7/1/98

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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:

07-09-98A10:52 RCVD

(NV022.41)
4400.3

July 1, 1998

CERTIFIED MAIL NO. Z374096358
RETURN RECEIPT REQUESTED

PROPOSED MULTIPLE USE DECISION
SOUTH ROCHESTER ALLOTMENT

Nevada Commission for the Preservation
of Wild Horses
123 West Nye Lane #248
Carson City, NV 89706-0818

Dear Catherine Barcomb:

The Record of Decision for the Sonoma/Gerlach Environmental Impact Statement and the Management Framework Plan - Land Use Plan - was issued on September 9, 1982. These documents established the multiple use goals and objectives which guide management of the public lands in the South Rochester Allotment.

Monitoring data has been collected on this allotment and in accordance with Bureau policy and regulations, this data has been evaluated in order to determine progress in meeting management objectives for the South Rochester Allotment and to determine if management adjustments may be necessary to meet the management objectives.

Between 1982 and 1997 the South Rochester Allotment was evaluated. As a result of that evaluation, consensus was reached by the evaluation team, which included interested publics and an interdisciplinary Bureau of Land Management team, establishing a grazing strategy, permitted use, an appropriate management level (AML) for that part of the North Stillwaters Herd Management Area (HMA) in the South Rochester Allotment, and site specific objectives.

The following are the multiple use management objectives under which management of the South Rochester Allotment will be monitored and evaluated.

Short Term Objectives

1. Upland utilization not to exceed 50% on Bottlebrush Squirreltail, Indian Ricegrass, Sandberg Bluegrass, and Winterfat by 2/28.

2. Riparian utilization on rush, sedge, and Buffaloberry not to exceed 50% use by 2/28 in New York Canyon, Hughes Canyon, and Kitten Springs.

Long Term Objectives

1. The following areas have been chosen to represent and be monitored as desired plant communities because they represent livestock, wild horse, and wildlife (including antelope) areas.

   a. Kitten Springs - Mustang Spring Area (T26N, R36E, E½, Sec.34, & W½, Sec.35); SWA C434, a loamy 4" - 8" (27-13)

      Maintain or improve the ecological condition between Kitten Springs and Mustang Spring in late seral condition. Maintain bluegrass at 15%, shadscale at 35%, bud sagebrush at 15%, gray molly kochia at 3%, and Nevada ephedra at 2%.

   b. Buena Vista Well Area (T26N, R36E, SW¼, Sec.30 and T26N, R36E, SW¼, Sec.33); SWA C433, a loamy 4" - 8" (27-13) and SWA C429 a stony slope 4" - 8" (27-19)

      Maintain or improve the ecological condition in the loamy 4" - 8" at mid seral or better condition, and the stony slope 4" - 8" in late seral condition. Maintain shadscale at 35%, bud sagebrush at 6%, Bailey greasewood at 2%, seepweed at 3% in the loamy 4" -8". Maintain the bluegrass at 3%, shadscale at 35%, bud sagebrush at 8%, Baileys greasewood at 23%, gray molly kochia at 3%, and seepweed at 3% in the stony slope 4" - 8".

   c. Wild Horse Spring Area (T25N, R32E, SE¼, Sec.12); SWA C414, a gravelly loam 4" - 6" (27-18)

      Maintain or improve the ecological site in late seral ecological condition. Maintain the bottlebrush squirreltail at 1%, shadscale at 28%, bud sagebrush at 12%, Bailey greasewood at 30%, seepweed at 1%, black greasewood at 3%.

2. General Habitat requirements of Sage Grouse

a. The Western States Sage Grouse Committee 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 observed most frequently, and which resulted in the highest 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 success by sage grouse:

1) Strutting Habitat

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

2) Nesting Habitat

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

3) Brood Rearing Habitat

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

4) Winter Habitat

a) Greater than 20% sagebrush canopy cover.
b) 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 nesting site.

3. Wild Horses

a. Remove wild horses from checkerboard land HA's unless a cooperative agreement providing for the retention and protection of wild horses is

consummated with the affected land owner(s) (WH&B 1.3).

b. Remove wild horses to AML in the North Stillwaters HMA. Subsequent removals should be scheduled on a 3 year cycle.

c. Maintain and improve the free-roaming behavior of wild horses by:

1. protecting their home range

2. assuring free access to water

Stillwater Range Habitat Management Plan Objectives

1. Monitor bighorn sheep habitat seasonally to determine actual habitat use.
2. Provide forage and cover annually to support mule deer on a yearlong basis.
3. Provide forage and cover annually to support bighorn sheep on a yearlong basis.

Standards and Guidelines

The following are the standards for rangeland health as developed in consultation with the Sierra Front-Northwest Great Basin Area Resource Advisory Council, other interested publics and approved by the Secretary of the Interior on February 12, 1997.

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

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

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

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

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

The draft evaluation was sent to the interested publics. Comments were received from the Nevada Commission for the Preservation of Wild Horses and from Nevada Division of Wildlife. These comments were considered in the preparation of the final evaluation.

As a result of this process, my proposed decisions are:

LIVESTOCK MANAGEMENT DECISION

Livestock carrying capacity was determined to be 8811 AUMs. However, I have decided to maintain the initial stocking level until it is determined, through monitoring, that short term objectives are being met for three consecutive years. At that time the initial stocking rate for

livestock will be re-evaluated.

Grazing of South Rochester Allotment will remain as follows:

Permittee	Number	Kind	Season of Use	Total Pref.	Specif. Lvstk Use	Exch. of Use
Olagaray	700	S	04/1 to 04/24	1400	1400	0
Pleasant Valley Ranch	44	C	04/1 to 12/31	400	400	0
Sims	171	C	03/1 to 02/28	778	778	1269
Unionville Land & Cattle	141	C	04/1 to 01/31	1386	1386	28
Safford & Safford Land & Lvstk	124	C	04/15 to 10/14	0	0	746
Safford & Safford	27	C	04/1 to 11/30	0	0	215
TOTALS	700 507	S C		1400 2564	1400 2564	2258

GRAZING SYSTEM

Presently, there is no grazing system in place on the South Rochester Allotment. However, establishing a grazing strategy received the consensus of the group. I agree with this consensus. The system will incorporate a rotation of spring turnout areas for cattle so the same areas are not initially used each spring. This deferred grazing will result in a limited amount of rest in rotated areas each year. Areas of turnout will be determined by the BLM, the permittees, and other interested publics by observing the range at summer's end and just prior to spring turnout. Sheep grazing will remain the same as it.

TERMS AND CONDITIONS

The following terms and conditions will be incorporated into the respective permittee's term permit and their annual authorizations via the grazing bill:

The terms and conditions must be in conformance with the Standards and Guidelines for

the Sierra Front-Northwest Great Basin Resource Advisory Council, approved by the Secretary of the Interior on February 12.1997.

Grazing use will be in accordance with this grazing decision.

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

The permittee is required to perform normal maintenance on the range improvement projects which have been assigned to the permittee for maintenance responsibility.

Actual Use will be submitted within 15 days after the end of the authorized grazing period.

Spring turnout areas will be determined prior to the turnout date.

"Pursuant to 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, 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 immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer."

RATIONALE:

The carrying capacity calculations show that additional forage is available for livestock grazing. However, short term utilization objectives have not been met in all cases. I do not want to authorize any increases in livestock use until the monitoring data shows that all objectives are being met all the time.

The benefits of rotating livestock use in maintaining the restoring healthy vegetative communities are well documented. However, the low potential productivity of many of the range sites on this allotment do not justify the expenditure of large sums of public funds on an elaborate grazing system with an extensive range improvement program. Additionally, the physical potential for developing additional waters is very limited. The limited number of relatively small projects identified in the evaluation and this document illustrate this point. For all of these reasons I decided to use a less formal approach to providing deferment from grazing.

The authorized sheep use is essentially a low impact trailing situation with the animals being herded and moved on a daily basis thereby negating the need for a rotation. The sheep are moved out of the allotment early enough in the year to provide for regrowth, seed set, and replenishment of root reserves.

AUTHORITY

The authority for this decision is contained in Title 43 of the Code of Federal Regulations; pertinent citations are below:

4100.0-8 **Land use plans** - The authorized officer shall manage livestock grazing on public lands under the principle of multiple use and sustained yield, and in accordance with applicable land use plans. Land use plans shall establish allowable resource uses (either singly or in combination), related levels of production or use to be maintained, areas of use, and resource condition goals and objectives to be obtained. The plans also set forth program constraints and general management practices needed to achieve management objectives. Livestock grazing activities and management actions approved by the authorized officer shall be in conformance with the land use plan as defined at 43 CFR 1601.0-5(b).

4110.3 **Changes in permitted use**- The authorized officer shall periodically review the permitted use specified in a grazing permit or grazing lease and shall make changes in the permitted use as needed to manage, maintain, or improve rangeland productivity, to assist in restoring ecosystems to properly functioning condition, to conform with land use plans or activity plans, or to comply with the provisions of subpart 4180. These changes must be supported by monitoring, field observations, ecological site inventory or other data acceptable to the authorized officer.

4120.3-1(a) **Conditions for range improvements** - Range improvements shall be installed, used, maintained, and/or modified on the public lands, or removed from these lands, in a manner consistent with multiple-use management.

4130.3-1(a) **Mandatory terms and conditions** - The authorized officer shall specify the kind and number of livestock, the period(s) of use, the allotment(s) to be used, and the amount of use, in animal unit months, for every grazing permit or lease. The authorized livestock grazing use shall not exceed the livestock carrying capacity of the allotment.

4130.3-2 **Other terms and conditions** - The authorized officer may specify in grazing permits or leases other terms and conditions which will assist in achieving management objectives, provide for proper range management or assist in the orderly administration of the public rangelands.

4130.3-3 **Modifications of permits or leases** - Following consultation, cooperation, and coordination with the affected lessees or permittees, the State having lands or responsible for managing resources within the area, and the interested public, the authorized officer may modify terms and conditions of the permit or lease when the active grazing use or related management practices are not meeting the land use plan, allotment management objectives, or is not in conformance with the provisions of subpart 4180. To the extent practical, the authorized officer shall provide to affected permittees or lessees, States having lands or responsibility for managing resources within the affected area, and the interested public an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease.

4180.1 **Fundamentals of rangeland health** - The authorized officer shall ;take appropriate action under subparts 4110, 4120, 4130, and 4160 of this part as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management needs to be modified to ensure that the following conditions exist:

(a) Watersheds are in, or are making significant progress toward, properly functioning

physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow

(b) Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.

(c) Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives such as meeting wildlife needs.

(d) Habitats are, or are making significant progress toward being, restoted or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal candidate and other special status species.

WILD HORSE MANAGEMENT DECISION

Wild horse carrying capacity was determined to be 1508 AUMs or 126 horses. The wild horse numbers will be managed between 126 head and 70 head, a 45% range. The AML is based on a three year gather cycle. If the cycle is changed, then the management range could change. The HMA is scheduled to have a gather in 1999.

RATIONALE:

The Carrying capacity calculations show that more forage is available for horses than the initial stocking level allowed for in the Land Use Plan. However, wild horse numbers presently exceed the AML set in this document resulting in some short term objective not always being met. Therefore, a removal is justified. The scheduled wild horse gather should bring population numbers to AML.

AUTHORITY

The authority for this decision is contained in Sec. 3(a) and (b) of the Wild-Free-Roaming Horse and Burro Act (P.L. 92-195) as amended and in Title 43 of the Code of Federal Regulations, which states:

4700.0-6(a)	Wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.
4710.4	Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. Management shall be at the minimum level necessary to attain the objectives identified in approved land use plans and herd management area plans.
4720.1	Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animal immediately...

PROTEST PROCEDURES

Any applicant, permittee, lessee, or other interested public may protest this proposed multiple-use decision under Section 43 CFR 4160.2 If you wish to protest this decision, you are allowed 15 days from receipt of this notice within which to file such protest with:

Colin P. Christensen
AFM Renewable Resources
Bureau of Land Management
Winnemucca Field Office
5100 E. Winnemucca Blvd.
Winnemucca, NV 89445

Subsequent to the protest period a final decision will be issued which will provide an opportunity for appeal in accordance with 43 CFR 4.

If you have any questions please contact Nadine Francis or Rich Adams at 702-623-1500.

Sincerely yours,

Colin P. Christensen
Assistant Field Manager
Renewable Resources

Certified copies:	Certified Numbers
Pleasant Valley Ranch, Inc.	Z374096342
Safford & Safford Land & Livestock	Z374096343
Safford & Safford	Z374096352
Don Sims	Z374096344
Michael Maestri & Sharon Siege	Z374096341
Unionville Land and Cattle Co.	Z374096340
Salvador Olagary	Z374096345
DJ Ranch	Z374096346
Nevada Woolgrowers Assn.	Z374096347
Desert Bighorn Council	Z374096348
Nevada Bighorns Unlimited	Z374096349
Nevada Cattlemen's Association	Z374096350
Wild Horse Spirit	Z374096351
Wild Horse Organized Assistance	Z374096353
Nevada Humane Society	Z374096354
Sierra Club-Toiyabe Chapter	Z374096355
Gary Takacs	Z374096356
NV Division of Wildlife	Z374096357
NV Commission for the	Z374096358

Preservation of Wild Horses
Craig Downer

Z374096359

Non-certified copies:

U.S. Fish and Wildlife Service
New Gold Inc.
Desert Research Institute
Resource Concepts
Coeur Rochester, Inc.

