serves as a loafing area for sage grouse coming off either the nearby meadows or the low sage ridge top above. Probable habitat use by sage grouse in this vegetation type is as a nesting or brood rearing area.

Nesting habitat quality

Strutting ground surveys are incomplete for this area, but suitable strutting grounds are nearby. Sagebrush height is well within the suitable range, however, sagebrush canopy cover was slightly less than desirable. Overall nesting habitat quality is estimated as fair due to the deficient sagebrush canopy cover.

Brood Rearing habitat quality

Sagebrush canopy cover is well within the recommended range for quality brood rearing habitat, however forb composition is limited. Meadow habitats are abundant throughout this habitat type. The quality of habitat provided by these sites is low due to heavy livestock use which limits sage grouse use because reduced cover availability and reduced forage. Water availability is probably not limited due to the orientation of the meadow/spring sources which provides for water availability without serious exposure to predation. Loafing areas of mountain big sagebrush surrounding the meadows are of poor to good quality depending on the degree of livestock disturbance to the understory community.

DSP-WQ-04

The vegetation community represented by this key area is located on a south facing slope with an average vegetation height of 16 inches. Sagebrush canopy cover is a very low 5.8% and forb composition is under 2%. Riparian areas are abundant, but riparian forage and hiding cover are again limited due to livestock conflicts. Elevations average over 5,500 feet with the key area being located at 6,380 feet. Understory nesting cover is limited as well.

Based on these site conditions, the habitat represented by DSP-WQ-04 does not appear to be suited to sage grouse use during any of the identified crucial reproductive periods.

DSP-WQ-05

The vegetation community represented by this key area is within a burned area which historically provided habitat similar to that found as DS-WQ-07. The current habitat conditions are no longer favorable to sage grouse nesting brood rearing or wintering due to the removal of the shrub component. The current habitat conditions are, however favorable for strutting activities.

The character of this portion of the fire was such as to leave a few scattered islands of unburned vegetation located mostly in rocky substrate soils on hill tops. The sagebrush component is also vigorously returning in several small drainage basins. Topography is primarily gently rolling open hills. These habitat conditions result in an estimated good quality strutting habitat for this portion of the burn.

The final habitat type contained in the Bilk Creek mountains habitat area is that represented by AW-WQ-05. This habitat type is also burned but is representative of that portion of the burn that was reseeded. The current habitat conditions consist of gently rolling hills at an elevation of 4710 feet. There is currently very little shrub cover, but it is returning into several sites. Based on the range site description, historic sage grouse use was probably winter

based. The current habitat description and historic sage grouse use is characteristic of the majority of the habitat burned in 1985.

With the lack of shrub cover, the habitat represented by AW-WQ-05 is no longer suited for sage grouse winter use. The current potential sage grouse use is as strutting habitat. Two of the five strutting grounds known to occur in the Bilk Creek Mountains portion of the Wilder Quinn allotment occur in this area. Two additional strutting grounds out of the allotment but within two miles of the allotment boundary occur in this burned area. All of the known strutting grounds in the burn area are located near the edge of the burn indicating that much of the burn area is not usable due to the lack of loafing cover. The vegetation currently dominant is wheatgrass and needlegrass with alfalfa occurring in dispersed but locally abundant patches. The estimated strutting habitat quality is good for areas proximal to the unburned edge and poor for areas further inside the burn. The re-invasion of sagebrush throughout the burn area in vigorously reproducing patches indicates a long term upward trend in the overall wildlife habitat condition for the burn.

Pine Forest Habitat Area

The Pine Forest sage grouse habitat area is represented by two key areas. DS-WQ-02 is representative of the high elevation areas on Mahogany Mountain, while DW-WQ-01 is representative of the low elevation areas surrounding its base. As a result of an incomplete survey by the Oregon Department of Fish and Wildlife in 1990, two strutting grounds were identified in the Mahogany Mountain area. DS-WQ-02

The habitat represented by this key area is characterized as a high elevation sagebrush community with an average vegetation height of 20 inches and a sagebrush canopy cover of 17.5%. This habitat type starts around 6500 feet in elevation and extends to the top of the mountain. Water is significantly less available than in the Bilk Creek habitat area, but livestock impacts have historically been similar.

Forb composition is low, as is understory nesting cover. The primary use for this habitat type is most likely for nesting activity.

Nesting Habitat Quality

There are no known strutting grounds in this area, but suitable strutting habitat is abundant. Average sagebrush height is well within the optimum range, but sagebrush canopy cover is slightly less than desired. As mentioned above understory nesting cover is somewhat limiting, but it is not thought to be prohibitory to sage grouse nesting use. The overall nesting habitat quality is estimated to be fair.

DW-WQ-01

The habitat represented by this key area is characterized by a open canopy of sagebrush and bitterbrush with a fairly dispersed understory community. This habitat type occurs roughly below 5,200 feet in elevation and extends down to around 4,700 feet. This habitat type is also poorly watered with riparian habitat being isolated to a few small meadows. Snow accumulations are not likely to prohibit winter use. Due to the open arid nature of the community and the limitations of the available riparian habitat, the habitat represented by this key area is best suited for winter use and strutting activities. Winter habitat quality, based on the existing conditions is estimated to be good with canopy cover of sagebrush being the limiting factor. Strutting habitat quality is estimated to be good with sagebrush canopy cover being limiting.

8. Riparian/Fisheries Habitat

Riparian habitat in the Wilder Quinn allotment has been receiving heavy livestock use throughout the evaluation period. The earliest formal documentation of riparian habitat conditions, which were made in 1977 identified heavy livestock use as a major factor contributing to poor condition riparian habitat. Headcutting, soil compaction, punching and trampling of riparian habitats was identified as the primary causes for the poor condition. In addition,

beaver were identified as being a significant contributor to declining aspen condition in the Bilk Creek Mountains. Evidence of heavy beaver activity contributing to reduced riparian condition can be found in Wilder, Little Wilder, and Shyster creeks.

In addition to the conflicts with scheduled livestock summer use, excessive unscheduled livestock use in pastures scheduled for rest has been a recurring problem. Data was collected in 1995 to ascertain livestock utilization levels in the rested fields, but has been acknowledged as a problem in past years as well by the permittee. The combination of heavy use in scheduled years and light to heavy use in unscheduled years has resulted in degraded riparian conditions in several drainages with headcutting, punching, and reduced stream condition ratings being the result.

Fisheries habitat

The following perennial streams occur in the Wilder-Quinn allotment.

Name	length (total)	Length {public}	Surveyed (Yes or No)
Butte Creek	1.6 miles	0.5 miles	No
Deep Creek	4.2 miles	4.2 miles	No
Maggie Creek	8.0 miles	7.7 miles	No
Mud Creek	4.5 miles	0.0 miles	No
Sagehen Creek	4.5 miles	4.5 miles	No
S.Fork Cottonwood	3.7 miles	0.2 miles*	No
Shyster Creek	8.3 miles	8.3 miles	No
Wilder Creek	12.0 miles	2.8 miles	Yes
L. Wilder Creek	3.6 miles	2.6 miles**	Yes

* An additional 0.4 miles of this stream has been proposed for exchange into public ownership

** Approximately .25 miles of this stream immediately above the diversion has been proposed for exchange from public to private ownership.

Butte and Deep Creeks are ephemeral on public land in the allotment. Maggie Creek is perennial to intermittent or ephemeral over much of its length but is not suitable as a fishery due to low flows. The dominant habitat type in Maggie Creek is composed of primarily herbaceous riparian vegetation with some willow and few aspen.

Mud Creek is unfenced and completely private under exchange of use. Mud Creek has downcut significantly over most of its perennial length. Heavy to severe livestock use dominates the utilization profile in this stream. The upper reaches of the creek support a significant woody riparian component dominated by aspen and willow. Mud Creek has not been formally surveyed but appears to be in poor condition.

Sagehen Creek is incorrectly identified as being under 100% private ownership. With exception of the headwaters spring/meadow complex, it has not been inspected in recent years. The headwaters meadows were partially fenced in 1967 to allow recovery of the site due to heavy livestock use and resultant high degree of erosion. The fencing was successful with the aid of several sediment catchments and the project was abandoned. In recent years, headcuts have again begun to threaten the integrity of the water table and a new fence has been proposed by the permittee.

The South Fork Cottonwood Creek contains very little public land, but is currently being proposed for exchange into public ownership. The creek conditions are very poor with deep gullying, lack of a floodplain and high livestock use being the primary limiting factors to its improvement. Downstream portions of the creek outside the allotment, also proposed for exchange to public ownership have begun to recover and are on an upward trend.

Shyster Creek is under 100% public ownership. Stream conditions vary with heavy livestock use and unstable or failed abandoned beaver dams being the primary limiting factors. Hedged willow are common along its lower reaches. Large aspen stands with associated meadow complexes are common in the headwaters.

WILDER CREEK

Stream habitat conditions have been inventoried three times, in 1977, 1990, and 1994. The 1990 survey was conducted by the Nevada Division of Wildlife (NDOW) using the GAWS methodology. The BLM stream surveys used the

methods described in BLM Manual 6671. Table 1. presents the trend in selected habitat evaluation parameters, over time. With the exception of Percent Desirable Stream Bottom Materials, Percent Rooted Vegetation, and Percent Sedimentation, all critical habitat parameters have declined between 12 and 20%.

Overall habitat percent of optimum declined 20% between 1977 and 1994. The principle limiting factors contributing to the decline include: pool to riffle ratio, pool quality, bank cover, bank stability, and width to depth ratio. Livestock utilization and trampling are the principle causes for the declining trend along the creek. Drought conditions persisting for the last seven years (with the exception of 92-93) cumulating with the last survey emphasized the habitat deficiencies associated with water flows and instream habitat conditions. For instance, the lack of annual spring "flushing" flows to remove accumulated fine sediments in pools has led to a decline in pool quality. The overall volume of sediment is also a major contributor in this instance as excessive trampling introduces higher than normal loads of sediment.

LITTLE WILDER CREEK

Stream habitat conditions have been inventoried two times, in 1977 and 1990. In addition, lotic functionality was assessed in 1994. The 1977 stream survey was conducted using BLM methodologies, while the 1990 survey was conducted by NDOW. Table 1. displays selected habitat condition parameters. The overall trend in habitat condition for Little Wilder creek is static to slightly up.

Overall habitat condition ratings are not comparable due to the different methods employed. However, some individual habitat parameters are directly comparable. Bank cover increased just under ten percent and bank stability increased just over twenty percent over the period 1977 to 1990, however, percent desirable stream bottom substrates declined nearly twenty percent.

It is important to note that the apparent increases in cover and stability are likely related, in some degree, to the timing of survey in 1990 versus 1977. In 1990, the survey was conducted in June, prior to livestock turnout, and possibly before base flows were attained, while the 1977 survey was conducted in August, with base flows and after livestock had been in the area for some time. There is a possibility, given this situation, that bias may have occurred based on the presence of unutilized current years growth giving the appearance of good bank stability and cover. It was noted in the 1990 report that: "No cows were observed in the survey area." and "Overall damage [at that point in time prior to livestock turnout] was considered nonexistent." The documentation of heavy livestock use during use pattern mapping activities latter that year seems to verify this hypothesis.