SOUTH ROCHESTER

ALLOTMENT

FINAL EVALUATION

I. INTRODUCTION

A. Allotment Name: South Rochester
Allotment Number: 00117

B. Permittee(s):

Salvadore Olagaray	
Pleasant Valley Ranch	
Don & Martha Sims	
Unionville Land & Cattle	
Safford & Safford	100% Exchange of Use
Safford & Safford Land & Livestock Co.	100% Exchange of Use

C. Evaluation Period: 1982 - 1997

D. Selective Management Category: C
Priority: 8

II. INITIAL STOCKING RATE

A. Livestock Use:

1. Total Preference 3964 AUMs
Suspended Preference 0 AUMs
Specified Livestock Use 3964 AUMs
Exchange of Use 2258 AUMs

2. Season of Use

Permittee	Season	Dates
Olagaray	Spring	(4/1 - 4/24)
Pleasant Valley Ranch	Spring - Winter	(4/1 - 12/31)
Sims	Year Round	(3/1 - 2/28)
Unionville Land & Cattle	Spring - Winter	(4/1 - 1/31)
Safford & Safford Land & Livestock Co.	Spring - Fall	(4/15 - 10/14)
Safford & Safford	Spring - Fall	(4/1 - 11/30)

3. Livestock Type & Numbers
(Consists of Specified Livestock Use and Exchange of Use)

Cattle	507	4822	AUMs
Sheep	700	1400	AUMs

4. Percent Federal Range/Exchange of use

Permittee	Animal#'s	%PL	Spec.L.U.	Act.Use	N-use	Exchange of Use
Olagaray	700 S	100%	1400	111	1289	none
Pleasant Valley Ranch	44 C	100%	400	400		none
Sims	171 C	38%	778	778		1269
Unionville Land & Cattle	141 C	98%	1386	1386		28
Safford & Safford Land & Livestock	124C	0%				746
Safford & Safford	27C	0%				215
			3964	2675	1289	2258

5 Grazing System - None

B. Wild Horse Use:

1. Appropriate Management Levels

Appropriate management levels will be established in this evaluation. Initial stocking levels were set in the 1982 Sonoma-Gerlach Land Use Plan (LUP)

	Number	AUM's
North Stillwater HMA (NV-229)*	36	432
Humboldt HA (NV-224)**	0	0

* Only 39% of the entire North Stillwater (HMA), which occurs in both the Winnemucca and Carson City Districts, is located within the South Rochester Allotment. [Fifty-four percent of the HMA in the Winnemucca District only, occurs in the South Rochester Allotment (Sonoma-Gerlach Draft EIS, Table 2-11).] The number of horses shown above is for the South Rochester percent of the HMA.

** Humboldt HA is checkerboard land and managed for a horse population of 0 (LUP WH&B 1.3).

C. Wild Life Use

1. Reasonable Numbers (from Sonoma-Gerlach Land Use Plan - 1982)

Mule Deer - (Odocoileus hemionus)	45 AUMs
Pronghorn Antelope - (Antilocapra americana)	0 AUMs
Bighorn Sheep - (Ovis canadensis)	15 AUMs

Mule Deer - 15 total reasonable number

Pronghorn Antelope - No antelope were present when the Land Use Plan was implemented.

Bighorn Sheep - 6 total reasonable number

2. Wildlife Management Areas within the allotment.

West Humboldt Range - Mule Deer DY-1, Chukar, and Dove populations exist in this range along with other small game and non-game species. The placement of 7 guzzlers in the West Humboldt Range has and will further enhance dove and chukar populations.

Humboldt Range - Populations of Mule Deer DY-2 and DS-3, Sage Grouse, Chukar, other small game and non-game species are present in this range.

North Stillwaters - Mule Deer DY-1, DY-3, and DS-3, Bighorn Sheep BY-1B, California Quail, Chukar populations, and other small game and non-game species occur in this range.

III. ALLOTMENT PROFILE

A. Description

South Rochester Allotment is located southeast of Lovelock, Nevada. It is about 13 miles long in a north-south direction and 27 miles wide in an east-west direction. The allotment is bordered by Humboldt Sink and Ragged Top Allotments to the west, Coal Canyon - Poker and Rawhide Allotments to the north, South Buffalo, Jersey Valley and Cottonwood Allotments to the east, and Copper Kettle Allotment in Carson City District to the south.

The allotment consists of high elevation north-south trending mountain ranges sloping to valley floors. The North Stillwater Herd Management Area (HMA) lies within the North Stillwater Range which is not extremely high, though its cliffs rise abruptly from the valley floor with very little alluvial fan composition, except approaching Fencemaker Canyon, where the slopes are gentler. Part of the Humboldt Herd Area (HA) lies in the western part of the allotment and includes part of both the Humboldt Range and the West Humboldt Range.

Vegetation types in this allotment include salt desert shrub communities and greasewood flats in the valley (elevation 4,200'), to the sagebrush-bluegrass community (elevation 5,000"), to pinon-juniper and juniper-sage communities in the higher elevations.

B. Acreage

Land Status - Percentages (Sonoma-Gerlach Grazing EIS - Draft)
Land Status - Acres (Geographical Information System)

Public Land	Percent	Other Land	Percent	Total Land	Percent
175,457	69%	80,074	31%	255,531.1	100%

There are 68 acres of lentic (wetland/meadow) habitat and 16.4 acres, or 6.77 miles, of lotic riparian on the allotment. This includes the free-flowing streams in Willow Canyon, Kitten Springs Canyon, New York Canyon, and Hughes Canyon in the Humboldt and North Stillwater Ranges.

There are no fenced pastures in the allotment.

C. Land Use Plan - Allotment Management Objectives

South Rochester Allotment has not previously been evaluated and therefore no short term or long term objectives exist. This document evaluates the general objectives set forth in the Land Use Plan and Stillwater Range Habitat Management Plan.

1. Livestock:

   a. Manage, maintain, and improve public rangeland condition to provide forage on a sustained yield basis with an initial stocking level of 3,964 AUMs.

   b. Maintain an acceptable allowable use level on key forage species (Appendix I) that will provide a sustained yield (Sonoma-Gerlach Draft EIS, Table 1-4).

   c. Improve range/ecological condition from poor to fair on 19,747 acres and from fair to good on 6,711 acres and from good to excellent on 557 acres.

2. Wildlife:

   a. Manage, maintain, and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 45 AUMs for mule deer and 15 AUMs for bighorn sheep, by:

      1. Improving or maintaining the following mule deer habitat to at least good condition in West Humboldt DY-1, Stillwater Range DY-3, and Humboldt Range DY-2.

   b. Wildlife habitat management objectives for vegetation utilization shall be as follows:

      1. Terrestrial: will not exceed levels established in the Sonoma-Gerlach EIS Table 1-4 for key species.

      2. Wetland Riparian: shall not exceed 50% for key species. Develop a Habitat Management Plan (HMP) for the Stillwater Range.

3. Wild Horses:

   a. Manage, maintain, and improve public rangeland conditions to provide an initial level of 432 AUMs of forage on a sustained yield basis for 36 wild horses in the North Stillwater HMA (Land Use Plan decision, Wild Horse and Burros 1.1).

   b. Remove wild horses from checkerboard land HA's unless a cooperative agreement providing for the retention and protection of wild horses is consummated with the affected land owner(s) (WH&B 1.3).

   c. Manage wild horse habitat to improve range-ecological condition as listed under livestock objectives

   d. Maintain an acceptable allowable use level on key forage species that are consistent with those established for livestock and wildlife.

e. Maintain and improve the free-roaming behavior of wild horses by:

1. protecting their home range

2. assuring free access to water

4. Standards of Rangeland Health

The following are 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:

a. Soil processes will be appropriate to soil type, climate and land form.
b. Riparian/wetland systems are in properly functioning condition.
c. Water quality criteria in Nevada State Law shall be achieved or maintained.
d. Populations and communities of native plant species and habitats for native animals species are healthy, productive and diverse.
e. Habitat conditions meet the life cycle requirements of special status species.

D. Stillwater Range Habitat Management Plan Objectives

The Stillwater Range Habitat Management Plan (HMP) WHA-T-16 lists specific objectives for the Wildlife Habitat Area (WHA) in the Stillwater Range of the South Rochester Allotment. Maps of identified mule deer habitat and potential bighorn sheep habitat can be found in the HMP in the Winnemucca District Office.

1. Reintroduce desert bighorn sheep (Ovis canadensis nelsoni) to WHA-T-16 BY-1 during 1986.

2. Monitor bighorn sheep seasonally for a minimum of 5 years beginning in 1986 to determine population distribution and density.

3. Monitor bighorn sheep habitat seasonally for a minimum of 5 years beginning in 1986 to determine actual habitat use.

4. Provide forage and cover annually to support mule deer on a yearlong basis.

5. Raise the water suitability index for the low sagebrush/bunchgrass plant community (7000' to 7200') from 0.0 to 1.0 and the weighted water index from 0.56 to 0.62 by 1989 (Table 3, HMP).

6. Raise the visual obstruction rating for bighorn sheep in the juniper/singleleaf pinyon/mountain big sagebrush plant community from 0.05 to 0.5 by 1990 (HMP).

IV. MANAGEMENT EVALUATION

A. Summary of Studies Data

1. Actual Use: Actual use is defined as where, how many, what kind or class of animal, and how long the animals graze on an allotment.

a. Livestock (includes public and private AUMs)

Year	AUMs	Cattle	Sheep
1988	4424	4312	112
1989	4987	4844	143
1990	4494	4351	143
1991	4978	4835	143
1992	4379	4236	143
1993	3762	3651	111
1994	4627	4516	111
1995	4883	4772	111

Cattle are not required to graze specific areas. They graze the entire allotment during their season of use as prescribed above, under Initial Stocking Rate. Domestic sheep do not graze the entire allotment. They graze the north end of Packard Flat and the west side of the Humboldt range where it occurs inside the allotment. See attached map.

b. Wildlife Population Estimates, Trend, and Habitat Rating

Recently retired Nevada Division of Wildlife biologist, Philip Benolkin, provided the wildlife population data through 1995 and adult to fawn ratio data through 1994. Adult to fawn ratio data from 1995 through 1997 was provided by Chris Hampson. Mule deer populations were estimated using a population model. Bighorn Sheep population numbers were estimated without the aid of a model.

Using a population model for estimating existing numbers has several shortcomings when weighed as an indication of habitat condition or actual use. Mule deer are a highly mobile species, and may use different locations each year as a result of weather conditions, forage availability, water distribution, and stress.

Antelope were observed in the South Rochester by BLM biologist, Clarence Covert on November 13, 1996. They were also observed during 1997. Actual use is recorded for 1996 and 1997 below. Their continued presence is considered under technical recommendations.

Sage grouse habitat has been designated at the higher elevations on the southern portions of the Humboldt Range from Buffalo Mountain and areas north. No sage grouse studies were conducted during the evaluation period.

Mule Deer 4 deer = 1 Aum

Year	Est. Pop.	AUMs
1989	35	105
1990	48	144
1991	68	204
1992	70	210
1993	66	198
1994	70	210
1995	68	204

Fawn/100 Adults Ratio

Year	Spring	Fall
1989	16	63
1990	75	42
1991	51	--
1992	40.8	53.7
1993	27.4	39
1994	13.5	53.7
1995	--	40
1996	62.5	43.6
1997	31.3	43.2

Bighorn Sheep 5 sheep = 1 Aum

Year	Est. Pop.	AUMs
1989	20	48
1990	15	36
1991	14	34
1992	10	24
1993	10	24
1994	10	24
1995	10	24

Pronghorn Antelope 5 antelope = 1 Aum

Year	Est. Pop.	AUMs
1996	14	34
1997	14	34

Habitat Rating Table (1997)

Area	Range	Rating
DS-3	Humboldt Range	44 - Fair
DY-1	W. Humboldt Range	46 - Fair
DY-1	W. Humboldt Range	40 - Fair
DY-2	Humboldt Range	32 - Fair
DY-1	N. Stillwaters	38 - Fair
DS-3	N. Stillwaters	57 - Fair
DS-3	N. Stillwaters	44 - Fair

c. Wild Horses

An Interdistrict Resource Agreement between the Winnemucca (N-2), Carson City (N-3), and Battle Mountain (N-6) Districts -- AGREEMENT NUMBER BLM-MOU-NV020-62 was finalized May 22, 1995. In section B2 of the agreement, it states that the North Stillwater HMA will be administered by the Winnemucca District. This includes wild horse census and distribution flights, capture operations, and studies.

North Stillwater HMA (NV-229)

Census data were collected in September 1974, June 1977, September 1979, May 1980, September 1986 and 1988, and August 1991. The population levels for 1992, 1993, 1994, and 1995 are estimated. The 1992 estimate was established by averaging the number of horses observed on 3 distribution flights, the first being done from a Cessna 210, the second and third being done from a Maule MX-5. The table below reflects numbers observed in the South Rochester Allotment only.

Year	Population	Aum's	Aircraft Type
1974	13	156	Piper Super Cub
1977	25	300	Piper Super Cub
1979	28	336	Bell 47G3B-1
1980	42	504	Bell 47G3B-1
1986	105	1260	Bell 47G3B-1
1988	85	1020	Bell 47G3B-2
1991	73	876	Bell 47G4
1992	100	1200	Estimated from average of 1992 distribution flights
1993	113	1356	Estimate
1994	126	1512	Estimate
1995	141	1692	Estimated from Cessna 210T distrib. flight

Fluctuation of population numbers in the Rochester part of the North Stillwater HMA appears to be due to natural drift of bands across allotment and district boundary lines within the HMA. Heavy winters and droughty conditions could also impact population levels.

Humboldt HA (NV-224)

Census data were collected in September 1974, April and June 1977, August 1980, October 1982, June 1985, August 1989 and 1991, and July 1992 and June 1993. No census has been done on the Humboldt HA since 1993.

Year	Population in Allot.	Aum's	Aircraft Type
1974	20	240	Piper Super Cub
1977	124	1488	Bell 47G3B-1
1980	254	3048	Bell 47
1982	82	984	Bell Jet Ranger
1985	64	768	Bell 47B1
1989	0	0	Shrike Aero Commander
1991	10	120	Bell 47G4
1992	12	144	Bell 47G4A-1
1993	7	84	Bell 47G4A-Soloy

The Humboldt HA is a checkerboard area and not managed for horses. The appropriate management level (AML) for this herd area is 0.

Procedures for determining actual use for wild horses are described in Appendix II.

2. Wild Horse Removal Data

There have been no authorized removals of wild horses from the North Stillwater Range since the passage of the 1971 Wild and Free-Roaming Horse and Burro Act. However, there have been several removals from the Humboldt HA since the passage of the act in an attempt to keep this checkerboard area horse free. No cooperative agreement providing for the retention and protection of wild horses was consummated with the private land owner(s), but a letter received from them requesting the removal of wild horses is on file in the Winnemucca District Office (43 CFR 4720.2-1).

Humboldt HA

Year	No. Removed*
1980	239
1981	247
1982	554
1985	665
1987	23
1993	173

* No. removed reflects total number removed from the whole HA, not just those removed within the allotment.

3. Climatological Data

Climatological data were collected at various National Oceanic and Atmospheric Administration (NOAA) stations and at two Remote Automated Weather Station (RAWS) for a period ranging from 1987 through 1993. Climatological data were used to help interpret use pattern mapping data.

From 1987 until 1994 the state of Nevada experienced a drought. This effected the vegetative resource in many ways. It caused reduction in plant growth, seedling development, plant vigor, quality and quantity in varying degrees and in different areas of the country. Springs and creeks had reduced flows.

In the South Rochester Allotment the annual percent of normal precipitation was generally below average in 1989, 1991, 1992, and probably in 1994, judging from the limited amount of data available. The growing season percent of precipitation was below average in 1989, 1992, and 1994, but above average in 1987, 1988, 1990, 1991, and 1993. Winter precipitation was below average throughout the period data were collected except for 1988 and 1993. In general below average winter precipitation results in increased windblown erosion, reduced soil moisture content, and lower spring flows. No specific measurements however, were monitored during this period. See Appendix III for complete data.

4. Utilization

Use Pattern Mapping

Use Pattern Mapping (UPM) was used to determine levels of use throughout the allotment. The procedures used to collect this data can be found in the Nevada Rangeland Monitoring Handbook and BLM Handbook TR-4400-3. These data are used to document the effectiveness of management and to determine carrying capacity. Coupled with climatological data (Appendix II), we can determine if moisture and/or heat contributed to an area receiving heavy or severe use. The analysis summary of the UPM data is below; the data and the use pattern maps can be found in the South Rochester Allotment and the North Stillwaters HMA monitoring files.

UPM data for this evaluation was collected using six use classes: no use (0%), slight use (1-20%), light use (21-40%), moderate use (41-60%), heavy use (61-80%) and severe use (81-100%).

Area Mapped Outside HMA

Date Mapped	Use Class	Acres	Percent*
Total 1991 Use	No App. Use	37,106	86%
4/92	Moderate	2,662	6%
	Heavy	3,562	8%
	Total	43,330	100%
Fall 1992			
11/92	No App. Use	933	6%
	Slight	8,998	59%
	Moderate	790	5%
	Heavy	4,609	30%
	Total	15,330	100%
Total 1995 Use			
3-5/96	No App. Use	28,763	54%
	Slight	22,083	42%
	Light	2,125	4%
	Moderate	0	0%
	Heavy	0	0%
	Severe	25	<1%
	Total	52,996	100%

* This is the percentage of the total area mapped on the dates shown, not the percentage of the allotment in the use class.

Area Mapped Within HMA

The North Stillwater HMA constitutes 28% of the allotment.

Total 1991 Use	Use Class	Acres	Percent*
4/92	No App. Use	11,903	72%
	Moderate	1,349	8%
	Heavy	2,237	14%
	Severe	1,053	6%
	Total	16,542	100%
Fall 1992			
11/92	No App. Use	6,639	13%
	Slight	6,135	12%
	Light	19,391	38%
	Moderate	17,617	35%
	Heavy	775	2%
	Severe	20	<1%
	Total	50,577	100%
Fall 1994			
11/94	Slight	524	96%
	Severe	20	4%
	Total	544	100%
Total 1995 Use			
3-5/96	No App. Use	21,511	39%
	Slight	21,605	39%
	Light	8,599	15%
	Moderate	3,762	7%
	Heavy	321	<1%
	Severe	0	0.0%
	Total	55,798	100%

* This is the percentage of the total area mapped on the dates shown, not the percentage of the allotment in the use class.

Total percent of Allotment mapped annually

Total 1991 use = 59,872 acres = 23% mapped
Fall 1992 use = 65,907 acres = 26% mapped
Total 1995 use = 108,794 acres = 43% mapped

5. Trend

There are no trend studies established on this allotment.

6. Ecological Site Inventory

An ecological site is a distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. An ecological site is the product of all environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differ from that of other range sites in the kind or proportion of species or in total production.

Ecological sites are a basic component of rangeland inventories. They are ecological subdivisions into which rangeland is divided for study, evaluation, and management. The ecological site map provides the basic ecological data for planning the use, development, rehabilitation, and management of the rangeland.

Ecological site information can be interpreted as a suitability of a site for a single use as grazing or many other uses such as: wildlife habitat, recreation, natural beauty, watershed, and open space. Ecological Site Inventory (ESI) data was used to develop Desired Plant Communities (DPC). Desired Plant Communities are the plant communities that produce the kind, proportion and amount of the vegetation necessary for meeting or exceeding the Land Use Plan goals and activity plan objectives established for the site.

The ecological site inventory for South Rochester Allotment was completed in 1992. It found 31 different ecological site types on the allotment. The following lists the overall acreage and percentages by seral stage for the allotment.

Seral Stage	Acres	Percentage
Early	4,984.1	1.9
Mid	54,339.5	21.3
Late	131,342.7	51.4
Potential	15,839.6	6.2
Barren	34,272.4	13.4
Woodlands	14,752.8	5.8
TOTAL ACRES	255,531.1	100%

The following table summarizes the characteristics of the predominate ecological sites and accounts for 75% of the acreage within the allotment. Complete ecological site information may be found in Appendix IV.

Ecological Site Summary Table

Site Number & Name	Total annual air-dry production		Seral Stage	Percent of site	Lifeform percentages at PNC
027XY013		lbs/ac	PNC	0 ac / 0%	Grasses - 35%
Loamy 4-8" P.Z.	Favorable yrs	600	Late	31002 ac / 51%	Forbs - 5%
	Normal yrs	450	Mid	29179 ac / 8%	Shrubs - 60%
	Unfavor. yrs	250	Early	>1%	
	Total acres of 027XY013 = 60,789 acres or 24% of the allotment				
027XY024		lbs/ac	PNC	0 ac / 0%	Grasses - 25%
Sodic Terrace	Favorable yrs	500	Late	27560 ac / 57%	Forbs - 5%
3-8" P.Z.	Normal yrs	350	Mid	14286 ac / 35%	Shrubs - 70%
	Unfavor. yrs	150	Early	3809 ad / 8%	
	Total acres of 027XY024 = 48,510 acres or 19% of the allotment				

		lbs/ac	PNC			
027XY018						
Gravelly Loam	Favorable yrs	400	Late	25078 ac /100%	Forbs -	5%
4-8" P.Z.	Normal yrs	250	Mid	0 ac / 0%	Shrubs -	65%
	Unfavor. yrs	100	Early	0 ac / 0%		

Total acres of 027XY018 = 25,078 acres or 10% of the allotment

		lbs/ac	PNC			
027XY019						
Stony Slope	Favorable yrs	300	Late	15256 ac / 70%	Forbs -	5%
4-8" P.Z.	Normal yrs	175	Mid	0 ac / 0%	Shrubs -	70%
	Unfavor. yrs	50	Early	0 ac / 0%		

Total acres of 027XY019 = 21,803 acres or 9% of the allotment

000XY000	Playa	86.1 acres
Barren	Barren	34154.7 acres
Ecosites	Rock	31.6 acres

Total acres of 000XY000 = 34,272.4 acres or 13% of the allotment

Following is a brief description of each major ecological site other than Barren.

Ecological Site 027XY013

The site occurs on piedmont slopes, alluvial plains, and relict alluvial flats. Slopes range from 2 to 30% and elevations from 4000 to 5000 feet. Twenty-four percent of the allotment is made up of this site. Dominating the potential plant community are shadscale, bud sagebrush, and Indian ricegrass. Where management results in abusive livestock use, Bailey greasewood, shadscale, and Douglas rabbitbrush increase, as Indian ricegrass, winterfat and bud sagebrush decrease. Further abuse, particularly in late-winter/early-spring, will result in shadscale decreasing. Where surface soils are high in silt content, Sandberg bluegrass is most prevalent. Invader species on this site include halogeton, Russian thistle, cheatgrass, and annual mustards. The majority of this site is in late and mid seral condition, 51% and 48% respectively, with a small percentage in early seral condition. There is a predominate amount of shadscale.

Ecological Site 027XY024

This site occurs on fan skirts, beach terraces, beach plains, alluvial flats, and lake plain terraces. Elevations are 3300 to 4500 feet. Nineteen percent of the allotment is made up of this site. The potential plant community is dominated by shadscale, black greasewood and Indian ricegrass. As ecological condition deteriorates due to abusive livestock management, Indian ricegrass and bottlebrush squirreltail decrease while shadscale and black greasewood increases. Species likely to invade this site are halogeton, annual mustards and cheatgrass. Fifty-seven percent of this site is in a late seral condition with the rest in mid and early. Most of these sites on the allotment are dominated by shrubs, namely shadscale and greasewood, with very few forbs and no perennial grasses.

Ecological Site 027XY018

This site occurs on piedmont slopes ranging from 0 to 30 degrees. Elevations are 3400 to 5000 feet. Ten percent of the allotment is made up of this site. The potential plant community is dominated by Bailey greasewood, shadscale, and Indian ricegrass. As ecological conditions deteriorate, Bailey greasewood and shadscale will increase while Indian ricegrass and other palatable grasses and shrubs decrease. Species most likely to invade this site are cheatgrass and annual mustards. One-hundred percent of this site in the South Rochester Allotment is in late seral condition. The presence of Bailey greasewood, shadscale, and some palatable grass species, excluding Indian ricegrass, is highly evident, as is a lack of invader species.

Ecological Site 027XY019

This site occurs on lower mountains, hills and piedmont slopes on all aspects. Slopes range from 8 to 75 percent with elevations ranging from 3400 to 5000 feet. The potential plant community is dominated by Bailey greasewood, shadscale, and Indian ricegrass. When disturbance from erosion or grazing cause a decline in ecological condition, shadscale, littleleaf horsebrush, and Bailey greasewood increase as Indian ricegrass decreases. Cheatgrass is the vanguard invader species.

Ecological site 027XY019 covers 9% of the allotment. It is predominately in late seral condition. However, forbs are almost nonexistent; in some areas shadscale and greasewood are increasing; Indian ricegrass is nonexistent, but the incidence of cheatgrass is low.

7. Riparian/Upland Meadow Habitat

Riparian/upland meadow habitat monitoring data consisted of utilization data collected in summer and fall 1993 and fall 1995. About 2.4 miles of lotic riparian areas were determined to have received moderate use in August of 1993, and about 11 acres of lentic riparian areas received severe use by November 1993. Riparian areas monitored in fall 1995 indicated satisfactory condition with only light use recorded.

Proper Functioning Condition (PFC) surveys were done in April 1996 on two streams, New York Canyon and Hughes Canyon. No other streams warranted PFC evaluations. Both New York Canyon and Hughes Canyon were found to be in proper functioning condition.

Lentic riparian assessments were not conducted during the evaluation period.

8. Water Inventory

A water inventory was done from 1979 through 1986. It identifies 25 perennial springs, 12 intermittent springs, 1 well, 2 perennial seeps, 6 intermittent seeps, and 2 pipelines. In addition to the data provided by the inventory there are at least 4 more perennial springs and 1 additional pipeline.