Lodic stream functionality was conducted in July of 1994. This assessment concluded that Little Wilder creek was: "Functioning At Risk". This conclusion was based on several factors including the lack of age class diversity in woody riparian species, lack of vegetation with favorable sod forming root systems, poor vegetational cover to protect streambanks from erosion, and lack of shading cover.

Table 1. Comparison of Selected Habitat Parameters 1977, 1990, 1994 Wilder Creek, 1977, 1990 Little Wilder Creek, Wilder-Quinn Allotment, Humboldt County, Nevada.

Stream Name	Agency	Year	% Habitat Optimum	HCI (NDOW)	Riparian Condition Class	Bank Cover	Bank Stability	% Sediment	% Desirable Bottom material
Wilder	BLM	1977	55	--	58	50	60	38	44
	NDOW	1990	--	46	--	60	52	--	57
	BLM	1994	35	--	44	44	43	27	62
Percent Change (BLM Survey)			-20%		-14%	-6%	-17%		+40%
Little Wilder	BLM	1977	41	--	61	67	55	53	47
	NDOW	1990	--	52	--	73	70	--	39
	Percent Change					+10%	+27		-17%

9. Other Threatened/Endangered species

The following sensitive plant species have been documented in the Wilder Quinn allotment:

Caulanthus barnebyii (around the Quinn River ranch)

Astragalus alvordensis (Northern extreme of the allotment)

The following sensitive wildlife and plant species may occur in the Wilder Quinn allotment according to correspondence received from the U.S. Fish and Wildlife Service (file number 1-5-95-SP-053).

Brachylagus idahoensis Pygmy rabbit (throughout the allotment in sagebrush habitat types)

Athene cunicularia hypugea Burrowing owl (throughout the allotment common to disturbed areas)

Myotis ciliolabrum Small footed myotis

Myotis evotis Long eared myotis

Myotis thysanodes Fringed myotis

Myotis volens Long legged myotis

Plecotus townsendii townsendii Pacific Townsend's big eared bat

Plecotus townsendii pallescens Pale Townsend's big eared bat

Accipiter gentilis Northern Goshawk

Buteo regalis Ferruginous hawk

Chidonias niger Black tern

Ixobrychus exilis hesperis Least bittern

Plegadis Chihi white faced ibis

Cryptantha schoolcrafti Schoolcraft's cryptantha

Mentzelia mollis Smooth stickleaf

Of these species, the pygmy rabbit, burrowing owl, and northern goshawk are likely to be effected by livestock grazing activities in the allotment.

The pygmy rabbit occurs in sagebrush grass communities throughout northern Nevada. Its preferred habitat is along drainages and in valley bottom settings. The impacts to this species from livestock grazing include destruction of cover and competition for forage. Management of livestock

grazing to ensure attainment of 50% use or less in upland and riparian habitats minimizes the potential for conflicts with this species and does not result in livestock grazing contributing to the need to list this species as either threatened or endangered under the Endangered Species act.

The burrowing owl is a small raptor which nests in abandoned rodent dens in disturbed areas such as road bars, livestock salting areas and gravel pits. It may also nest in abandoned burrows in sagebrush habitats wherever there is a sufficient prey base. Impacts to this species by livestock grazing include destruction of the den entrance by trampling and impacts to the prey base through competition for forage. In the case of potential destruction of den entrance, this impact is not very likely as livestock consciously avoid stepping in open holes of the size common to burrowing owl den openings. The competition for forage between prey species and livestock is minimized through the management of livestock to ensure 50% or less use in upland and riparian habitats.

The Northern Goshawk may be found in the Wilder Quinn allotment. This species primarily nests in deciduous woodlands such as the aspen woodlands found in the upper Shyster Creek and Sage Hen Creek drainages. Potential conflicts between the Northern Goshawk and livestock grazing include depletion of nesting habitat through heavy utilization of regenerating aspen. This impact has been present throughout the evaluation period, though documented goshawk nesting activity has not occurred. More intensive livestock grazing management and/or modification of the season of use or stocking rates to ensure that utilization of aspen regeneration does not result in a downward trend in the size and distribution of aspen in the allotment would minimize this impact.

10. Water quality sampling was not conducted in the Wilder Quinn Allotment during the evaluation period.
11. Noxious weeds have been documented on the Wilder-Quinn Allotment. Scotch thistle and perennial pepperweed have been observed south of Quinn River Ranch and in the Lone

Mountain burn area. Additional areas on private land are infected with these species. A coordinated effort will be required on public and private lands to control noxious weeds in this allotment.

V. CONCLUSIONS

Short Term Objectives

1. Utilization of key streambank plant species shall not exceed 50% on Maggie, S.Fk Cottonwood, Wilder and Little Wilder Creeks.

1994 to present (permittees: Denny Land and Cattle CO, Dufurrena, and Waldkirch/Colby):

The objective was met in 1997 in Maggie Creek and not met on Cottonwood Creek in 1997. Heavy utilization levels were noted on Cottonwood Creek. The objective was met on Maggie Creek and Cottonwood Creek in 1995. In addition, the objective was met on the Little Wilder Creek and not met on Wilder Creek the same year. The Wilder/Little Wilder use area were scheduled to be rested in 1995 from cattle grazing and sheep use was authorized. However, livestock drift occurred due to the lack of, or incomplete, internal fencing which allowed season long use in this area due to livestock drift from the Maggie Creek and Lone Mountain use areas. Heavy utilization was noted on Wilder Creek. The objective was not met in 1994 on Wilder and Little Wilder Creeks. Heavy use was noted in the riparian areas with severe use being noted on willows and roses along both creeks.

1985 to 1993 (permittees: Quinn River Ranch, Dufurrena, and Waldkirch):

Moderate use was noted on aspen in the headwaters of Wilder Creek. The objective was not met in 1989. UPM data for the Big/Little Wilder Creek use area indicated heavy utilization of streambank riparian habitats. The objective was met along Wilder and Little Wilder Creek in 1990 and 1993. The objective was not met in 1993 on Maggie Creek and Cottonwood Creek. UPM data indicates heavy use occurred on Maggie Creek and Cottonwood Creek riparian areas. The objective was met along Maggie Creek and Cottonwood Creek in 1990 and 1991.

2. Utilization of key plant species on wetland riparian habitats shall not exceed 50%.

1994 to present (permittees: Denny Land and Cattle CO, Dufurrena, and Waldkirch/Colby):

The objective was met in the Maggie Creek drainage and not met in the Cottonwood drainage in 1997. Moderate utilization levels were noted on meadows and springs in the Maggie Creek drainage. Heavy utilization was noted in meadows along Cottonwood Creek. The objective was not met in 1995 in the Wilder Creek/Little Wilder Creek and Sagehen/Shyster use areas. Heavy use on meadows occurred in the Wilder Creek drainage and on the Sagehen Meadow Complex. These use areas were scheduled to be rested in 1995 from cattle grazing. Sheep use was authorized. However, livestock drift occurred due to the lack of, or incomplete, internal fencing which allowed season long use in this area due to livestock drift from the Maggie Creek and Lone Mountain use areas.

The objective was met in 1994 in the Sagehen/Shyster Creek use area. The objective was not met on Mud Creek in 1994 and 1995. Heavy use was noted on Mud Creek and associated meadows.

The objective was not met in the Wilder Creek - Little Wilder Creek use areas in 1994 and met in 1995. Heavy use was noted on meadows and upland springs.

The objective was met in 1995 in the Maggie Creek/Cottonwood Creek use area and in 1996 in the Antelope use area.

1985 to 1993 (permittees: Quinn River Ranch, Dufurrena, and Waldkirch):

The objective was not met in 1989 in the Sagehen use area. Heavy utilization occurred in wetland riparian habitats located in the use area.

The objective was met in 1991 and 1993 and not met in 1989 in Mud Creek with heavy use being noted in Mud Creek and associated meadows.

The objective was met in the Wilder Creek/Little Wilder Creek drainages in 1990 and 1993. The objective was not met in 1989.

The objective was not met in the Maggie Creek/Cottonwood Creek drainages in 1993. Heavy use was noted on upland meadows and springs. The objective was met in 1991. The objective was not met in the Maggie Creek drainage in 1990. Heavy use was noted at Maggie Creek spring and other associated meadows and springs. The objective was met in the Cottonwood Creek use area

The objective was met in 1989 for spring use in the Antelope use area. The UPM indicated moderate to slight utilization on wetland riparian habitats. The objective was not met in the Quinn River Ranch use area in the winter of 1988 and spring of 1989.

3. Utilization of key plant species in upland habitats shall not exceed 50%.

1994 to present (permittees: Denny Land and Cattle CO, Dufurrena, and Waldkirch/Colby):

The objective was met in the native portion of the North Wilder Field in 1994 and 1997.

The short term utilization objective for upland habitats was not met in the Lone Mountain use area in the vicinity of Wilder Ranch and Wilder Creek in 1994 due to heavy use in these areas. Small areas of heavy use were found from State Route 140 towards Lone Mountain along the Wilder Ranch road. The objective was met in 1995.

The objective was met in the Sagehen/Shyster Creek use area in 1995 and 1994. The objective was met in the Wilder/Little Wilder Creek use area in 1995 and 1994. The objective was met in the Quinn River Ranch area in 1994. The objective was met in the Maggie Creek/Cottonwood Creek use area in 1997 and 1995.

1985 to 1993 (permittees: Quinn River Ranch, Dufurrena, and Waldkirch):

The objective was met in the native portion of the North Wilder Field in 1993. The objective was not met in 1990 and 1989.

The objective was not met in the Lone Mountain in 1989 and 1990. The objective was met in the Lone Mountain use area in 1993, 1991, and 1988.

The objective was met in the Sagehen/Shyster Creek use area in 1989 and 1988.

The objective was met in the Wilder/Little Wilder Creek use area in 1993, 1990, 1989 and 1988.

The objective was not met in the Quinn River Ranch area in 1988, 1989, and 1990.

The objective was met in the Maggie Creek/Cottonwood Creek use area in 1993,

1991, and 1990.

The objective was not met in the Bog Hot use area in 1990, 1989, and 1988.

The objective was met in the Antelope use area in 1996 and 1989.

4. Utilization of crested wheatgrass in the seedings shall not exceed 50%.

1994 to present (permittees: Denny Land and Cattle CO, Dufurrena, and Waldkirch/Colby):

The objective was not met in the N. North Wilder Field in 1994. Heavy utilization on seeded portions of the field was found north of the Wilder Ranch. The objective was met in the North Wilder Field in 1997. The objective was met in the Houghland Seeding in 1996. The objective was not met in 1995 in the Denio Seeding due to heavy utilization levels. The objective was met in 1995 in the Quinn River Seeding.