9. Fisheries Habitat

No streams within the South Rochester Allotment have been designated to be managed as fisheries habitat by the Land Use Plan and no fish population or habitat inventories were conducted during the evaluation period.

10. Threatened & Endangered Species

a. Flora - There are no threatened or endangered species in South Rochester Allotment. A list of species of concern can be found in Appendix V.
b. Fauna - There are no threatened or endangered species in South Rochester Allotment. A list of species of concern can be found in Appendix V.

11. Wild Horse Distribution

Data on the distribution of wild horses has been collected from the ground and by aircraft (helicopter and fixed-wing) since 1974. Aerial distribution maps are on file in the Winnemucca District Office. Appendix VI describes the methodology, results of each distribution flight, date flown, type of aircraft, and the number of horses observed.

North Stillwater's wild horses are generally found in the southern half of that portion of the HMA occurring in the South Rochester Allotment, with an occasional few in the north half. During spring and summer months they may locate at any elevation, and very rarely they may disperse themselves from north to south and from upper to lower elevation. The two times they've been observed from the ground (Appendix VII) in the fall, they've been mostly in the south half of the allotment around Fencemaker Canyon and Mustang Springs, and around the mouth of Logan Canyon both times at lower elevations. In the winter they generally stay in mid to lower elevations and generally move between available water and forage with no particular pattern of movement.

12. Mining

Two working mines, Coeur Rochester and Relief Canyon Mines, as well as several abandoned mines are located partially or wholly within the boundaries of the allotment.

Coeur Rochester Mine is a large silver mine located in T28N, R34E, Sections 9, 10, 11, 15, 16, 21, and 22, MDB&M. The mine disturbance is limited to the adjacent Rawhide and Coal Canyon - Poker Allotments. No mine disturbance occurs within the South Rochester Allotment. However, a small portion of the Coeur Rochester project area, within the plan of operations boundary, extends into the South Rochester Allotment in sections 22 and 27 of T28N, R34E. No future disturbance is planned by Coeur Rochester Mine within the South Rochester Allotment. The portion of the project within the Rochester Allotment is not fenced.

Relief Canyon Mine is located at the southern end of the Humboldt Range, T. 27 N., R. 34 E., in portions of sections 16, 17, 18, 19, and 20. Mining was initiated in 1984 and ceased in 1990. Reclamation in the area of the open pits and waste dumps was initiated in the fall of 1990. The heap leach pads have been considered rinsed since October 1993. The current owner of the mine, Newgold, Inc., intends to resume mining and cyanide heap leaching in the near future.

Total area disturbed by the project is approximately 300 acres. The waste dumps comprise approximately 60 acres of disturbance. They have been recontoured, seeded, and are about 25% revegetated. Selected areas of the waste dumps had manure applied. The open pits consist of 70 acres. The open pits are more or less inaccessible, and have not revegetated. The heap leach, pond, and plant areas are completely fenced with a 4 strand barbed wire fence and consist of 70 acres. The ponds are fenced with chain link. With the exception of heap rinsing, no reclamation has been completed in that part of the project site. The remaining disturbed acreage consists of the haul road and other access roads. These have been partly recontoured, seeded and revegetated.

The mine supplies water to livestock and wildlife via a pipeline that tee's from the water tank to the processing plant. The water is piped to a location immediately south of the water tank, outside the fenced area.

A partially completed abandoned mine survey was done in the South Rochester Allotment area. A map of the results can be found in the appendix (Appendix VIII). It includes features found to date, then mapped using the Global Positioning S.

13. Hazardous Materials

American Antimony Company has a mill site in Buena Vista Valley (T26N, R34E, Sec.28, SE¼). It was abandoned in 1993. There are still hazardous materials stored outside on the ground, consisting of cadmium and lead. These substances are toxic to wildlife, livestock, and humans if ingested. A notice of non-compliance has been issued under 3809 (surface mining regulations). They are required by 3809 and occupancy regulations to remove structures, hazardous materials, and reclaim the area.

14. Range Improvement Projects

BLM Projects	Status*	Legal Description
Steele Spring	F - NM	T27N, R32E, Sec. 24 SW¼ of NW¼
Logan Spring Pipeline	F	T25N, R36E, Sec. 29,30,4,5
Antelope Spring	F	T26N, R34E, Sec. 4 NW¼ of SE¼
Muttlebury Well	F	T26N, R33E, Sec. 10 NE¼ of NE¼
Cry Aloud Spring	F - NM - Pvt.	T27N, R34E, Sec. 5
Packard Flat Well	F	T27N, R33E, Sec. 24 SW¼ of SW¼
Rochester Study Excl.	U	T28N, R34E, Sec. 32 NW¼ of SW¼
Other Projects		
Mustang Spring	F	T26N, R36E, Sec. 25 SW¼ of SE¼

* F = functional
NM = needs maintenance
U = unknown
Pvt. = private

15. Other

1. Cultural

a. Several areas in the North Stillwater Range have been identified by the Lovelock Paiute as being areas where their people have traditionally collected pinyon pine nuts. Particular trees are designated as "family trees" by tribal members, and are visited annually. The Paiutes are concerned that the wood cutting and Christmas tree cutting is and will jeopardize their traditional use of the area.

2. Forestry

a. Fifteen to twenty wood cutting permits are issued annually in the North Stillwaters.

b. Christmas Tree permits average between 400 and 450 annually in the North Stillwater Range.

3. Recreation

a. Nevada Division of Wildlife issues deer tags for area 4, which includes the Humboldt Range and the West Humboldt Range, and for area 18, which includes the North Stillwater Range.

V. CONCLUSIONS

A. Land Use Plan - Allotment Management Objectives

1. Livestock:

a. Manage, maintain, and improve public rangeland condition to provide forage on a sustained yield basis with an initial stocking level of 3,964 AUM's.

This objective has been met. The full complement of 3,964 AUM's was available on public lands during the evaluation period. The majority of the allotment, 58%, has been determined to be in a late seral or PNC condition which supports this use on a sustained yield basis. (See Appendix VIII for carrying capacity calculations.)

b. Maintain an acceptable allowable use level on key forage species that will provide a sustained yield.

In 1991 this objective was not met on 6,224 acres of 43,330 acres monitored outside the HMA and on 4,639 acres of 16,542 acres monitored inside the HMA. It was not met in 1992 on 5,399 acres of 15,330 acres monitored outside the HMA and on 18,412 acres of 50,577 acres monitored inside the HMA. The objective was met in 1995 with only 25 acres of 52,996 acres monitored outside the HMA showing more than light use and only 4,083 acres of 55,798 acres inside the HMA showing more than light use. Averaging the three years of utilization data for species listed in the Sonoma-Gerlach Draft EIS, Table 1-4 resulted in no listed species exceeding specified use levels. Consulting climatological data helps explain why there were areas, other than around springs, that received heavy or severe use during the evaluation period. Following the drought, there were no areas that received heavy or severe use. Census maps, distribution flight maps, and recorded ground observations indicate horse densities were high in the HMA areas with excessive use.

c. Improve range/ecological condition from poor to fair on 19,747 acres and from fair to good on 6,711 acres and from good to excellent on 557 acres.

Location of acreage referred to in this objective is unknown. The Ecological Site Inventory shows the ecological condition of the following acreage to be:

Early	4,984	1.9%
Mid	54,340	21.3%
Late	131,343	51.4%
Potential	15,840	6.2%

The remaining 19.2% consist of barren ground and woodlands and are not included in the ecological condition rating of the allotment.

2. Wildlife:

a. Manage, maintain, and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 45 AUMs for mule deer and 15 AUMs for bighorn sheep, by:

Improving or maintaining the following mule deer habitat to at least good condition in West Humboldt DY-1, Stillwater Range DY-3 and Humboldt Range DY-2.

This objective was met, based on professional observation and site potentials.

b. Wildlife habitat management objectives for vegetation utilization shall be as follows:

1. Terrestrial: will not exceed levels established in the Sonoma-Gerlach EIS Table 1-4 for key species.

   When all data were analyzed, summarized and averaged, it was determined that this objective was met.

2. Wetland Riparian: shall not exceed 50% for key species. Develop an HMP for the Stillwater Range.

   This objective has been met. Although bluegrass and rush received heavy use in 1993, these species rebounded and received only slight use in 1995. WHA-T-16 Stillwater Range Habitat Management Plan was developed and approved by the Sonoma-Gerlach Resource Area Manager July 23, 1986.

3. Wild Horses:

a. Manage, maintain, and improve public rangeland conditions to provide an initial level of 432 AUMs of forage on a sustained yield basis for 36 wild horses in that part of the North Stillwater HMA that occurs in the South Rochester Allotment (Land Use Plan Decision, Wild Horse and Burro 1.1).

   This objective was met. Forage has been provided on a sustained yield basis for more than 200 horses in the S. Rochester portion of the HMA.

b. Remove wild horses from checkerboard land HA's unless a cooperative agreement providing for the retention and protection of wild horses is consummated with the affected land owner(s) (LUP WH&B 1.3)

   This objective was met with final removals in the East Range HA in 1986 (one horse was removed in 1990), and in the Humboldt/West Humboldt Range HA in 1993. However, six horses were missed in the Humboldt Range HA, several horses moved to and have been observed in the West Humboldt Range HA, and a herd of about 20 horses have been observed in the East Range HA. These populations will be removed in the next wild horse scheduled gather of the N. Stillwater HMA.

c. Manage wild horse habitat to improve range/ecological condition as listed under livestock objectives.

   Location of acreage referred to in this objective is unknown. However, the majority of the allotment, including the HMA, has been found to be in late seral condition.

d. Maintain an acceptable allowable use level on key forage species that are consistent with those established for livestock and wildlife.

   In 1991 this objective was not met on 4,639 acres of 16,542 acres monitored inside the HMA. It was not met in 1992 on 18,412 acres of 50,577 acres monitored inside the HMA. The objective was met in 1995 with only 4,083 acres of 55,798 acres inside the HMA showing more than light use. Averaging the three years of utilization data for species listed in the Sonoma-Gerlach Draft EIS, Table 1-4 resulted in no listed species exceeding specified use levels. Consulting climatological data helps explain why there were areas, other than around springs, that received heavy or severe use during the evaluation period. Following the drought, there were no areas that received heavy or severe use. Census maps, distribution flight maps, and recorded ground observations indicate horse densities were high in the HMA areas that exhibited excessive use during 1991 and 1992.

e. Maintain and improve the free-roaming behavior of wild horse by:

   1. protecting their home range

      Met. Wild horses have complete freedom of movement within the HMA. No actions (i.e. fence construction) have been taken to impede the movement of wild horses within the HMA.

   2. assuring free access to water

      Met. Water is freely accessible to wild horses throughout the HMA.

4. Standards of Rangeland Health

a. Soil processes will be appropriate to soil type, climate and land form.

Utilization objectives for uplands are being met. By meeting short term objectives, there is sufficient vegetation remaining to provide surface litter, a source of nutrients to be recycled. Since about 68% of the allotment, based on ESI data, has a vegetative community that is approaching maximum potential, the vegetative canopy is appropriate for the sites. It should be noted that a significant percent of the allotment is valley bottoms or flats; these sites are not very productive when compared to higher elevation sites and potentials.

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

This standard was met for lotic. Stream functionality studies were conducted on Hughes Canyon and New York Canyon. Both are in proper functioning condition. The lentic (wetland/meadow) habitat was not inventoried and therefore its status is unknown.

c. Water quality criteria in Nevada 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.

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

This standard is being met. Based on ESI transects, the sites in the allotment support a diversity of native plant.

e. Habitat conditions meet the life cycle requirements of special status species.

There are no candidate, endangered, threatened, or proposed species identified in South Rochester Allotment. There may be species of concern (Appendix VI), as noted by the United States Fish & Wildlife Service. The allotment provides the environment necessary for special status species, therefore meeting this standard.

B. Evaluation of WHA-T-16 Stillwater Range Habitat Management Plan Objectives

1. Reintroduce desert bighorn sheep (Ovis canadensis nelsoni) to WHA-T-16 BY-1 during 1986.

This objective has been accomplished. There have been a total of 4 reintroductions of desert bighorns made into the N. Stillwater Range by the Nevada Division of Wildlife. The reintroductions were all made from the Carson City District allotments of Hare Canyon in 1985, Mississippi Canyon in 1986, Boyer Ranch's Bell Mare Canyon in 1987, and Cottonwood in 1989. All reintroductions were made on the east slopes of the North Stillwater Range.

2. Monitor bighorn sheep seasonally for a minimum of 5 years beginning in 1986 to determine population distribution and density.

This objective was not met. Populations were estimated by Nevada Division of Wildlife without the use of a model. However, wildlife monitoring is the responsibility of the Nevada Division of Wildlife and is not within the scope of this evaluation.

3. Monitor bighorn sheep habitat seasonally for a minimum of 5 years beginning in 1986 to determine actual habitat use.

This objective was met. Results were based on professional observation and site potentials.

4. Provide forage and cover annually to support mule deer on a yearlong basis.

This objective was met based on professional observation and site potentials.

5. Raise the water suitability index for the low sagebrush/bunchgrass plant community (7000' to 7200') from 0.0 to 1.0 and the weighted water index from 0.56 to 0.62 by 1989 (Table 3, HMP).

This objective has not been met. Vegetative treatments were not implemented to meet this objective because of budget, personnel, and cultural resource restraints.

6. Raise the visual obstruction rating for bighorn sheep in the juniper/singleleaf pinyon/mountain big sagebrush plant community from 0.05 to 0.5 by 1990 (HMP).

This objective has not been met. Vegetative treatments were not implemented to meet this objective because of budget, personnel, and cultural resource restraints.

VI. TECHNICAL RECOMMENDATIONS

A. Carrying Capacity

1. Livestock = 8811 AUMs - This figure includes both Public and Exchange of Use AUMs

The carrying capacity was calculated using utilization data (Appendix IX). Livestock AUMs will remain at the initial stocking rate of 3964 authorized AUMs (Olagary, 1400 AUMs; Pleasant Valley Ranch, 400 AUMs; Sims, 778 AUMs; Unionville Land & Cattle, 1386 AUMs) until it is determined through monitoring, that short term objectives are being met for three consecutive years. At that time the initial stocking rate for livestock will be re-evaluated.

2. Horses = 1508 AUMs or 126 horses

The appropriate management level (AML) has been determined to range from 70 to 126 horses, or 55% to 100% of AML (Appendix IX). This range was chosen to accommodate an anticipated acceleration of the recruitment rate due to reduced forage competition after a removal. Removals are expected to be conducted on a three year cycle. Vegetative monitoring will continue on an on annual basis to determine it allotment objectives are being met.

B. Grazing System

Much of the lower elevation range lacks desirable grasses and forbs. Early spring grazing by cattle could be a contributing factor. Concensus of the group was to rotate the spring turnout areas so livestock are not using the same area initially every year. This would defer grazing for a limited amount of time, providing a limited amount of rest in rotated areas each year. The benefits of deferring grazing would be: 1) to hasten natural revegetation by improving plant vigor and encouraging desirable species to produce seed, and 2) to improve plant cover thereby reducing the amount of soil loss. Areas of spring turnout would be determined between BLM and the permittees after observing the range at the end of each summer and just prior to spring turnout.

C.. Range Improvements

To help meet allotment specific objectives the following range improvements have been identified and are recommended for implementation.

1. Grayson Spring - protect spring by erecting a four wire fence exclosure. Agreement would be drawn up between BLM and Pat Dempsey, who would supply the labor if BLM would supply the materials.
2. Cornish Canyon Spring Complex - protect spring complex by erecting a four wire fence exclosure. Agreement would be drawn up with Pat Dempsey as for Grayson Spring.
3. Improve stream road crossings to prevent erosion in Kitten Springs area.
4. Place water troughs/tanks in southwest portion of the allotment to allow utilization of the forage available in the area. Cooperative agreement would be drawn up between BLM and Pat Dempsey.
5. Wild Horse Spring - eradicate Tamarisk and develop spring.

D. Allotment Objectives

1. Short Term

a. Combine Livestock b and Wildlife b1 and Wild Horses d to read:

Upland utilization not to exceed 50% use on Bottlebrush Squirreltail, Indian Rice grass, Sandberg Bluegrass, and Winterfat by 2/28.

b. Requantify Wildlife b2 to read:

Riparian utilization on rush, sedge, and Buffaloberry not to exceed 50% use by 2/28 in New York Canyon, Hughes Canyon, and Kitten Springs.

2. Long Term

a. Livestock

1. Manage, maintain, and improve public rangeland condition to provide forage on a sustained yield basis with an initial stocking level of 3,964 AUMs.

Combine this objective with Wildlife a and Wild Horses a and requantify as a Desired Plant Community Objective (Section 3, page 18).

2. Improve range/ecological condition from poor to fair on 19,747 acres and from fair to good on 6,711 acres and from good to excellent on 557 acres.

Combine this objective with Wildlife a1 and Wild Horses c and requantify as a Desired Plant Community Objective (Section 3, page 18).

b. Wildlife

1. Manage, maintain, and improve public rangeland habitat condition to provide forage on a sustained yield basis, with an initial forage demand for big game of 45 AUMs for mule deer and 15 AUMs for bighorn sheep, by:

Combine this objective with Livestock a.

3. Add a sage grouse objective to read:

General Habitat requirements of Sage Grouse

a. The Western States Sage Grouse Committee 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 observed most frequently, and which resulted in the highest 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 success by sage grouse:

1) Strutting Habitat

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

2) Nesting Habitat

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

3) Brood Rearing Habitat

a) Sagebrush canopy cover of 10-21% (optimum = 14%).
b) High composition of forb species.
c) Vigorous-available menadow vegetation i late summer and fall.

4) Winter Habitat

a) Greater than 20% sagebrush canopy cover.
b) 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 nesting site.

c. Wild Horses

2. Remove wild horses from checkerboard land HA's unless a cooperative agreement providing for the retention and protection of wild horses is consummated with the affected land owner(s) (WH&B 1.3).

Continue this objective.

5 Maintain and improve the free-roaming behavior of wild horses by:

a. protecting their home range

b. assuring free access to water

Continue this objective.

Add an objective to read: Remove wild horses to AML in the N. Stillwaters HMA. Subsequent removals should be scheduled on a 3 year cycle.

3. Desired Plant Community Objectives

The following areas have been chosen to represent and be monitored as desired plant communities because they represent livestock, wild horse, and wildlife (including antelope) areas.

a. Kitten Springs - Mustang Spring Area (T26N, R36E, E½, Sec.34, & W½, Sec.35)

Maintain the ecological condition in the Loamy 4" - 8" (027XY013) between Kitten Springs and Mustang Spring in late seral condition. (A sample of late seral condition, 51-75% of PNC, for 027XY013 in this area is expressed by ESI site write up area (SWA) number C434, and consists of bluegrass - 15%, shadscale - 35%, bud sagebrush - 15%, gray molly kochia - 3%, and Nevada ephedra - 2%.)

b. Buena Vista Well Area (T26N, R36E, SW¼, Sec.30 and T26N, R36E, SW¼, Sec.33)

Maintain the ecological condition in the Loamy 4" - 8" (027XY013) in mid seral or better condition, and the Stony Slope 4" - 8" (027XY019) in late seral condition.(Mid seral condition, 26-50% of PNC, for 027XY013, as expressed in SWA number C433, consists of shadscale - 35%, bud sagebrush - 6%, Bailey greasewood - 2%, seepweed - 3%. Late seral condition for 027XY019, found at SWA number C429, consists of bluegrass - 3%, shadscale - 35%, bud sagebrush - 8%, Baileys greasewood - 23%, gray molly kochia - 3%, and seepweed - 3%.)

c. Wild Horse Spring Area (T25N, R32E, SE¼, Sec.12)

Maintain the late seral ecological condition in the Gravelly Loam 4" - 6" (027XY018) ecological site. (Late seral condition for 027XY018, as seen at SWA number C414, consists of bottlebrush squirreltail - 1%, shadscale 28%, bud sagebrush 12%, Bailey greasewood - 30%, seepweed - 1%, black greasewood - 3%.

E. Stillwater Range Habitat Management Plan Objectives

1. Monitor bighorn sheep habitat seasonally to determine actual habitat use.
2. Provide forage and cover annually to support mule deer on a yearlong basis.
3. Provide forage and cover annually to support bighorn sheep on a yearlong basis.

F. Monitoring

1. Riparian/Meadow and Upland Sites Monitoring

a. Riparian/Meadow
   1. New York Canyon
   2. Hughes Canyon
   3. Kitten Springs

b. Conduct lentic funtionality

c. Upland Sites

Utilization levels will be monitored at the following ESI transects. An ESI transect along with a 5' x 5' photo plot will be run every 10 years.

1. Kitten Springs - Mustang Spring - T26N, R36E, E½, Sec.34, & W½ Sec.35.
2. Buena Vista Well - T26N, R36E, SW¼, Sec.30 and T26N, R36E, SW¼, Sec33.
3. Wild horses Spring - T25N, R32E, SE¼, Sec.12.
4. Big Ben Canyon - Mouth of Canyon - T25N, R36E, SW½, Sec.6. This area will be monitored to determine if reduced grazing, as a result of a wild horse removal, will allow allotment objectives to be met.

2. Wild Horse Monitoring

Continue collecting wild horse census and seasonal distribution data, budget allowing, to determine population trends (reproductive rates, recruitment rates, etc.) and seasonal use areas. Wild horse monitoring should be conducted as follows:

a. Census every three years following the foaling season.

b. Aerial distribution mapping, budget allowing, every three years with flights conducted in January, April, July, and October; or flights conducted in winter and summer, as an alternative.

c. On the ground distribution mapping every three years. On the ground distribution mapping will supplement or possibly replace aerial distribution mapping, and provide more specific population information on band size and composition.

G. Re-evaluation

A re-evaluation of the South Rochester Allotment will be scheduled for the year 2010, based on four, projected three year gather cycles. At that time monitoring will be reviewed to determine if allotment and habitat management plan objectives are and have been met. In the interim if it becomes apparent that objectives are not being met, a re-evaluation will be scheduled then.

VII. CONSULTATIONS

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Salvador Olagary
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Safford & Safford
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Unionville Land & Cattle Co.
Scott Dockter, New Gold Inc.

The following individuals and groups participated in the working group process and/or provided comments on the draft which were incorporated into the document.

LIST OF ATTENDEES AT ANY/OR ALL OF THE PUBLIC MEETINGS SINCE APRIL 1995. LIST INCLUDES THOSE WHO HAVE COMMENTED ON THE EVALUATION.

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Martha Sims
Pat Dempsey - Unionville Land & Cattle Co.
Gary Takacs
Phyllis Takacs
Don Wagstaff - Coeur Rochester Mine
Cathy Barcomb - Comm. for the Preservation of Wild Horses
Roy Leach - Nevada Div. of Wildlife
Richard Heap - Nevada Div. of Wildlife
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Bud Cribley - Resource Area Mgr.
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Clarence Covert - Wildlife Biologist
Delores Cates - Geologist
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Leigh Redick - Range Management Spec.
Dave Murphy - Geologist
Dale Owen - Range Technician
Duane Wilson - Range Management Spec. Lead
Rodger Bryan - Wildlife Biologist Lead
Mike Zielinski - Soils Specialist
Lynnda Jackson - Facilitator
Peggy Redick - Recorder

VIII. Selected Management Actions

Incorporate the Technical Recommendations for the allotment objectives (pages 16 - 19).

APPENDIX I

Plant Key Species List

Grasses

Common Name	Scientific Name
Basin Wildrye	*Elymus cinereus*
Bottlebrush Squirreltail	*Sitanion hystrix*
Indian Rice Grass	*Oryzopsis hymenoides*
Sandberg Bluegrass	*Poa secunda*

Grass-like

Rush	*Juncus*
Sedge	*Carex*

Forbs

Shrubs

Bud Sagebrush	*Artemisia spinescens*
Winterfat (White or Silver Sage)	*Eurotia lanata*
Coyote Willow	*Salix exigua*
Wild Rose	*Rosa*
Buffaloberry	*Shepherdia*
Shadscale	*Atriplex confertifolia*

APPENDIX II

Wild Horse Actual Use Procedures

In an affidavit to the Interior Board of Land Appeals in 1992, the Nevada State Director for the BLM stated that Nevada has no written policy with regard to distinguishing between foals and adults in compilation of census data, establishing appropriate management levels or determining the number of animals to be removed. However, it is and has been BLM Nevada's practice to include foals for total counts and as part of the number of horses remaining after a removal. Foals are included in the determination of actual use and appropriate management levels for wild horses because they are consuming forage during the year counted (Summary Order IBLA 92-241, Oct. 15, 1992).

Actual use data for wild horses is derived from the total number of horses (adults and foals) inhabiting a Herd Management Area multiplied by 12 months (March 1 through February 28). The number of wild horses is based on the most recent helicopter census. For years in which an aerial census is not conducted a population estimate is calculated by multiplying the previous year's census or population estimate by 11% as outlined in the Draft Sonoma-Gerlach Grazing Environmental Impact Statement. The 11% rate of increase is based on an analysis of helicopter census data collected by experienced personnel in the Sonoma-Gerlach Resource area in 1974, 1977, and 1980, verified by data gathered during wild horse and burro removals.

Census population is obtained by utilizing a helicopter to conduct a direct count of all adults and foals found within the HMA. This method assumes complete coverage of the HMA and observation of all animals. However, Cauley (1974) found in his study and literature search that the closest an aerial survey ever came to the actual population size was 89%. Wagner reported that studies conducted in four horse management areas (Nevada - 2, Oregon and Wyoming) showed about 93% accuracy in areas of low vegetation and moderate terrain, while 60% of the animals in wooded and mountainous topography were missed (TRANSACTIONS of the Forty-eighth North American Wildlife and Natural Resources Conference). Actual use is calculated on the total censused population.

When conducting a census, an HMA is flown in a modified transect pattern utilizing topography and natural or man-made barriers to ensure complete coverage and that animals are not counted twice.

APPENDIX III

Climatological Data

The following table describes the amount of precipitation for the entire water year, the growing season, the winter season, and the percent of normal precipitation recorded at Antelope Valley, Fallon Experimental Station, Lovelock, Lovelock Airport, and Rye Patch Dam NOAA weather stations from 1987 through 1993, at Siard RAWS weather station from 1987 through 1992, and at Red Butte RAWS weather station from 1990 through 1992.