1985 to 1993 (permittees: Quinn River Ranch, Dufurrena, and Waldkirch):

The objective was met on the N. North Wilder Field in 1993. The objective was not met in seeded portions of the North Wilder field in 1990, 1989 and in 1988 with heavy use all three years.

The objective was met in the Houghland Seeding in 1991. The objective was not met in the Houghland Seeding in 1989. Heavy utilization occurred in the central portion of the seeding.

The objective was met in the Denio Seeding in 1991. Moderate use occurred in the southern portion of the field with slight and light utilization occurring in remaining portions of the field. The objective was not met in the Denio Seeding in 1985. Three random utilization transects were conducted in the Denio Seeding. Heavy utilization (75%) levels on crested wheatgrass occurred at transect #1 with heavy utilization (63%) levels occurring at transect #2 and moderate (50%) at transect #3.

The objective was not met in the Quinn River Seeding in 1989. Utilization levels in the northern third of the pasture was heavy, moderate use in the central portion and slight in remaining areas. Two utilization transects were conducted in the Quinn River Seeding in 1985. The transects indicated moderate utilization levels occurring on crested wheatgrass. The objective was met in this seeding.

Long Term Objectives

1. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 1,266 AUMs for mule deer, 208 AUMs for pronghorn, and 63 AUMs for bighorn sheep.
 - a. Improve to and maintain 59,219 acres of mule deer habitat in good or excellent condition.
 - b. Improve to and maintain 24,231 acres of pronghorn habitat in good condition. Improve to and maintain 110,394 acres of pronghorn habitat in fair or good condition.
 - c. Improve to and maintain 26,507 acres of bighorn sheep habitat in good or excellent condition.

This objective was met for portions of mule deer habitat surveyed. This objective was not met for portions of Pronghorn habitat surveyed in the burn area. Non-attainment of the objective is due to lack of forbs in the Wilder Burn area. This area was burned and seeded in 1985 and recovery of native forbs has been slow. Data has not been collected to evaluate the achievement of this objective as it pertains to bighorn sheep habitat. However the available population data suggests this objective is being met.

2. Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 13,877.

Baseline and current trend data has not been collected to evaluate the achievement of this objective. Monitoring data indicates short term utilization objectives are not being met, especially during the summer use periods in riparian/meadow type habitats. The objective is not being met under the current livestock grazing system.

3. Improve range condition from poor to fair on 155,836 acres and from fair to good on 25,364 acres.

Baseline and current trend data has not been collected to evaluate the achievement of this objective. This objective will be redefined/quantified with ecological status condition as information becomes available. Monitoring data indicates short term utilization objectives are not being met under the current livestock grazing system. This indicates the objective is not being met.

4. Improve to and maintain 29 acres of ceanothus habitat types in good condition.
Ceanothus habitat types have not been observed.
5. Improve to and maintain 1,370 acres of mahogany habitat types in good condition.
This objective has been met over the majority of this habitat type in the past few years. Form class observations on Mahogany mountain indicate heavy livestock grazing has occurred in past years. This is also true for mahogany on Granite mountain.
6. Improve to and maintain 468 acres of aspen habitat types in good condition.

Aspen stands were observed in several locations in the Bilk Creek Mountains.

Wilder Creek watershed. In 1994, the aspen in this watershed showed severe impacts by successive years of heavy to severe livestock utilization. The condition has one of very poor understory condition and inadequate age class distribution to provide replacement stock for decadent trees which die. This condition was observed throughout the watershed, principally around the creek. Bare soil associated with the disturbed understories of these stands was contributing additional sediment to the stream.

The following observations on aspens were made during the July, 1997 field tour:

Approximately 2-3 age classes of aspen along creek, Seedlings, 1-10 years old and old trees (30+ years) trees. A possible reason is the beaver took out the 25-30 year old trees and the big trees survived the beavers. However, younger aspen are starting to established throughout the drainage.

Little Wilder Creek watershed Principal aspen habitats are located in the upper third of the watershed. The most profound impact to this stand has been past beaver activity which decimated major portions of several stands. Livestock grazing activity prior to 1994 had a lesser effect but was locally significant where it occurs. The greatest impacts were associated with hindering natural regeneration and compaction of the understory community. Where these impacts occurred, recovery and maintenance of the aspen did not occur.

The following observations on aspens were made during the July, 1997 field tour:

Past beaver activity took aspen out and livestock have hindered reproduction along creek. The side drainages have good populations of aspen.

Sage Hen area/Mud Creek watersheds These areas contain lower density aspen communities, but they significantly impacted by livestock grazing prior to 1994. Impacts were similar to those identified above.

Shyster Creek Watershed This drainage contains a significant portion of the identified aspen habitat in the allotment. Close inspection of much of this area was not made. However, portions which were inspected showed evidence of heavy livestock use and significant past beaver impacts prior to 1994.

Aspen communities in the Maggie Creek drainage do not appear to be experiencing the same level of impacts as above. In this case, aspen seem to be in a stable/upward trend with some areas of clear regeneration with several age classes. In this watershed, the greatest impacts are associated with off creek aspen stands which are near the road. Again, aspen distribution and abundance is lower than in other watersheds.

7. Improve to and maintain 259 acres of riparian and meadow habitat types in good condition.

Riparian and meadow habitats are uniformly experiencing heavy use throughout the summer use areas in the Bilk Creek mountains. Heavy use of both streamside riparian and upland riparian communities of both shrubs and herbaceous forage is occurring. Invasion of several increaser species such as thistle, poverty weed, and iris into some meadows is evidence of the level of disturbance occurring in some areas. This objective is not being met.

8. Improve the following stream habitat conditions of 55% on Wilder Creek, 41% on Little Wilder Creek, to an overall optimum to 60% or above.
- a. Streambank cover 60% or above.
 - b. Streambank stability 60% or above.
 - c. Maximum summer water temperatures below 70° F.

This objective was not met on the Wilder Creek. Percent Habitat Optimum decreased from 55% in 1977 to 35% in 1994. Riparian Condition Class decreased from 58% to 44%, Bank Cover 60% to 44%, and Bank Stability 60% to 43%, Percent Sedimentation 38% to 27%. Percent Desirable Bottom Material increased from 44% to 62% during the same time period.

Little Wilder Creek was surveyed in 1977 and not in 1994. The Percent Habitat Optimum in 1977 was 41%. However, in 1994 a Lotic Stream Functionality was conducted which indicated the creek is "functioning at risk" and the trend is not

apparent. Factors such as lack of age class diversity in woody riparian species, lack of vegetation with favorable sod forming root systems, poor vegetational cover to protect streambanks from erosion, and lack of shade covering were observed while conducting the stream functionality. In addition, utilization data indicates heavy use has occurred on the creek. The stream functionality and utilization data indicates this objective has not been met on the creek.

9. Protect sage grouse strutting grounds and brooding areas. Maintain a minimum of 30% cover of sagebrush for nesting and winter use.

This objective is not being met. However, the attainment of 30% canopy cover of sagebrush has been shown in the literature to be very unlikely. Available monitoring data confirms this conclusion. Passey et.al (1982) in "Relationships Between Soil, Plant Community, and Climate on Rangelands of the Intermountain West" concluded this as well.

There is much evidence in the literature indicating that several factors other than sagebrush canopy cover influence sage grouse habitat condition. Specifically, Understory nesting cover, herbaceous forage distribution quality, and abundance, distance to water, hiding cover, level of disturbance on crucial late summer foraging areas (riparian areas), and extent and duration of winter snow depth were found to be critically important.

For this reason, this objective is in need of requantification to more adequately address the varying needs of sage grouse for nesting, strutting, brood rearing, and wintering. Based on these modified habitat requirements, and evaluation of the available monitoring data, sage grouse habitat in the Wilder-Quinn allotment varies from good to poor. The primary limiting factors are deficient sagebrush canopy cover, low forb diversity and composition in upland habitats and conflicts between livestock and sage grouse in riparian areas.

10. Improve to and maintain the seeded pastures in good condition (5-10 acres per AUM).

Community Analysis Structure data indicates the trend of crested wheatgrass in the Lone Mountain - Mud Creek use area is upward. However, the seeding is estimated to be in poor condition (15-20 acres/AUM) due to the small size and vigor of the plants. The objective is not being met in this area.

A density study conducted in 1988 in the North Wilder Field indicated the seeding was in excellent condition (≤ 5 ac/AUM) at that time. However, current data is not available to determine the condition of the seeding.

Baseline and current trend data have not been collected in the Houghland, Denio, and Quinn River Seedings. However, observations made during the July, 1997 field trip indicates that sagebrush is encroaching on the Houghland, Denio and Quinn River Seedings and crested wheatgrass is decreasing in numbers and vigor. This indicates the seedings are in a downward trend.

11. Improve to and maintain the water quality of S. Fk. Cottonwood, Maggie and Wilder Creeks to the state criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wildlife propagation, and wading (water contact recreation).

Water quality data has not been collected during the evaluation period to determine if this objective has been met.

12. Improve to and maintain 33,055 acres of Mountain browse habitat types in good condition.

This objective is being met. Mountain browse habitat were evaluated in several range sites in both the Pine Forest and Bilk Creek mountain ranges. Key species including bitterbrush, serviceberry, snowberry gooseberry, and current were evaluated to arrive at this conclusion.

Standard and Guideline Objectives

The following are the Standards for Rangeland Health as developed in consultation with the Sierra Front - Great Basin Resource Advisory Council, other interested publics and approved by the Secretary of the Interior on February 12, 1997. The terms and conditions of the livestock grazing permit must be in conformance with these approved Standards and Guidelines:

1. Soil processes will be appropriate to soil types, climate and land form.

Utilization objectives for uplands are being met. These objectives provide for maintenance of soil processes.

2. Riparian/wetland systems are in properly functioning condition.

Lodic functionality data has been collected on Little Wilder Creek. The creek is functioning at risk with no apparent trend. Non-attainment of the standard and guideline can be attributed to beaver use and livestock grazing. Beaver have taken large woodies, such as aspen, out while livestock have hindered reproduction. Functionality data has not been collected on other creeks in the allotment,

therefore, it is unknown whether this objective has been achieved on these creeks.

Lentic functionality data has not been collected, therefore, it is unknown whether this objective has been achieved.

3. Water quality criteria in Nevada and California State Law shall be achieved or maintained.

Water quality data has not been collected, therefore, it is unknown whether or not this standard is achieved.

4. Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse.

Numerous ecological sites exists with varying plant communities within this allotment. Utilization objectives indicates that this standard is being met in upland habitats and not being met in riparian areas, specifically in the summer use areas. Non-attainment of the standard and guideline can be attributed to beaver use and livestock grazing.

5. Habitat conditions meet the life cycle requirements of special species.

The allotment provides the environment necessary for special status species, therefore meeting this standard.

Technical Recommendations

A. Wild Horses

Amendments to the Land Use Plan should be prepared making adjustments to HMA boundaries based on natural barriers or fences with an effort to include all habitat components believed essential to the long term welfare of wild horses and burros. At that time it will be recommended that the boundary of the North Jackson Mountains HMA within the Wilder-Quinn Allotment be expanded to the Leonard Creek Road on the north and west; *and to the Happy Creek Road on the east.*

1. Wild Horses

Establishing the following AML for wild horses:

10 Horses 03/01 to 02/28 120 AUMs

Rationale:

Appropriate Management Level for that portion of the Jackson Mountain Herd Management Area within the Wilder-Quinn Allotment is 10 Wild Horses. These horses are part of a larger herd occupying portions of three other allotments. The North Jackson Mountain Wild Horse Herd will be managed as one herd and management will not be fragmented by allotment.

The type of horse now inhabiting the area will be maintained and the horses will not be manipulated genetically for color or size. Any introduction of horses into this area from another HMA will only be done if adequate forage is available, the horses are under AML, and if the horses are compatible genetically.

2. Wild Burros

Remove all burros ranging north of the Alder Creek/Wilder-Quinn Allotment Boundary Fence. Gather operations will not begin until the Sheldon Wildlife Refuge fence is complete and the Draft and Final Capture Plan is completed with appropriate public review. The burro removal in areas outside the HMA is supported by data presented in the evaluation and by Final Multiple Use Decisions made in the Alder Creek Allotment Evaluation.

The fence was completed in 1997 and a gather occurred the same year. Three to four burros were removed, however, an estimated 13-15 burros remain in the allotment. The animals were either hidden in a draw or on the Sheldon Antelope Range when the gather occurred. An attempt will be made to remove these animals when the next gather occurs in the area.

Rationale:

The burros presently inhabit both allotments (Alder Creek and Wilder-Quinn) so they must be considered in both Allotment Evaluations. The Multiple Use Decision from the Alder Creek Allotment Evaluation has received review by interested publics and the decision is final. After monitoring and review of all pertinent information the decision is supported in this evaluation due to the following:

1. The burros within the Wilder-Quinn Allotment range near Highway 140 which is a major paved highway between Denio and Lakeview Oregon. It is probable some burros will be hit by vehicles if we continue to allow them along the highway.

2. These burros are at least 7 miles outside HMA boundaries. They are on the other side of a fence and across a main highway from the HMA and the primary burro use area.
3. The fragmented nature of that portion of the Wilder-Quinn Allotment south of Highway 140 and the Sheldon Wildlife Refuge preclude burro management unless 4 miles of fence is removed and allotment boundaries are changed.
4. Centralizing burro management in one allotment will facilitate management.
5. Relocating the burros from the Wilder-Quinn Allotment to the Alder Creek Allotment is not an option because burro numbers are already above AML in the Alder Creek Allotment.

B. Livestock

1. Stocking Rate Calculations:

Stocking rate calculations were determined in accordance with BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7.

Stocking rates were calculated for the summer pastures (Sagehen/Shyster, Wilder/Little Wilder Creeks, Maggie Creek/Cottonwood Creek) using riparian and/or meadow habitats as key management areas. The stocking rates calculated are the stocking rate at which both riparian and upland short-term utilization objectives are expected to be met under present management.

The stocking rates for the remaining pastures are the stocking rates at which upland and seeding short-term utilization objectives are expected to be met under present management. Appendix I shows the calculations of the stocking rates by pasture and year.

The summer use areas (Sagehen/Shyster Creek, Wilder/Little Wilder Creek, Maggie Creek/Cottonwood Creek) were calculated using desired stocking rate calculations and the highest utilization levels were used. The remaining areas were calculated using weighted averages (potential stocking rate) with moderate to severe utilization levels used.

The following Average Desired Stocking Rate by Pasture is:

Sagehen/Shyster Creek	1777 AUMs
Wilder Creek/Little Wilder Creek	1381 AUMs
Maggie Creek/Cottonwood Creek	2354 AUMs
Denio Seeding	345 AUMs
Quinn River Seeding	370 AUMs
Houghland Seeding	440 AUMs
Lone Mountain	2800 AUMs
N. Wilder	2600 AUMs
Antelope	738 AUMs
Quinn River Ranch Use Area	5710 AUMs
Bog Hot Use Area	1342 AUMs

The carrying capacity for the Antelope Field will be established at 738 AUMs. This is the stocking level stated in the Initial Stocking level section, grazing system (page 2) of this document. Monitoring data collected in 1995 and 1989 indicates that objectives have been met in this field and a carrying capacity of 738 AUMs can be supported.

The carrying capacity for the North Wilder and Lone Mountain fields were established using actual use data and production studies. Studies and observations indicates the crested wheatgrass areas in both fields are in an upward trend with stocking levels up to 2800 AUMs being used in the Lone Mountain field and 2600 AUMs in the North Wilder Field. Monitoring data collected since 1995 indicates objectives are being met with these stocking levels.

2. Terms and Conditions:

The following terms and conditions will be included on all permits:

The terms and conditions must be in conformance with the Standard and Guidelines for the Sierra Front - Northwestern Great Basin Resource Advisory Council, approved by the Secretary of Interior on February 12, 1997.

The authorized officer may modify annual grazing authorization and pasture sequences as long as the modification is consistent with management objectives and remains within the permitted season of use. Request outside of the permitted season of use will require input from interested publics.

Livestock grazing turnout and removal dates may be modified by up to two weeks. A modified turnout date into a pasture or use area will be dependent on

range readiness factors such as stage of plant growth, soil moisture, moisture in meadows, and would require the area to be inspected prior to turnout. An early turnout date will be followed by an early removal date at the end of the grazing period. A later turnout date will be considered in years that are colder, wetter, both upland and riparian vegetation has little to no growth. Stocking rate levels identified for the pastures and use areas will not be exceeded.

The Wilder-Quinn Allotment working group, which includes the BLM, permittees, and interested publics, will meet in the field twice a year, once after the spring grazing period and once after the growing season to conduct monitoring studies and determine if allotment specific objectives have been met or not met. If an objective has not been met, the working group shall discuss the causes for non-attainment, the scope of the accedence, and develop a corrective action. The working group may develop concise objectives which will be used to evaluate the success of the correction. Continued monitoring will be used to determine if the corrective action has achieved the desired results defined in the objectives. Based on this monitoring, subsequent corrective actions may be made without re-initiation of additional formal evaluation procedures or consultations.

Salt and/or mineral blocks shall not be placed within one quarter (1/4) mile of springs, meadows, riparian habitats or aspen stands.

A certified actual use report by use areas is due 15 days after the end of the authorized grazing period.

The permittee is required to perform maintenance on the range improvements to which he has been assigned maintenance responsibility.

The grazing authorization with the schedule of use will be the only approved use. All other schedules, flexibilities, terms and conditions addressed in the Allotment Management Plan dated 10/26/70 will be suspended.

Pursuant 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

3. Grazing Alternatives:

Alternative 1:

1. Range Improvement Projects:

a.. Fencing/Pipelines:

The following range improvement projects are scheduled to be constructed in 1998 or when monies become available. These projects are permittee driven and are through the project planning, EA, consultation, and decision process.

The following fences will be constructed in 1998:

Wilder #4 drift fence and Wilder #3 drift fence extension

The following wells will be constructed when monies are available.

Nine-mile well and Texas Spring Wells and pipeline.

These projects to be constructed are listed in the order of priority.

1. Construct the Mud Creek Fence that will run from Mud Creek and join with the Wilder #4 fence. This will prevent livestock drift from the Lone Mountain use area into the Sagehen/Shyster Creek summer use area and allow for the Lone Mountain use area to be used as staging area for trailing home in August.
2. Re-construct and construct portions of the Wilder-Quinn/Kings River allotment boundary fence. This will prevent livestock drift from the Wilder-Quinn Allotment into the Kings River allotment and from the Maggie Creek/Cottonwood Creek summer use area into the Wilder/Little Wilder summer use area.
3. Reconstruct the Mahogany Mountain boundary fence between the Alder Creek and Wilder-Quinn allotment. This fence will allow for livestock use on the Mountain and prevent drift into the Alder Creek allotment.

4. Construct a gap fence between the Pueblo Mountain and Wilder-Quinn Allotments to reduce livestock drift within the Alberson and Denio pasture of the Pueblo Mountain Allotment.
5. Construct the Lady Bird pipeline realignment. A gravel pit was constructed which destroyed portions of the pipeline. Rerouting the pipeline would allow for additional waters North of Quinn River Ranch.

b. Prescribed Burning/Seeding

Conduct prescribed burns in the following seedings (listed in order of priority):

- a. Denio Seeding
- b. Quinn River Seeding
- c. Houghland Seeding

Consider the feasibility of seeding the west end of the North Wilder Field.

Monitoring data indicates the seedings are in a downward condition due to sagebrush encroachment and the age of the seedings. Burning the seedings would allow for regeneration the seeding by reducing sagebrush in the pastures.

2. Livestock Grazing:

a. Domestic Sheep Use:

Authorize the following domestic sheep use within the Wilder-Quinn Allotment:

Dufurrena Sheep Company:

1. Grazing Use (AUMs)
 - a. The total number of animal unit months of specified livestock grazing: 400 AUMs
 - b. Suspend Preference: 0

- c. Season of Use: April 01 to May 20
- 2. Kind and Class of Livestock - Sheep
- 3. Percent Federal Range: 83%

The Dufurrena Sheep Company has a 400 AUM permit to lamb in the Dufurrena lambing grounds located near the Bilk Creek Reservoir from 04/01 to 05/20.

Rationale:

The active preference and season of use will be maintained at 400 AUMs and 04/01 to 05/20, respectively. Monitoring data indicates short-term utilization objectives will be met at these stocking levels and season of use.

b. Cattle Grazing:

1. Roger and Marsha Colby Permit:

a. Grazing Use (AUMs)

- 1. The total number of animal unit months of specified livestock grazing: 102 AUMs
- 2. Suspend Preference: 0

b. Season of Use: December 01 to February 28

c. Kind and Class of Livestock - Cattle (cow/calf)

d. Percent Federal Range: 100%

Grazing use will continue in the flats east of Denio and west of Wilder Creek (in the North Wilder Field) from 12/01 to 02/28.

34 C 12/01 to 02/28 102 AUMs

Use is designated in the flat east of Denio and west of Wilder Creek and has no bearing in the creation of the rangeline and individuals in the 08/23/71 Rangeline Agreement.

Rationale:

The active preference and season of use will be maintained at 102 AUMs and 12/01 to 02/28, respectively. Monitoring data and desired stocking rate calculations indicates short-term utilization objectives will be met at these stocking levels and season of use.