STATION	ELEVATION	ANN. NORM$_1$	GROW NORM$_2$	WINTER NORM$_3$
Antelope Valley	4901'	6.42	3.16	2.55
Fallon Exp. Stn.	3965'	5.06	2.47	1.90
Lovelock	3975'	5.52	2.44	2.24
Lovelock AP*	3900'	4.82	2.41	1.82
Red Butte RAWS**	5050'	4.27	2.60	1.17
Rye Patch Dam	4135'	7.69	3.95	2.77
Siard RAWS	4600'	5.85	3.60	1.77

1987	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	6.70l	104%	5.04e	159%	1.44c	56%
Fallon Exp. Stn.	4.18	83%	3.34	135%	0.72	38%
Lovelock	5.42	98%	4.64	190%	0.73	30%
Lovelock AP***						
Red Butte RAWS***						
Rye Patch Dam	9.22a	120%	6.64a	168%	2.58	93%
Siard RAWS	5.20	89%	4.40	122%	0.70	40%

1988	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	7.93r	124%	3.49	110%	4.27m	167%
Fallon Exp. Stn.	6.08a	120%	3.43	139%	1.75a	92%
Lovelock	7.17	130%	3.44	141%	2.49	111%
Lovelock AP	***		2.47	102%	***	
Red Butte RAWS***						
Rye Patch Dam	9.16j	119%	5.19	131%	2.66j	96%
Siard RAWS	7.40	126%	3.80	106%	3.00	170%

1989	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	3.18z	50%	0.48z	15%	1.29p	51%
Fallon Exp. Stn.	5.52	109%	2.57	104%	2.25	118%
Lovelock	5.00	91%	2.69	110%	1.59	71%
Lovelock AP	3.63	82%	1.60	60%	0.44	44%
Red Butte RAWS***						
Rye Patch Dam	5.45	71%	2.81	71%	2.61	94%
Siard RAWS	5.40	92%	2.40	67%	1.60	91%

1990	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	5.29g	82%	4.01c	127%	0.82d	32%
Fallon Exp. Stan.	5.32	105%	3.73	151%	0.94	49%
Lovelock	5.65	102%	4.13	169%	0.85	38%
Lovelock AP	4.69	106%	3.36	123%	1.18	119%
Red Butte RAWS	4.50	105%	3.20	123%	1.00	86%
Rye Patch Dam	7.39z	96%	5.77	146%	0.99z	36%
Siard RAWS	6.60	113%	4.80	133%	1.60	91%

1991	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	3.64z	57%	2.48k	78%	1.16b	46%
Fallon Exp. Stn.	3.42	68%	2.08	84%	1.06	56%
Lovelock	4.91	89%	2.92	120%	1.10	49%
Lovelock AP	5.16	117%	2.91	109%	1.32	133%
Red Butte RAWS	3.60	84%	2.60	100%	0.90	77%
Rye Patch Dam	8.59	112%	5.81	147%	2.06	74%
Siard RAWS	4.30	74%	2.40	67%	0.80	45%

1992	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	6.75p	105%	2.48	78%	2.50a	98%
Fallon Exp. Stn.	3.81	75%	2.34	95%	1.44	76%
Lovelock	3.04	55%	1.72	70%	1.18	53%
Lovelock AP	3.05	69%	1.65	62%	0.72	73%
Red Butte RAWS	4.70	110%	2.00	80%	1.60	137%
Rye Patch Dam	6.30	82%	3.59	91%	2.40	87%
Siard RAWS	6.20	106%	3.80	106%	1.70	96%

1993	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	7.14n	111%	2.94	93%	3.92n	154%
Fallon Exp. Stn.	6.12e	121%	3.13c	127%	2.27b	119%
Lovelock	5.92a	107%	3.10	127%	2.56a	114%
Lovelock AP	5.55	126%	3.49	130%	1.81	183%
Red Butte RAWS***						
Rye Patch Dam	9.11p	118%	4.05	103%	4.03	145%
Siard RAWS***						

1994	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley***						
Fallon Exp. Stn.	4.88c	96%	2.55c	103%	1.51	79%
Lovelock	3.66	66%	1.97	81%	0.80	36%
Lovelock AP	***		***		0.46	46%
Red Butte RAWS***						
Rye Patch Dam	5.66k	74%	2.99	76%	1.36k	49%
Siard RAWS***						

1995	Ann.	%/Norm	Grow	%/Norm	Win.	%/Norm
Antelope Valley	13.41d	209%	6.58b	208%	5.38b	211%
Fallon Exp. Stn.	9.39	186%	5.80	235%	3.50	184%
Lovelock	7.80b	141%	5.20	213%	4.26b	190%
Lovelock AP	8.69b	180%	4.74	197%	3.91	215%
Red Butte RAWS***						
Rye Patch Dam	12.37	161%	6.83	173%	5.00	180%
Siard RAWS***						

[1] Annual is October - September
[2] Growing Season is March - August
[3] Winter Snowfall is November - February
a = missing 1 days data
b = missing 2 days data
c = missing 3 days data, ...etc..
z = missing 26 days data or more
* AP = Airport
** 3 years data available only
*** No data available

APPENDIX IV

Ecological Site Inventory Summary

Seral Stage Summary

Early Seral Stage = 4,984.1 acres = 1.9% of the allotment
Mid Seral Stage = 54,339.5 acres = 21.3% of the allotment
Late Seral Stage = 131,342.7 acres = 51.4% of the allotment
PNC = 15,839.6 acres = 6.2% of the allotment
206,505.9 acres = 80.8%

Barren, Pinyon/
Juniper, Woodland = 49,025.2 acres = 19.2% of the allotment
255,531.1 acres = 100% of the allotment

000XY000 - Barren, Etc. = 39,069.2 acres

027XY009 - Sandy = 275.4 acres

027XY025 - Sodic Flat = 6,454.2 acres

027XY012 - Sodic Sands = 409.3 acres

027XY013 - Loamy = 60,789.0 acres

027XY018 - Gravelly Loam = 25,187.3 acres

027XY019 - Stony Slope = 21,802.6 acres

027XY027 - Barren Gravelly Slope = 10,949.4 acres

027XY070 - Droughty Claypan = 8,687.7 acres

027XY079 - Gravelly Claypan = 3,218.0 acres

027XY058 - Loamy = 347.0 acres

027XY022 - Valley Wash = 1,7048.8 acres

027XY029 - Gravelly Fan = 29.1 acres

027XY008 - Droughty Loam = 872.4 acres

027XY024 - Sodic Terrace = 48,510.0 acres

027XY016 - Sodic Dunes = 4,275.8 acres

024XY005 - Loamy = 1,842.2 acres

024XY002 - Loamy = 1,692.0 acres

027XY081 - Pimo-Juos = 5,600.2 acres

027XY082 - Pimo-Juos = 4,355.8 acres

027XY007 - Loamy Slope = 1,557.6 acres

027XY032 - Shallow Cal. Loam = 1,476.0 acres

024XY028 - South Slope = 137.0 acres

024XY030 - Shallow Cal. Loam = 2,481.6 acres

024XY003 - Sodic Terrace = 3,916.0 acres

APPENDIX V

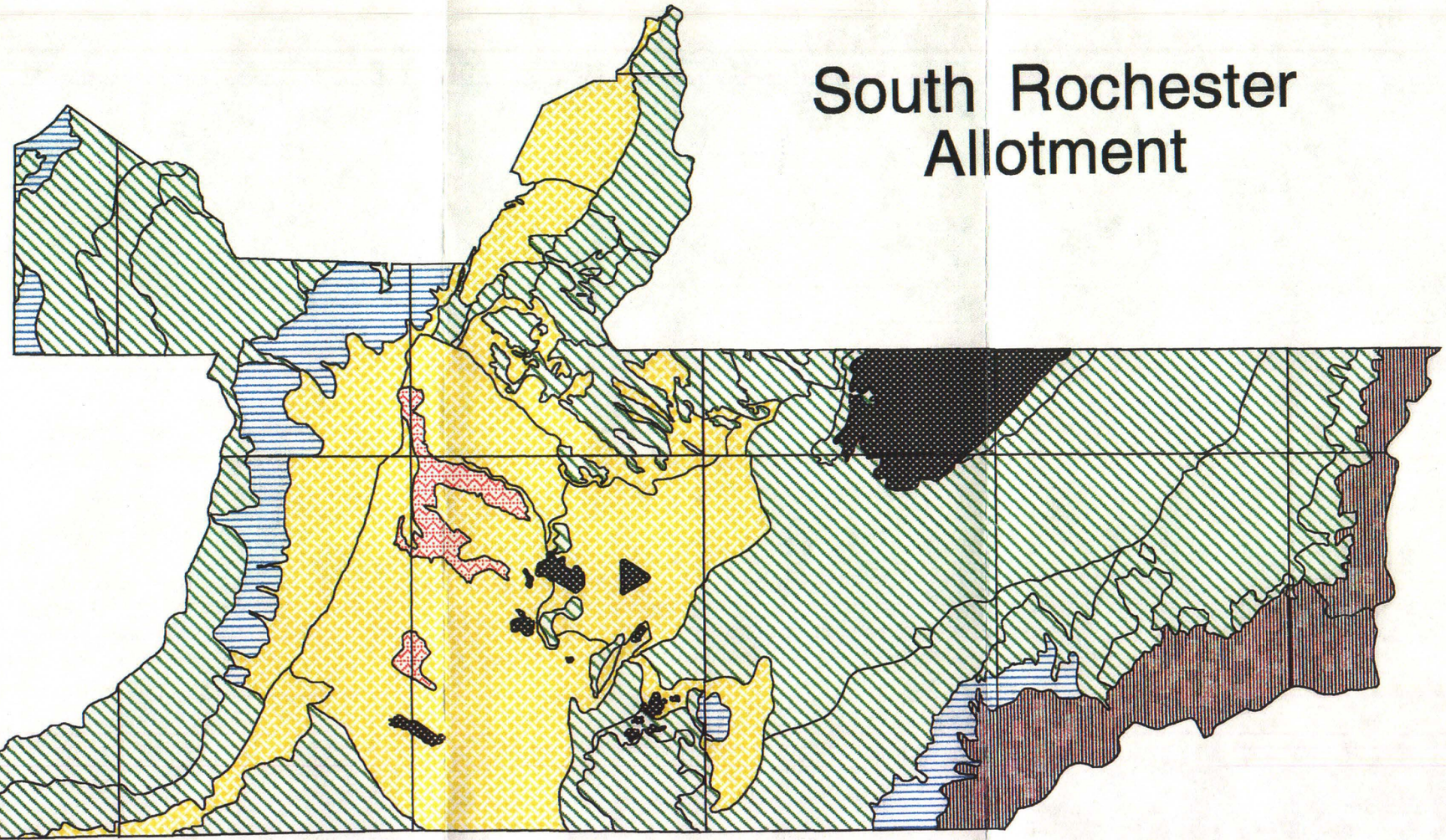
Species of Concern

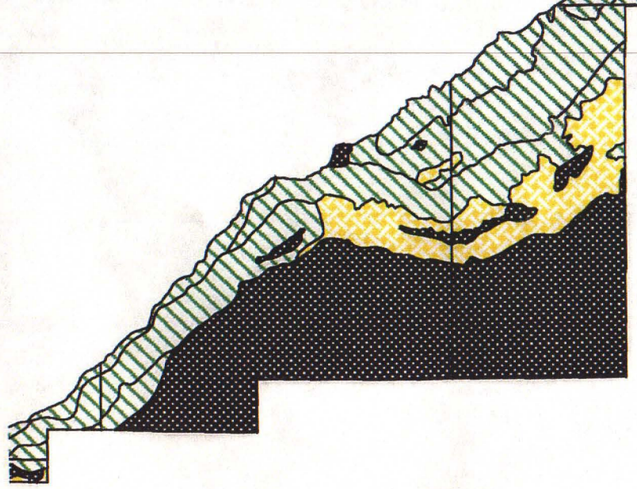
	Common Name	Scientific Name
Mammals	pygmy rabbit	*Brachysagus idahoensis*
	spotted bat	*Euderma maculatum*
	Small-footed myotis	*Myotis ciliolabrum*
	long-eared myotis	*Myotis evotis*
	fringed myotis	*Myotis thysanodes*
	long-legged myotis	*Myotis volans*
	pale Townsend's big-eared bat	*Plecotus townsendii pallescens*
	Pacific Townsend's big-eared bat	*Plecotus townsendii townsendii*
Birds	northern goshawk	*Accipiter gentilis*
	western burrowing owl	*Athene cunicularia hypugea*
	black tern	*Chilidonias niger*
	white-faced ibis	*Plegadis chihi*
	ferruginous hawk	*Buteo regalis*
	least bittern	*Ixobrychus exilis herperis*
Plants	windloving buckwheat	*Eriogonum anemophilum*
	Nevada oryctes	*Oryctes nevadensis*
	Eastwood's milkweed*	*Asclepias eastwoodiana*

The United States Fish & Wildlife Service provided the species list, per a BLM request, in August 1996. Species listed may be present in the allotment. To the best of their knowledge, there are no candidate, endangered, threatened, or proposed species within this allotment.