3. Denny Land and Cattle Company:

a. Grazing Use (AUMs)

1. The total number of animal unit months of specified livestock grazing: 13,877 AUMs
2. Suspend Preference: 0

b. Season of Use: March 01 to February 28

c. Kind and Class of Livestock - Cattle (cow/calf)

d. Percent Federal Range: 92% - (1,207 AUMs exchange-of-use)

Implement the following grazing system:

Livestock numbers may vary but AUMs in a grazing year may not exceed 13,877 AUMs.

Herd One

Herd one will run in the Bog Hot use area, Antelope use area, Houghland Seeding, and Mahogany Mountain. The grazing system will be as follows:

Livestock numbers: 200 - 350 Cattle

Treatments:

A	03/01 to 03/31
B	04/01 to 06/30
C	07/01 to 09/15
D	11/01 to 02/28

Year 1 - 1999

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

Year 2 - 2000

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

Year 3 - 2001

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

In addition, 345 AUMs are available for livestock use on Mahogany Mountain during the months of May and June. Full use of these AUMs depends on completion of the Alder Creek/Wilder-Quinn Allotment Division Fence Reconstruction on Mahogany Mountain.

Herd Two

Herd two will run in the Quinn River Ranch use area, north into the Denio and Quinn River Seedings, Lone Mountain use area,

North Wilder Field, and the summer use areas (Maggie Creek/Cottonwood Creek, Wilder/Little Wilder, Sagehen/Shyster Creek).

The grazing system will be as follows:

Livestock Numbers: 1460 - 1610 Cattle

Season of use:

Treatments:	E	02/01 to 03/31
	F	04/01 to 04/14
	G	04/15 to 05/30
	H	06/01 to 07/31 - 08/15
	I	08/01 to 08/31
	J	11/01 to 12/31
	K	Rest

Year 1 - 1999

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
Lone Mountain	G,I
North Wilder	G,I
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	H
Maggie Creek/Cottonwood Creek	H
Wilder Creek/Little Wilder Creek	K

Year 2 - 2000

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
Lone Mountain	G,I
North Wilder	K
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	H
Maggie Creek/Cottonwood Creek	K
Wilder Creek/Little Wilder Creek	H

Year 3 - 2001

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
Lone Mountain	G,I
North Wilder	G,I
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	K
Maggie Creek/Cottonwood Creek	H
Wilder Creek/Little Wilder Creek	H

In year 4, this scheduling sequence will be repeated.

A summer use area will be grazed two years in a row and then rested. During the first year of the rotation, the use area may be grazed up to available AUMS as listed in the stocking rate section. The second year the use area will be at a lighter level.

The season of use for the summer use areas is from 06/01 to 07/31 - 08/15. In years when the Sagehen/Shyster Creek and Maggie Creek/Cottonwood Creek use areas are scheduled to be used in the rotation (year 1 as listed above), the livestock will be split into two herds and the use areas will be used concurrently during the summer use period. In other years (years 2 and 3), livestock will be rotated through the use areas.

When the Sagehen/Shyster Creek and Wilder/Little Wilder use areas are scheduled for use, livestock use will occur in the Lone Mountain use area. When the Maggie Creek/Cottonwood Creek use area are scheduled for use along with either Sagehen/Shyster Creek and Wilder/Little Wilder use areas, livestock numbers will be split between Lone Mountain and North Wilder. The Mud Creek drift fence which is scheduled to be constructed in the fall of 1998, will keep livestock out of the Sagehen/Shyster Creek area during the spring and fall and years when the use area is scheduled for use.

During the month of August, the Lone Mountain use area and North Wilder Field will be used for gathering and trailing home to the Quinn River Ranch. The Quinn River and Denio Seeding will be used for overnight stops while trailing home. These dates may change depending on when the permittees is authorized to place his livestock into the summer pastures. However, an one month period will be authorized. Livestock in the Maggie Creek/Cottonwood Creek use area will be gathered in the North Wilder Field and livestock from the Wilder and Sagehen country will be gathered into the Lone Mountain country.

Rationale:

Due to each pasture having a different carrying capacity along with the rest rotation/deferment grazing system, the total number of AUMs of specified livestock grazing will not exceed 13,877 AUMs. Nor will AUMs identified for each pasture or use area exceed AUMs identified in the stocking rate calculations section of the technical recommendations.

Monitoring data indicates that short term utilization objectives in riparian areas have not been met in the summer use areas. This grazing system reduces the AUMs available and the season of use in the summer use areas and allows for more livestock use on the flats (Lone Mountain, North Wilder, Quinn River Use Area). An earlier removal date will allow for a regrowth period along riparian areas and help meet riparian objectives and standard and guidelines. The grazing system will allow for the functionality and habitat standards and guidelines to be met in the summer use areas by reducing the season of use and AUMs by reducing hot season

grazing and allowing for riparian vegetation regrowth. The fences to be constructed will allow for better livestock control by preventing drift into areas scheduled for rest and for the summer use areas to be used in a rotational basis.

Term and Condition #3 (see Technical Recommendations - Term and Conditions) was added to give the permittee flexibility on moving livestock into a pasture or use area up to two weeks early. Adjusting turnout and removal dates will be dependent on factors such as soil moisture, upland and riparian vegetation growth, and rainfall and will require the pasture to be inspected. Flexibility in turnout and removal dates will aid in drier and hotter years in which livestock may be moved into pastures early without having detrimental effects on riparian areas and creeks and reduce hot season grazing because of an early removal date. This will provide a longer regrowth period for riparian plants. In comparison, later turnout and removal dates may be considered in wetter and colder years in order to allow meadow and other riparian areas to dry out to prevent punching and allow for vegetative growth.

The Lone Mountain use area and North Wilder Field will be scheduled for spring use and for gathering and trailing livestock during the fall. Monitoring data indicates that objectives, for the most part, are being met in these areas with the seeded areas being in good to excellent condition. Problems with livestock drift have occurred in early spring and during the summer and utilization levels have been exceeded around waters. However, the fencing and grazing system will address the drifting problems and aid in meeting both allotment specific objectives and the standards and guidelines by providing livestock control and allowing livestock to be rotated through the area.

The Quinn River Ranch and Bog Hot Use Areas will continue to be available for winter and early spring use. Monitoring data indicates there is minimal concern in these areas. In addition, the Houghland, Antelope Field and Mahogany Mountain will be available for spring - early summer grazing. Monitoring data indicates objectives are being met in these areas and no adjustments are required. However, full use of Mahogany Mountain is contingent on the Alder Creek - Wilder Quinn Division fence being reconstructed.

Term and Condition #4 (see Technical Recommendations - Terms and Conditions) requires that the Wilder-Quinn Allotment Evaluation Working Group which includes the BLM, permittees, and interested publics meet in the field twice a year to gather monitoring data, analyze the data and discuss if allotment specific objectives and standard and guidelines have been met or not met. If objective has not been met, the working group will make recommendations to adjust the grazing system and if necessary, implement monitoring studies and objectives to determine if the groups recommendations are meeting objectives or if further adjustments are needed. This term and condition is important because it requires the group to meet in the field to discuss problems and implement actions which will fix the problems as they occur.

Alternative 2:

1. Range Improvement Projects:

The projects listed under Alternative 1 would be implemented along with the following:

Construct the Denio Summit Fence. This fence would be routed from the mouth of Mud Creek and will run west to State Route 140 where it will end near the Denio Summit. The fence will split the Lone Mountain use area into two pastures and allow for the two new pastures (South Lone Mountain Field and North Lone Mountain Field) and the North Wilder Field to be used in a rotational basis.

The Denio Summit Fence would be number 5 in the priority list to be constructed.

2. Livestock Grazing:

a. Domestic Sheep Use:

Authorize the following domestic sheep use within the Wilder-Quinn Allotment:

Dufurrena Sheep Company:

1. Grazing Use (AUMs)

- a. The total number of animal unit months of specified livestock grazing: 400 AUMs
- b. Suspend Preference: 0
- c. Season of Use: April 01 to May 20
June 1 to September 10

2. Kind and Class of Livestock - Sheep

3. Percent Federal Range: 83%

The Dufurrena Sheep Company has a 400 AUM permit to lamb in the Dufurrena lambing grounds located near the Bilk Creek Reservoir from 04/01 to 05/20. Remaining AUMs may be used during the period of 06/01 to 09/10 in the summer use area scheduled for rest from cattle grazing.

Rationale:

The Paradise-Denio EIS (pg. 2-21, table 2-9) recognized 3430 AUMs of domestic sheep use in the old Wilder-Bilk allotment with 3730 sheep from 04/01 to 10/25. No conflicts with bighorn sheep should occur as the proposed areas of use are not considered to be potential or existing bighorn sheep habitat.

Domestic sheep use occurred in the summer use areas scheduled for rest from cattle grazing in 1994 and 1995. In 1994, sheep use was authorized in the Maggie Creek/Cottonwood Creek use area. Primary sheep grazing pressure was on balsamroot with utilization being concentrated on the flowers. Use on browse species such as

snowberry and bitterbrush was less than 50%. Sheep use occurred in the Wilder/Little Wilder and Sagehen use areas in 1995. Overall, the findings in this area were the same as in 1994. The conclusion for the re-initiation of domestic sheep use in the summer pastures is there did not appear to be conflict with the principle goal of a rest-rotation grazing system as dietary overlap between sheep and cattle are limited. In addition, sheep prefer upland grazing and will not congregate in riparian zones for long periods of time. Therefore, sheep use should have minimal impacts in riparian areas and aspen groves if they are not allowed to bed in these sites.

b. Cattle Grazing:

See Alternative 1 for the Colby grazing system.

The Denny Land and Cattle Company grazing system will be as follows:

a. Grazing Use (AUMs)

1. The total number of animal unit months of specified livestock grazing: 13,877 AUMs
2. Suspend Preference: 0
3. Season of Use: March 01 to February 28
4. Kind and Class of Livestock - Cattle (cow/calf)
5. Percent Federal Range: 92% - (1,207 AUMs exchange-of-use)

Implement the following grazing system:

Livestock number may vary but AUMs in a grazing year may not exceed 13,877 AUMs.

Implementation of Alternative 2 is dependent upon the Denio Summit Fence being constructed. Until the fence is completed, the grazing system listed in Alternative 1 will be the interim grazing system.

Herd One

Herd one will run in the Bog Hot use area, Antelope use area, Houghland Seeding, and Mahogany Mountain. The grazing system will be as follows:

Livestock numbers: 200 - 350 Cattle

Treatments:

A	03/01 to 03/31
B	04/01 to 06/30
C	07/01 to 09/15
D	11/01 to 02/28

Year 1

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

Year 2

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

Year 3

<u>Pasture</u>	<u>Treatment</u>
Bog Hot	A
Antelope	B
Houghland	C
Bog Hot	D

In addition, 345 AUMs are available for livestock use on Mahogany Mountain during the months of May and June. Full use of these AUMs depends on completion of the Alder Creek/Wilder-

Quinn Allotment Division Fence Reconstruction on Mahogany Mountain.

Herd Two

Herd two will run in the Quinn River Ranch use area, north into the Denio and Quinn River Seedings, Lone Mountain use area, North Wilder Field, and the summer use areas (Maggie Creek/Cottonwood Creek, Wilder/Little Wilder, Sagehen/Shyster Creek).

The grazing system will be as follows:

Livestock Numbers: 1460 - 1610 Cattle

Season of use:

Treatments:	E	02/01 to 03/31
	F	04/01 to 04/14
	G	04/15 to 05/30
	H	06/01 to 07/31 - 08/15
	I	08/01 to 08/31
	J	11/01 to 12/31
	K	Rest

Year 1

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
South Lone Mountain	G,I
North Lone Mountain	K
North Wilder	G,I
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	H
Maggie Creek/Cottonwood Creek	H
Wilder Creek/Little Wilder Creek	K

Livestock will be trailed through the North Lone Mountain Field during the spring and in August with some overnight stops

occurring.

Year 2

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
South Lone Mountain	G
North Lone Mountain	I
North Wilder	K
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	H
Maggie Creek/Cottonwood Creek	K
Wilder Creek/Little Wilder Creek	H

Year 3

<u>Pasture</u>	<u>Treatment</u>
Quinn River Ranch Use Area	E
N. Quinn River Ranch	F
South Lone Mountain	K
North Lone Mountain	G
North Wilder	I
Quinn River Seeding	G,I
Denio Seeding	G,I
Sagehen/Shyster Creek	K
Maggie Creek/Cottonwood Creek	H
Wilder Creek/Little Wilder Creek	H

Livestock will be trailed through the South Lone Mountain Field during the spring and in August with some overnight stops occurring.

In year 4, this scheduling sequence will be repeated.

A summer use area will be grazed two years in a row and then rested. During the first year of the rotation, the use area may be grazed up to available AUMS as listed in the stocking rate section. The second year the use area will be at a lighter level.

The season of use for the summer use areas is from 06/01 to 07/31 - 08/15. In years when the Sagehen/Shyster Creek and Maggie Creek/Cottonwood Creek use areas are scheduled to be used in the rotation (year 1 as listed above), the livestock will be split into two herds and the use areas will be used concurrently during the summer use period. In other years (years 2 and 3), livestock will be rotated through the use areas.

When the Sagehen/Shyster Creek and Wilder/Little Wilder use areas are scheduled for use, livestock use will occur in the North and South Lone Mountain Fields. When the Maggie Creek/Cottonwood Creek use area are scheduled for use along with either Sagehen/Shyster Creek and Wilder/Little Wilder use areas, livestock numbers will be rotated between North Lone Mountain, South Lone Mountain, and North Wilder. The Mud Creek drift fence which is scheduled to be constructed in the fall of 1998, will keep livestock out of the Sagehen/Shyster Creek area during the spring and fall and years when the use area is scheduled for use.

During the month of August, the South and North Lone Mountain Fields and North Wilder Field will be used for gathering and trailing home to the Quinn River Ranch. The Quinn River and Denio Seeding will be used for overnight stops while trailing home. These dates may change depending on when the permittees is authorized to place his livestock into the summer pastures. However, an one month period will be authorized. Livestock in the Maggie Creek/Cottonwood Creek use area will be gathered in the North Wilder Field and livestock from the Wilder and Sagehen country will be gathered into the Lone Mountain country.

Rationale:

Due to each pasture having a different carrying capacity along with the rest rotation/deferment grazing system, the total number of AUMs of specified livestock grazing will not exceed 13,877 AUMs. Nor will AUMs identified for each pasture or use area exceed AUMs identified in the stocking rate calculations section of the technical recommendations.

Monitoring data indicates that short term utilization objectives in riparian areas have not been met in the summer use areas. This grazing system reduces the AUMs available and the season of use

in the summer use areas and allows for more livestock use on the flats (Lone Mountain, North Wilder, Quinn River Use Area). An earlier removal date will allow for a regrowth period along riparian areas and help meet riparian objectives and standard and guidelines. The grazing system will allow for the functionality and habitat standards and guidelines to be met in the summer use areas by reducing the season of use and AUMs by reducing hot season grazing and allowing for riparian vegetation regrowth. The fences to be constructed will allow for better livestock control by preventing drift into areas scheduled for rest and for the summer use areas to be used in a rotational basis.

Term and Condition #3 (see Technical Recommendations - Term and Conditions) was added to give the permittee flexibility on moving livestock into a pasture or use area up to two weeks early. Adjusting turnout and removal dates will be dependent on factors such as soil moisture, upland and riparian vegetation growth, and rainfall and will require the pasture to be inspected. Flexibility in turnout and removal dates will aid in drier and hotter years in which livestock may be moved into pastures early without having detrimental effects on riparian areas and creeks and reduce hot season grazing because of an early removal date. This will provide a longer regrowth period for riparian plants. In comparison, later turnout and removal dates may be considered in wetter and colder years in order to allow meadow and other riparian areas to dry out to prevent punching and allow for vegetative growth.

The Denio Summit Fence will split the Lone Mountain use area into two pastures (South Lone Mountain and North Lone Mountain) and allow these two new pastures to be used in a rest/deferred rotation with the North Wilder field. However, in most years when the South and North Lone Mountain Fields are scheduled for rest, some use will occur due to trailing activities. The Mud Creek drift fence which is scheduled to be constructed in the fall of 1998 will keep livestock out of the Sagehen/Shyster Creek area during the spring and fall and years when the use area is scheduled for use.

The Lone Mountain country and North Wilder Field will be scheduled for spring use and for gathering and trailing livestock during the fall. Monitoring data indicates that objectives, for the most part, are being met in these areas with the seeded areas being in good to excellent condition. Problems with livestock drift have

occurred in early spring and during the summer and utilization levels have been exceeded around waters. However, the fencing and grazing system will address the drifting problems and aid in meeting both allotment specific objectives and the standards and guidelines by providing livestock control and allowing livestock to be rotated through the area.

The Quinn River Ranch and Bog Hot Use Areas will continue to be available for winter and early spring use. Monitoring data indicates there is minimal concern in these areas. In addition, the Houghland, Antelope Field and Mahogany Mountain will be available for spring - early summer grazing. Monitoring data indicates objectives are being met in these areas and no adjustments are required. However, full use of Mahogany Mountain is contingent on the Alder Creek - Wilder Quinn Division fence being reconstructed.

Term and Condition #4 (see Technical Recommendations - Terms and Conditions) requires that the Wilder-Quinn Allotment Evaluation Working Group which includes the BLM, permittees, and interested publics meet in the field twice a year to gather monitoring data, analyze the data and discuss if allotment specific objectives and standard and guidelines have been met or not met. If objective has not been met, the working group will make recommendations to adjust the grazing system and if necessary, implement monitoring studies and objectives to determine if the groups recommendations are meeting objectives or if further adjustments are needed. This term and condition is important because it requires the group to meet in the field to discuss problems and implement actions which will fix the problems as they occur.

C. Objectives

1. Revise the following short term objectives:
 - a. The objective for utilization of key streambank riparian plant species (CAREX, JUNCUS, SALIX, ASPEN, ROWO) on Maggie, S. Fk Cottonwood, Wilder and Little Wilder Creeks is 50%. Utilization data will be collected at the end of the growing period.

- b. The objective for utilization of key wetland riparian plant species (CAREX, JUNCUS, POA, ASPEN) is 50%. Utilization data will be collected at the end of the growing period.
 - c. The objective for utilization of key upland plant species (SIHY, STTH2, ORHY, AGSP, FEID, PUTR, SYMPH, AMELA, BASA) is 50%. Utilization data will be gathered at the end of the growing period.
 - d. The objective for utilization of seeded species (AGCR, MEOF) is 50%. Utilization data will be collected at the end of the growing period.
2. Revise/Implement long term objectives to the following:
- a. Improve or maintain suitable sage grouse strutting, nesting, brood rearing, and/or wintering habitat in good condition.

The following parameters have been found to constitute optimum (good) conditions for sage grouse use:

Strutting Habitat

Low sagebrush or brush free areas for strutting and nearby areas of sagebrush having 20-50% canopy cover for loafing.

Nesting Habitat

- 1. Sagebrush between 7 and 31 inches in height (optimum = 16 inches).
- 2. Sagebrush canopy cover of 15-30% (optimum = 27%).
- 3. 25-35% basal ground cover.
- 4. Average understory height of 6-7 inches.

Brood Rearing habitat

Early Season

- 1. Sagebrush canopy cover of 10-21% (optimum = 14%).

Late Season

- 1. Meadow areas that are in functioning condition
- 2. Residual meadow vegetation of no less than 3-6 inches.

Winter habitat

1. Greater than 20% sagebrush canopy cover.
- b. Aspen will be 80% or greater of the average stems/acre for reproduction less than 12" and greater than 12" height classes: and total tree density within the site specific aspen habitat type. Habitat type will be determined during the 1998 field season.
- c. Provide forage for 10 horses (120 AUMs) in the portion of the Wilder-Quinn Allotment located in the North Jackson HMA.
3. The following long term objectives will be dropped due to implementation of the Standards and Guidelines Objectives which replaces them:
 - a. Improve to and maintain 259 acres of riparian and meadow habitat types in good condition.
 - b. Improve to and maintain the water quality of S. Fk. Cottonwood, Maggie and Wilder Creeks to the state criteria set for the following beneficial uses: livestock drinking water, cold water aquatic life, wildlife propagation, and wading (water contact recreation).

D. Monitoring

The following types of monitoring data are needed to make a determination of allotment objectives.

1. Utilization
2. Actual Use
3. Climate
4. Wildlife habitat evaluation/condition
5. Trend
6. Ecological Status
7. Production data on seedings
8. Water quality
9. Mapping noxious weeds
10. Stream Functionality
11. Aspen Habitat Types

The next evaluation should be completed in 2003

Appendix I

Desired stocking rate calculations were determined in accordance with BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7. Desired stocking rates were calculated for the summer pastures (Sagehen/Shyster Creek, Wilder Creek/Little Wilder Creek, and Maggie Creek/Cottonwood Creek) using riparian and/or meadow habitats as key management areas. The desired stocking rates calculated are the stocking rate at which both riparian and upland short-term utilization objectives are expected to be met under present management.

The desired stocking rates for the remaining pastures are the stocking rates at which upland and seeding short-term utilization objectives are expected to be met under present management.