* BLM sensitive species

South Rochester Allotment





United States Department of the Interior
Bureau of Land Management
Winnemucca District Office
5100 E. Winnemucca Blvd.
Winnemucca, NV 89445

South Rochester Seral Stages

- BARREN
- EARLY
- MID
- LATE
- PNC
- WOOD

1:181936

1 0 1 2 3 4 Miles

N

Map Date: March 17, 1998
Created by: Nadine Francis

APPENDIX VI

Aerial Distribution Mapping

When collecting distribution data by fixed-wing aircraft the objective is to identify those areas that wild horses are utilizing at that point in time, not to obtain a count as accurate as a helicopter census. The entire HMA is flown in a transect pattern with the flight lines ranging from 1/2 mile to 2 miles apart depending on visibility and flight conditions. In steep mountainous country the straight line transects are modified to follow the topography of the area to ensure complete coverage. Aircraft altitude ranged from approximately 300 to 600 feet above ground level, depending on visibility and local flight conditions.

During the evaluation period data was collected from four different fixed-wing aircraft: Piper Super Cub, Maule MX-5, Shrike Aero Commander, and Cessna 210. In addition to the fixed-wing distribution data, each census provides distribution information on wild horses. When utilizing the Cessna 210, there were two observers on board, one individual recorded flight lines, animal locations, and the number of animals (adults and foals) seen at each location, while the other individual did the counting. In areas of high concentrations a total count of all bands was recorded on the map rather than each individual band.

When conducting a flight using the Maule MX-5 there were two observers on board and the pilot. Distribution data collected by the Maule was stored in an on-board computer system. As horses were seen, the observers called out the number of adults and foals to the pilot who entered the data into the on-board computer system. The computer recorded the number of horses seen, their location by latitude and longitude using a global positioning system, and any remarks the observer wanted to record for a specific sighting. One the flight was completed, the results were printed and transferred by hand to an HMA map. This system does not record the general flight path as is dome when recording manually in the Cessna. Again, in areas of high concentrations a total count of all bands is recorded in the computer systems.

The following tables show the results of each flight and the type of aircraft used to map wild horse distributions. Census and distribution maps showing the animals locations can be found in the North Stillwater HMA and study files and the Humboldt/West Humboldt HA file in the Winnemucca District Office.

North Stillwater HMA

Date	Number Observed	Aircraft Type
9/74	13	Piper Super Cub
6/77	25	Piper Super Cub
3/79	28	Bell 47G3B-1
5/80	42	Bell 47G3B-1
9/86	105	Bell 47G3B-1
9/88	85	Bell 47G3B-2
8/91	73	Bell 47G4
2/92	37	Cessna 210
5/92	156	Maule MX-5
7/92	110	Maule MX-5
8/95	141	Cessna 210T

DEFINITION: Elevations range from 4,200 to 7,000 feet and are differentiated into 3 categories: low, middle, and upper elevations. Low elevations range between 4,000 and 5,000 feet, mid elevations between 5,000 and 6,000 feet, and upper elevations between 6,000 and 7,000 feet.

September 1974

All the horses were found at upper elevations in the south part of the HMA.

June 1977

The horses were all located in the southern part of the HMA with 10 found at upper elevations and the rest at mid elevations.

March 1979

Horses were observed mid to lower elevations. Concentrations were seen around Red Hill and around Logan Springs. All were in the south part of the HMA.

May 1980

All horses were found in the south part of the allotment at mid elevations; most were around Logan Springs with a few observed near Fencemaker Pass.

September 1986

Most of the horses were distributed over the entire HMA on the west side of the North Stillwater Range. About 35 horses were observed at upper elevations, a few at middle elevations, and about the same number as at upper elevations were located at lower elevations.

September 1988

Of the 85 or so horses seen on South Rochester's part of the HMA about 25 were at mid to upper elevations and the rest were scattered between 4,300 and 5,000 feet.

August 1991

Eleven were observed at mid elevations, and the rest were found between 4,400 and 5,000 feet in the southern end of the HMA.

February 1992

A total of 37 horses were all observed at middle elevations with the largest concentration of 20 in the Hughes Canyon area. Only 4 were seen in the north end of the HMA about 2 miles from Grayson Spring.

May 1992

Main concentrations of horses were observed at the mouth and up into Logan Canyon between 4,500 and 5,800 feet, and on the valley floor.

July 1992

All the horses were at lower elevations. The greatest concentration was between the mouths of Hughes and Cornish Canyons trailing out into the desert.

August 1995

All the horses were observed at lower elevations and on the flats, with the exception of 3 adults on Table Mountain. All, except for 6 adults and 3 foals, were in the southern half of the HMA.

Humboldt HMA

Date	No. Observed in Allotment	Aircraft Type
9/74	20	Piper Super Cub
4&6/77	124	Piper Super Cub
8/80	254	Bell B-1
10/82	82	Bell Jet Ranger
6/85	64	Bell 47B-1
8/91	10	Bell 47G4-Soloy
1/92	16	Cessna 210
7/92	12	Bell 47G4A
6/93	7	Bell 47G4A-Soloy

September 1974

Horses were observed at lower to mid elevations along allotment boundary lines. About 17 additional horses were located at similar elevations just outside the boundary lines.

April and June 1977

A few horses were seen at lower to mid elevations at the southern end of the Humboldt Range. Most of the others were seen in concentrations on Packard Flat or in the mid to upper elevations north and west of Muttlebury Spring with a few

August 1980

Concentrations of horses occurred in Packard Flat and up the southwestern slopes of the Humboldt Range to mid elevations, as well as at mid elevations north and west of Muttlebury Spring on both sides of the allotment boundary line. There were small concentrations scattered along the east side of the West Humboldt Range within the allotment at lower to mid elevations.

October 1982

Most of the horses were found at mid and upper elevations in concentrations along the west and south end of the Humboldt Range within the allotment and north and west of Muttlebury Spring within the allotment. Mostly smaller concentrations were found scattered down the eastern side of the West Humboldt's.

June 1985

Horses were concentrated mostly at mid and upper elevations north and west of Muttlebury Spring with some around the spring itself.

August 1989

No horses were found inside the allotment boundaries during this census.

August 1991

Two small, separate bands were observed at upper elevations in the south end of the Humboldt Range.

January 1992

Sixteen horses in three separate bands were seen in the allotment on the Humboldt Range. They were all at mid elevations.

July 1992

Three small bands were found on the lower end of the Humboldts at mid elevations.

June 1993

One band of seven were seen at upper elevations and on the allotment boundary in the Humboldt Range.

APPENDIX VII

Ground - Horse Observations & Distribution Mapping

Date	Number Observed	Observer
3/88	38	Lloyd Munson
3/90	54	Kathy McKinstry
7/90	42	Kathy McKinstry
1/91	6	P.Wiltse, D.Owen
5/91	108	Kathy McKinstry
2/92	237	Dale Owen
4/92	80	Leigh Redick
11/94	31	N.Jackson, L.Redick
6/95	109	Nadine Jackson
11/96	46	Nadine Jackson

March 1988

All horses were observed between Logan Canyon and Big Ben Canyon. Fifteen were observed at elevations between 5300 and 6000 feet with the rest down to 4700 feet.

March 1990

Twenty-one horses were observed about 1 mile east of Buena Vista windmill while the other 33 were situated between Kitten Springs road and Big Ben Canyon out to the flats at about 4700 feet; 25 of these were around Logan Canyon.

July 1990

Six horses observed around the mouth of Logan Canyon, while 31 were about 2 1/2 miles northeast of Chocolate Butte.

January 1991

Six horses were found adjacent to Fencemaker Pass road at the lower end of Fencemaker Canyon - elevation about 4500 feet. Conditions were snowy and roads were generally impassable, preventing further observation.

May 1991

Six horses seen near Grayson Spring, two in the Sou Hills, 2 at Kyle Spring, while the rest were observed between the mouths of Logan Canyon and Big Ben Canyon. Most were at about 5000 feet with 19 on the fans between the canyons.

February 1992

Thirty-two horses were adjacent to Fencemaker Pass road about a mile from Mustang Spring. The rest (205 horses) were observed between Kitten Springs road and the mouth of New York Canyon. All were between 4150 and 4900 feet.

April 1992

Four horses were observed about 2 miles from the Grayson Spring area, while 76 were near Kitten Springs. The route of travel did not go south of Kitten Springs. Elevations varied between 4500 and 5000 feet.

November 1994

Six horses were observed about 2 miles southwest of Grayson Spring and 25 were located between Kitten Springs road and just north of Fencemaker Pass road.

June 1995

All horses were grazing between the mouths of Logan Canyon and Big Ben Canyon. Distance of observation prevented observation of foals.

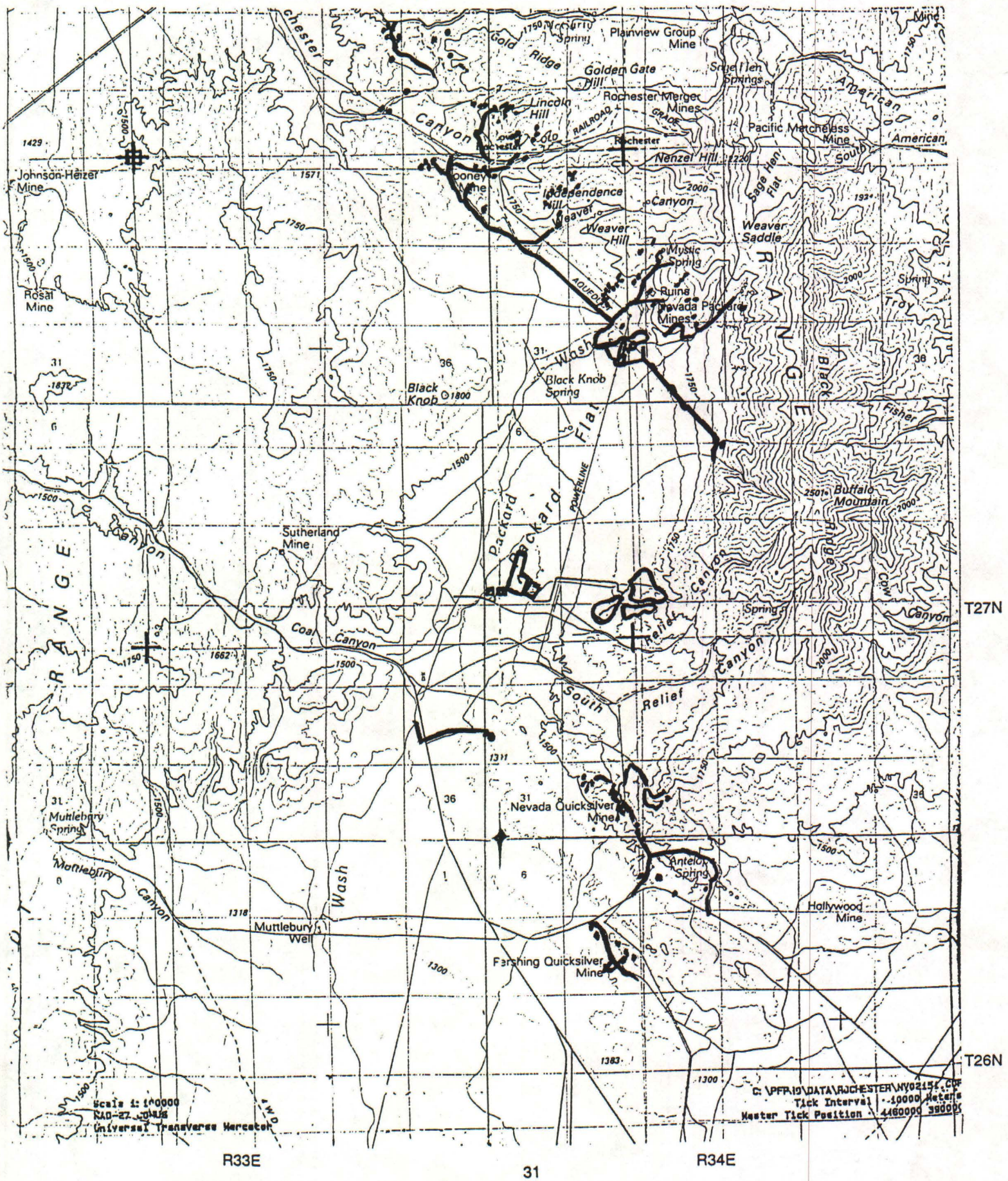
November 1996

Two horses were observed near Red Hill, 36 between Red Hill and Kitten Springs, and 8 between Kitten and Mustang Springs.