Desired Stocking Rate Formula:

$$\frac{\text{Actual Use (AUMs/Pasture)}}{\text{KMA Utilization (\%)}} = \frac{\text{Desired Actual Use (AUMs)}}{\text{Desired KMA Utilization}}$$

KMA = Key Management Area - Riparian/Meadow Habitat

Page 112																													
Appendix One - Desired and Weighted Average Stocking Rate Calculations																													
BOG HOT USE AREA:																													
Pasture: Bog Hot					Pasture: Bog Hot																								
Year: 1988					Year: 1989																								
Utilization					Utilization																								
%Area per					%Area per																								
Actual					Actual																								
Class			UT. Class		Utilization			Class			UT. Class		Utilization																
70			0.375		26.25			70			0.42		29.4																
50			0.625		31.25			50			0.58		29																
					0								0																
					0								0																
					0								0																
					0								0																
Sum of Actual Utilization					0.575						Sum of Actual Utilization					0.584													
Potential Stocking Rate Calculation																													
Actual					Desired Ut.					Actual					Desired Ut.	Actual Ut.					Potential Stocking								
Year					AUMs					Level					Level					Rate									
1988					897					0.5					0.575					780									
Pasture: Bog Hot					Year: 1990					Pasture: Bog Hot					Year: 1996														
Utilization					%Area per					Actual					Utilization					%Area per					Actual				
Class			UT. Class		Utilization			Class			UT. Class		Utilization			Class			UT. Class		Utilization								
70			0.67		46.9			10			1		10								0								
50			0.33		16.5						0		0								0								
					0								0								0								
					0								0								0								
Sum of Actual Utilization					0.634						Sum of Actual Utilization					0.1													
Potential Stocking Rate Calculation																													
Actual					Desired Ut.					Actual					Desired Ut.	Actual Ut.					Potential Stocking								
Year					AUMs					Level					Level					Rate									
1990					1249					0.5					0.634					985									
1996					544					0.5					0.1					2720									
Average Potential Stocking Rate:					1342																								
(FOR BOG HOT USE AREA)																													

Page 113									
NORTH WILDER FIELD:									
Pasture: N. Wilder					Pasture: N. Wilder				
Year: 1988					Year: 1989				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	0.25	17.5			70	0.33	23.1		
50	0.75	37.5			50	0.67	33.5		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization			0.55		Sum of Actual Utilization			0.566	
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1988	323	0.5	0.55	294	1989	439	0.5	0.566	388
Pasture: N. Wilder YEAR: 1990					Pasture: N. Wilder YEAR: 1993				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	0.7	49			50	1	50		
50	0.3	15					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization			0.64		Sum of Actual Utilization			0.5	
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1990	1062	0.5	0.64	830	1993	301	0.5	0.5	301
Pasture: N. Wilder YEAR: 1994					Pasture: N. Wilder YEAR: 1997				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	0.6	42			50	1	50		
50	0.4	20					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization			0.62		Sum of Actual Utilization			0.5	
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1994	467	0.5	0.62	377	1997	2748	0.5	0.62	2748
Average Potential Stocking Rate: (NORTH WILDER FIELD)					823				

Page 114									
QUINN RIVER RANCH USE AREA:									
Pasture: QRR					Pasture: QRR				
YEAR: 1988					YEAR: 1989				
Utilization Class	%Area per UT. Class	Actual Utilization			Utilization Class	%Area per UT. Class	Actual Utilization		
70	0.87	60.9			70	0.17	11.9		
50	0.13	6.5			50	0.83	41.5		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.674			Sum of Actual Utilization		0.534		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate	Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1988	1626	0.5	0.674	1206	1989	2818	0.5	0.534	2639
Pasture: QRR					YEAR: 1994				
WQRR					SQRR				
Utilization Class	%Area per UT. Class	Actual Utilization			Utilization Class	%Area per UT. Class	Actual Utilization		
30	1	30			10	1	10		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.3			Sum of Actual Utilization		0.1		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
WQRR:					SQRR:				
Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate	Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1994	363	0.5	0.3	605					
SQRR:					NQRR:				
Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate	Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1994	1002	0.5	0.1	5010					
NQRR:					NQRR:				
Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate	Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1994	1142	0.5	0.1	5710					
Average Potential Stocking Rate:				5057					

Page 115										
HOUGHLAND SEEDING:										
Pasture: HOUGHLAND YEAR: 1989					Pasture: HOUGHLAND YEAR: 1991					
Utilization Class	%Area per UT. Class	Actual Utilization			Utilization Class	%Area per UT. Class	Actual Utilization			
70	0.875	61.25			30	1	30			
50	0.125	6.25					0			
		0					0			
		0					0			
		0					0			
		0					0			
Sum of Actual Utilization :		0.675			Sum of Actual Utilization :		0.3			
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation					
	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate		Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate	
Year					Year					
1989	428	0.5	0.675	317	1991	375	0.5	0.3	625	
Pasture: HOUGHLAND YEAR: 1996										
Utilization Class	%Area per UT. Class	Actual Utilization								
50	1	50								
		0								
		0								
		0								
		0								
		0								
Sum of Actual Utilization :		0.5								
Potential Stocking Rate Calculation										
	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate						
Year										
1996	378	0.5	0.5	378						
Average Potential Stocking Rate: (HOUGHLAND)				440						

QUINN RIVER SEEDING

Pasture: Quinn River SD YEAR: 1989

Utilization Class	%Area per UT. Class	Actual Utilization
70	0.44	30.8
50	0.56	28
		0
		0
		0
		0
		0
Sum of Actual Utilization		0.588

Pasture: Quinn River SD YEAR: 1995

Utilization Class	%Area per UT. Class	Actual Utilization
50	1	50
		0
		0
		0
		0
		0
Sum of Actual Utilization		0.5

Potential Stocking Rate Calculation

Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1989	225	0.5	0.588	191

Potential Stocking Rate Calculation

Year	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
1995	370	0.5	0.5	370

Average Potential Stocking Rate:
(QUINN RIVER SEEDING) 281

Page 117									
ANTELOPE USE AREA									
Pasture: ANTELOPE YEAR: 1989					Pasture: ANTELOPE YEAR: 1996				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
50	1	50			50	1	50		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.5			Sum of Actual Utilization		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1989	563	0.5	0.5	563	1996	185	0.5	0.5	185
Average Potential Stocking Rate:			374						
(ANTELOPE)									

Page 118									
LONE MOUNTAIN USE AREA									
Pasture: LONE MTN					Pasture: LONE MTN				
Year: 1989					Year: 1991				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	0.4	28			50	1	50		
50	0.6	30					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.58			Sum of Actual Utilization		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1989	928	0.5	0.58	800	1991	2680	0.5	0.5	2680
Pasture: LONE MTN YEAR: 1993					Pasture: LONE MTN YEAR: 1994				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
50	1	50			70	0.36	25.2		
		0			50	0.64	32		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.5			Sum of Actual Utilization		0.572		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1993	2030	0.5	0.5	2030	1994	2842	0.5	0.572	2484
Pasture: LONE MTN YEAR: 1995									
Utilization	%Area per	Actual							
Class	UT. Class	Utilization							
70	0.29	20.3							
50	0.71	35.5							
		0							
		0							
		0							
		0							
Sum of Actual Utilization		0.558							
Potential Stocking Rate Calculation									
	Actual	Desired Ut.	Actual Ut.	Potential Stocking					
Year	AUMs	Level	Level	Rate					
1995	1708	0.5	0.558	1530					
Average Potential Stocking Rate:				1905					
(LONE MOUNTAIN USE AREA)									

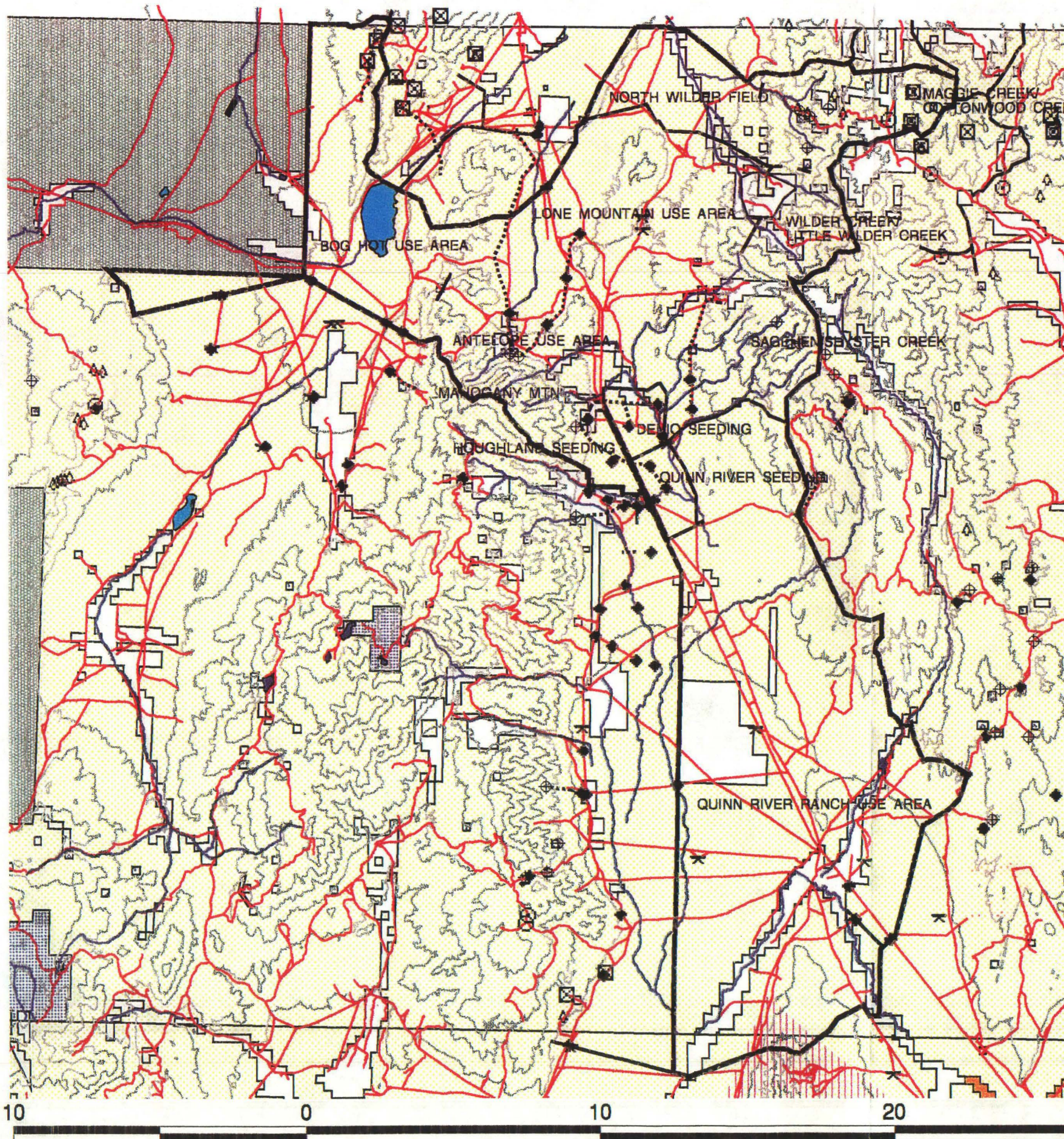
Page 119									
SAGEHEN/SHYSTER									
Pasture: SAGE/SHYS. YEAR: 1989					Pasture: SAGE/SHYS. YEAR: 1994				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	1	70			50	1	50		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.7			Sum of Actual Utilization		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1989	1021	0.5	0.7	729	1994	2824	0.5	0.5	2824
Average Potential Stocking Rate:			1777						
(SAGEHEN/SHYSTER)									

Page 120									
WILDER/LITTLE WILDER									
Pasture: WILD./LWILD YEAR: 1989					Pasture: WILD/LWILD YEAR: 1990				
Utilization Class	%Area per UT. Class	Actual Utilization			Utilization Class	%Area per UT. Class	Actual Utilization		
70	1	70			50	1	50		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization :		0.7			Sum of Actual Utilization :		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate		Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate
Year					Year				
1989	1021	0.5	0.7	729	1990	1396	0.5	0.5	1396
Pasture: WILD/LWILD YEAR: 1994									
Utilization Class	%Area per UT. Class	Actual Utilization							
70	1	70							
		0							
		0							
		0							
		0							
		0							
Sum of Actual Utilization :		0.7							
Potential Stocking Rate Calculation									
	Actual AUMs	Desired Ut. Level	Actual Ut. Level	Potential Stocking Rate					
Year									
1994	2824	0.5	0.7	2017					
Average Potential Stocking Rate:				1381					
(WILDER/LITTLE WILDER									

Page 121									
MAGGIE CREEK/COTTONWOOD CREEK									
Pasture: MAGGIE/COTT.					Pasture: MAGGIE/COTT.				
Year: 1990					Year: 1991				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	1	70			50	1	50		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.7			Sum of Actual Utilization		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1990	1357	0.5	0.7	969	1991	2949	0.5	0.5	2949
Pasture: MAGGIE/COTT YEAR: 1993					Pasture: MAGGIE/COTT YEAR: 1995				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
70	1	70			50	1	50		
		0					0		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.7			Sum of Actual Utilization		0.5		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1993	4023	0.5	0.7	2874	1995	2937	0.5	0.5	2937
Pasture: MAGGIE/COTT YEAR: 1997									
Utilization	%Area per	Actual							
Class	UT. Class	Utilization							
70	1	70							
		0							
		0							
		0							
		0							
Sum of Actual Utilization		0.7							
Potential Stocking Rate Calculation									
	Actual	Desired Ut.	Actual Ut.	Potential Stocking					
Year	AUMs	Level	Level	Rate					
1997	2860	0.5	0.7	2043					
Average Potential Stocking Rate: 2354									
(MAGGIE CREEK/COTTONWOOD CREEK)									

Page 122									
DENIO SEEDING									
Pasture: DENIO SDG YEAR: 1991					Pasture: DENIO SDG YEAR: 1995				
Utilization	%Area per	Actual			Utilization	%Area per	Actual		
Class	UT. Class	Utilization			Class	UT. Class	Utilization		
50	1	50			70	0.56	39.2		
		0			50	0.44	22		
		0					0		
		0					0		
		0					0		
		0					0		
Sum of Actual Utilization		0.5			Sum of Actual Utilization		0.612		
Potential Stocking Rate Calculation					Potential Stocking Rate Calculation				
	Actual	Desired Ut.	Actual Ut.	Potential Stocking		Actual	Desired Ut.	Actual Ut.	Potential Stocking
Year	AUMs	Level	Level	Rate	Year	AUMs	Level	Level	Rate
1991	387	0.5	0.5	387	1995	371	0.5	0.612	303
Average Potential Stocking Rate:			345						
(DENIO SEEDING)									

APPENDIX 2 - MAP 1:
WILDER-QUINN ALLOTMENT - PRESENT SITUATION



- Perennial Creeks
- ROADS
- CONTOUR LINES
- JACKSON MTNS HMA
- ALLOTMENT BOUNDARY

RANGE IMPROVEMENTS

- CORRAL
- DEVELOPED SPRING
- EARTH TANK
- RESERVOIR
- SPRING
- TROUGH
- WELL
- FENCE
- FENCED FEDERAL
- FENCED PRIVATE
- PIPELINE

LAND OWNERSHIP

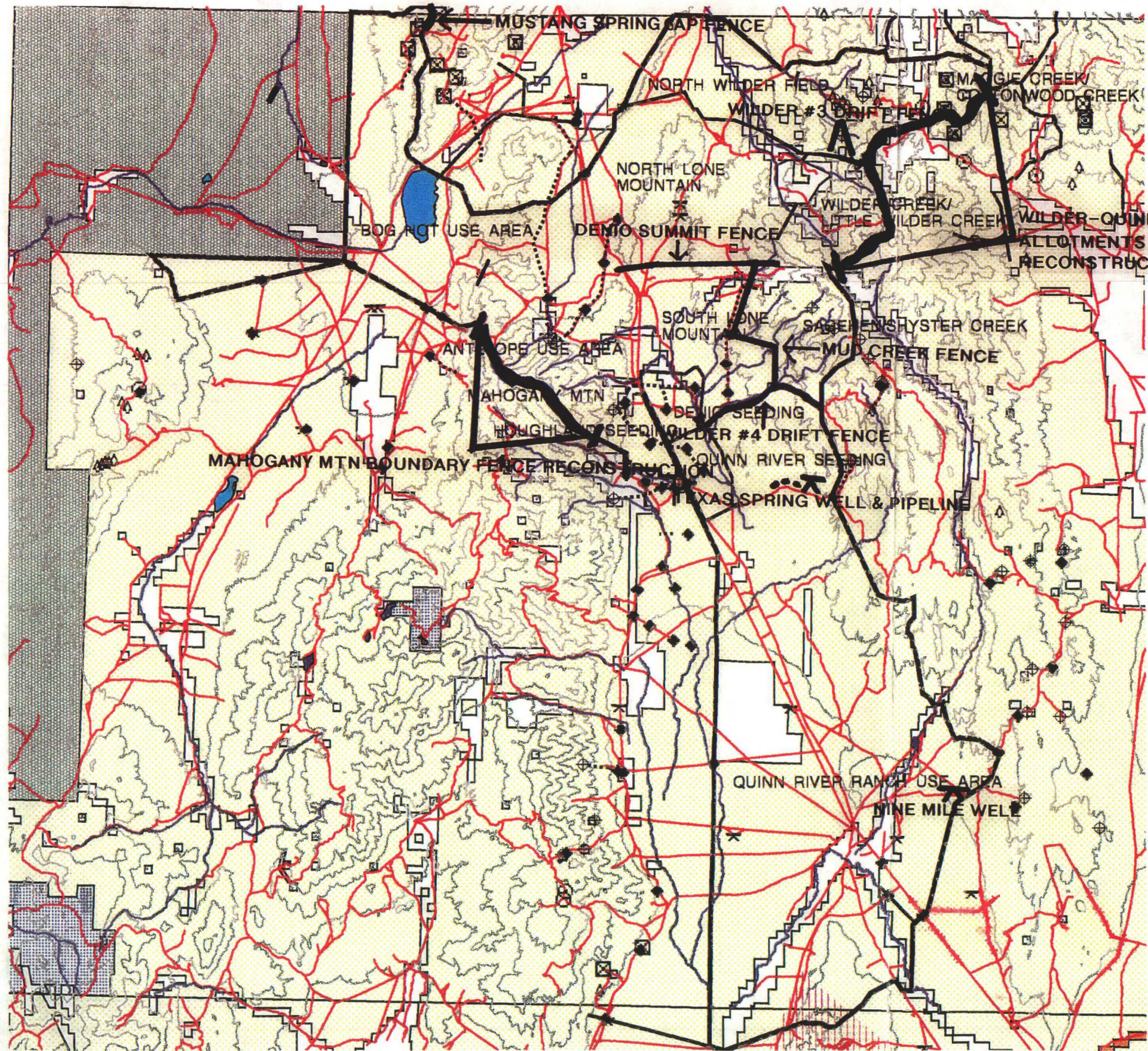
- BLM
- BLM/BUREAU OF RECLAMATION
- BLM/PROTECTIVE WITHDRAWAL (PW)
- BLM/PUBLIC WTR RESERVES
- INTERMITTENT WATER
- NATIVE AMERICAN RESERVATIONS
- PRIVATE LAND
- PRIVATE/USFWS NATIONAL WILDLIFE
- USFWS NATIONAL WILDLIFE REFUGE
- USFWS WLF REEFUGE/PUBLIC WTR RESER
- WATER

1:250000

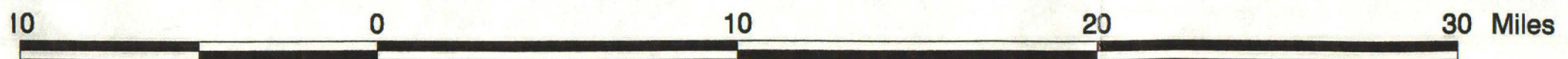
30 Miles



APPENDIX 2 - MAP 2:
PROPOSED PROJECTS



- Perennial Creeks
 - ROADS
 - CONTOUR LINES
 - JACKSON MTNS HMA
 - ALLOTMENT BOUNDARY
 - FENCES
 - ALLOTMENTS BOUNDARY FENCE RECONSTRUCTION & CONSTRUCTION CORRAL
 - DEVELOPED SPRING
 - EARTH TANK
 - RESERVOIR
 - SPRING
 - TROUGH
 - WELL
 - FENCE
 - FENCED FEDERAL
 - FENCED PRIVATE
 - PIPELINE
- LAND OWNERSHIP
- BLM
 - BLM/BUREAU OF RECLAMATION
 - BLM/PROTECTIVE WITHDRAWAL (PW)
 - BLM/PUBLIC WTR RESERVES
 - INTERMITTENT WATER
 - NATIVE AMERICAN RESERVATIONS
 - PRIVATE LAND
 - PRIVATE/USFWS NATIONAL WILDLIFE
 - USFWS NATIONAL WILDLIFE REFUGE
 - USFWS WILDLIFE REFUGE/PUBLIC WTR RESER
 - WATER



1:250000



July 24, 1998

Mr. Colin Christensen
Renewable Resources
Winnemucca Field Office
5100 East Winnemucca Bld
Winnemucca, Nevada 89445

Subject: Draft Wilder-Quinn Allotment Evaluation

Dear Mr. Christensen;

The Commission for the Preservation of Wild Horses has reviewed the draft allotment evaluation. Conflicting federal mandates in the overall management of the McGee Burro Herd could impact the numbers and viability of sustaining this herd.

We agree that the marginal numbers and use of wild horses from the Wilder-Quinn Allotment in the Jackson Herd Management Area warrants no action in this multiple use decision. Previous comments to the Happy Creek Allotment Evaluation and Multiple Use Decision supports the action to establish a meaningful appropriate management level. We would support the establishment of an appropriate management level through other allotment evaluations.

Please consider our input in dealing with the wild horse and burro herd management areas.

Sincerely,

CATHY BARCOMB
Administrator