APPENDIX VIII

Abandoned Mines Survey Map

Area	Adits	Shafts	Prospects	Tails	Pits	Trenches	Dumps	Leach
Rochester	127	79	199	6	6	50	143	9



APPENDIX IX

SOUTH ROCHESTER ALLOTMENT CARRYING CAPACITY CALCULATIONS

Calculations for Outside HMA

Total 1991 Use - Monitored 4/30/92

A. Weighted Average Utilization

$$\frac{(2662 \times .5) + (3562 \times .7)}{6224} = \frac{3824}{6224} = .61$$

B. Actual Use

1. livestock = 2633 AUMs
   - a. Sims - 171 cows - 9/21/91 to 2/29/92 (162 days) = 911 AUMs
   - b. Unionville - 141 cows - 9/21/91 to 1/31/92 (133 days) = 614 AUMs
   - c. Pleasant Valley - no cows = 0 AUMs
   - d. S&S L&L - 124 cows - 4/15/91 to 10/14/91 (183 days) = 748 AUMs
   - e. S&S - 27 cows - 4/1/91 to 11/30/91 (244 days) = 217 AUMs
   - f. Olagaray - 700 sheep - 4/1/91 to 5/1/91 (31 days) = 143 AUMs

   2633 AUMs

2. wild horses = 159 AUMs
   - a. Humboldt HA wild horses
     - 10 horses - 3/1/91 to 8/19/91 (172 days) based on 8/19/91 census = 57 AUMs
     - 16 horses - 8/20/91 to 2/29/92 (194 days) based on 1/10/92 distribution flight = 102 AUMs

     = 159 AUMs

C. Stocking Calculations

$$\frac{2633 \text{ AUMs} + 159 \text{ AUMs}}{.61} = \frac{x}{.50} = 2289 \text{ AUMs}$$

Fall 1992 Use - Monitored 11/25/92

A. Weighted Average Utilization

$$\frac{(790 \times .5) + (4609 \times .7)}{5399} = \frac{3621}{5399} = .67$$

B. Actual Use

1. livestock = 1652 AUMs
   - a. Sims - 131 cows - 9/21/92 to 11/25/92 (66 days) = 284 AUMs
   - b. Unionville - 141 cows - 9/21/92 to 11/25/92 (66 days) = 306 AUMs
   - c. Pleasant Valley = 0 AUMs
   - d. S&S L&L - 124 cows - 4/15/92 to 10/14/92 (183 days) = 746 AUMs
   - e. S&S - 27 cows - 5/15/92 to 11/25/92 (195 days) = 173 AUMs
   - f. Olagaray - 700 sheep - 4/1/96 to 5/1/96 (31 days) = 143 AUMs

   1652 AUMs

2. wild horses = 124 AUMs

   Humboldt HA wild horses
   - 14 horses - 3/1/92 to 11/25/92 (270 days) based on average of January distribution flight and July census = 124 AUMs

C. Stocking Calculations

$$\frac{1652 \text{ AUMs} + 124 \text{ AUMs}}{.67} = \frac{x}{.50} = 1325 \text{ AUMs}$$

Total 1995 Use Monitored 3-5/96

A. Weighted Average Utilization

$$\frac{(22{,}083 \times .1) + (2{,}125 \times .3) + (25 \times .9)}{24{,}233} = \frac{2868}{24{,}233} = .12$$

B. Actual Use

1. livestock = 2578 AUMs
   a. Sims - 177 cows - 9/21/95 to 2/29/96 (162 days) = 943 AUMs
   b. Unionville - 141 cows - 9/21/95 to 1/31/96 (133 days) = 614 AUMs
   c. Pleasant Valley - 00 cows
   d. S&S L&L - 124 cows - 4/15/95 to 10/14/95 (183 days) = 748 AUMs
   e. S&S - 27 cows - 4/1/95 to 10/29/95 (182 days) = 162 AUMs
   f. Olagaray - 700 sheep - 4/1/95 to 4/24/95 (24 days) = 111 AUMs

   2578 AUMs

2. wild horses = 108 AUMs
   Humboldt HA
   9 horses - 3/1/95 to 2/29/96 (366 days) = 108 AUMs
   based on 11% annual increase from 6 horses observed after 1993 removal

C. Stocking Calculations
Based on:

$$\frac{2578 \text{ AUMs} + 108 \text{ AUMs}}{.12} = \frac{x}{.50} = 11{,}192 \text{ AUMs}$$

Average Carrying Capacity Calculation

$$\text{Combined Use} = \frac{\text{('91)} \quad \text{('92)} \quad \text{('95)}}{2289 \text{ AUMs} + 1325 \text{ AUMs} + 11{,}192 \text{ AUMs}}{3} = 4935 \text{ AUMs}$$

We used all five use classes when calculating the total use for 1995 because acreage covered by moderate, heavy, and severe use constituted only 3.8% of the total acreage observed.

Calculations for Inside HMA

Total 1991 Use - Monitored 4/30/92

A. Weighted Average Utilization

$$\frac{(1349 \times .5) + (2237 \times .7) + (1053 \times .9)}{4639} = \frac{3188}{4639} = .69$$

B. Actual Use (excluding Olagaray, S&S L&L, and S&S)

1. livestock = 2347 AUMs
   - a. Sims - 171 cows - 3/1/91 to 9/20/91 (204 days) = 1147 AUMs
   - b. Unionville - 141 cows - 4/1/91 to 9/20/91 (173 days) = 802 AUMs
   - c. Pleas. V. - 44 cows - 4/1/91 to 12/31/91 (275 days) = 398 AUMs

   2347 AUMs

2. wild horses = 1030 AUMs

   North Stillwater HMA

   73 horses - 3/1/91 to 8/20/91 (172 days) = 415 AUMs
   based on 8/20/91 census

   97 horses from 8/21/91 to 2/29/92 (193 days)
   based on average of February and May 1992 distribution flights = 615 AUMs

   1030 AUMs

C. Stocking Calculations

$$\frac{2347 \text{ AUMs} + 1030 \text{ AUMs}}{.69} = \frac{x}{.50} = 2447 \text{ AUMs}$$

Fall 1992 Use - Monitored 11/25/92

A. Weighted Average Utilization

$$\frac{(17{,}617 \times .5) + (775 \times .7) + (20 \times .9)}{18{,}412} = \frac{9369}{18{,}412} = .51$$

B. Actual Use (excluding Olagaray, S&S L&L, and S&S)

1. livestock = 2187 AUMs
   - a. Sims - 171 cows - 3/1/92 to 6/30/92 (122 days) = 686 AUMs
     131 cows - 7/1/92 to 9/20/92 (82 days) = 353 AUMs
   - b. Unionville - 141 cows - 4/1/92 to 9/20/92 (173 days) = 802 AUMs
   - c. Pleas. V. - 44 cows - 4/1/92 to 11/25/92 (239 days) = 346 AUMs

   2187 AUMs

2. wild horses = 888 AUMs

   North Stillwater HMA wild horses

   100 horses - 3/1/92 to 11/25/92 (270 days) = 888 AUMs
   based on average of all 1992 distribution flights

C. Stocking Calculations

$$\frac{2187 \text{ AUMs} + 888 \text{ AUMs}}{.51} = \frac{x}{.50} = 3015 \text{ AUMs}$$

Total 1995 Use - Monitored 3-5/96

A. Weighted Average Utilization

$$\frac{(21605 \times .1) + (8599 \times .3) + (3{,}762 \times .5) + (321 \times .7)}{34287} = \frac{6846}{34287} = .20$$

B. Actual Use (excluding Olagaray, S&S L&L, and S&S)

1. livestock = 2387 AUMs
   - a. Sims - 177 cows - 3/1/95 to 9/20/95 (204 days) = 1187 AUMs
   - b. Unionville-141 cows - 4/1/95 to 9/20/95 (173 days) = 802 AUMs
   - c. Pleas. V. - 44 cows - 4/1/95 to 12/31/95 (275 days) = 398 AUMs

   2387 AUMs

2. wild horses = 1889 AUMs
North Stillwater HMA
157 horses - 3/1/95 to 2/29/96 (366 days) = 1889 AUMs
based on 11% annual increase from
August 1995 distribution flight

C. Stocking Calculations

$$\frac{2387 \text{ AUMs} + 1889 \text{ AUMs}}{.20} = \frac{x}{.50} = 10690 \text{ AUMs}$$

Average Carrying Capacity Calculation

$$\text{Combined Use} = \frac{\text{('91)} \quad 2447 \text{ AUMs} + \text{(92')} \quad 3015 \text{ AUMs} + \text{('95)} \quad 10690 \text{ AUMs}}{3} = 5384 \text{ AUMs}$$

We used all five use classes when calculating the total use for 1995 because acreage covered by moderate, heavy, and severe use constituted only 3.8% of the total acreage observed.

CARRYING CAPACITY CALCULATION - RESULTS

I. Inside HMA permittees include Sims, Unionville, and Pleasant Valley. Calculations include those permittees grazing inside the HMA and are based on the approximate number of days (seasons of use) their cows grazed there, according to Pat Dempsey and Richard Carter (permittees).

AVERAGE CARRYING CAPACITY = 5384 AUMs

II. Outside HMA permittees include Sims, Unionville, Olagaray S&S L&L, and S&S. Calculations include those permittees grazing outside the HMA and are based upon the approximate number of days (seasons of use) their livestock grazed there.

AVERAGE CARRYING CAPACITY = 4935 AUMs

Calculation Procedures

Total Preference = 3964 AUMs. The HMA constitutes 28% of the Allotment.

3964 x .28 = 1110 Livestock AUMs inside the HMA

1110 + 432 Horse AUMs (36 horses = initial stocking level from LUP) = 1542 AUMs inside the HMA

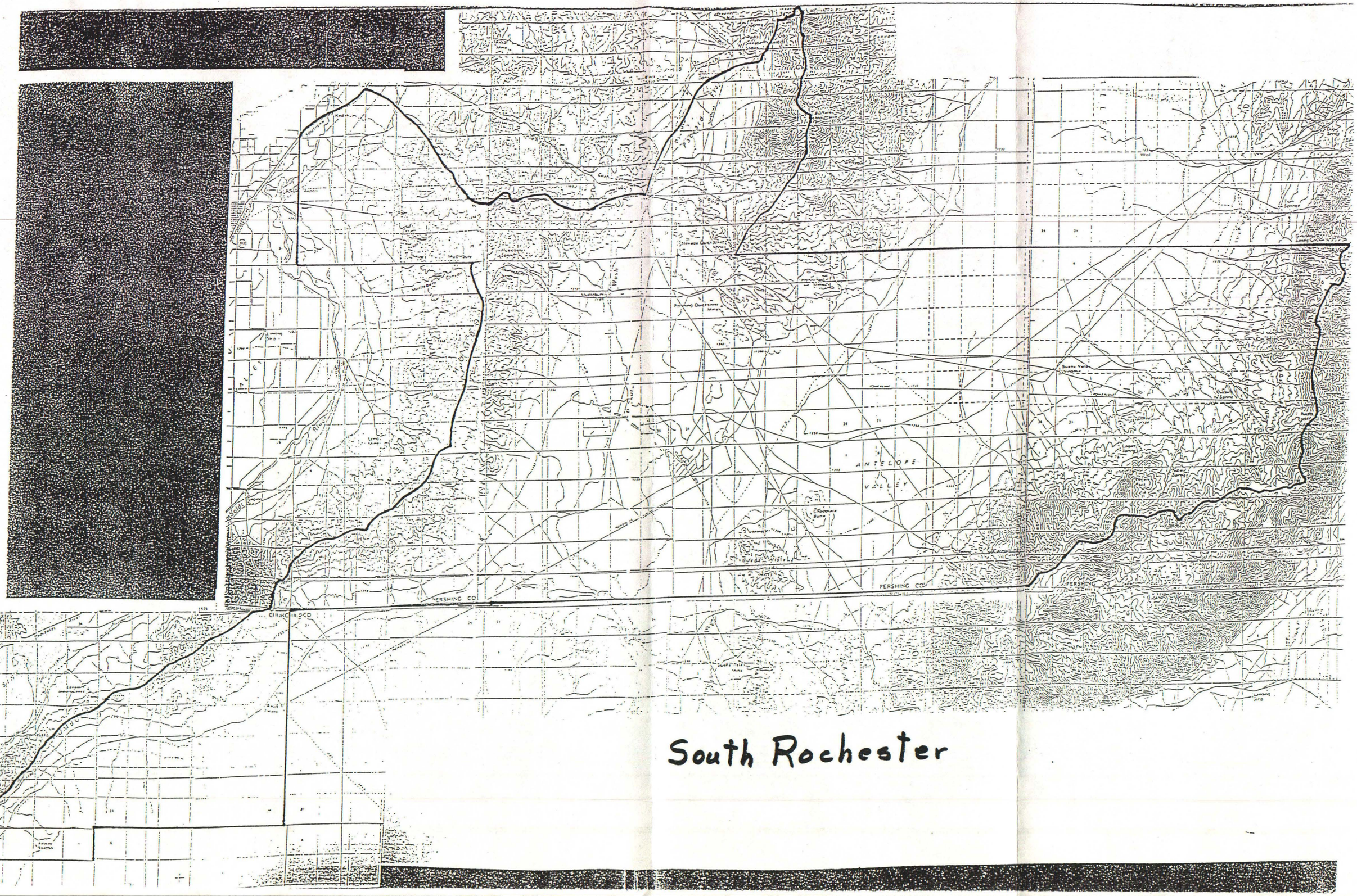
$$\frac{\text{432 Horse AUMs}}{\text{1542 Total AUMs}} = .28$$ (28% of total AUMs go to horses)

5384 Average Carrying Capacity AUMs inside HMA (cattle and horses)
x.28
1508 Horse AUMs

$$\frac{1508}{12 \text{ months}} = 126 \text{ Horses} = \text{Horse Appropriate Management Level}$$

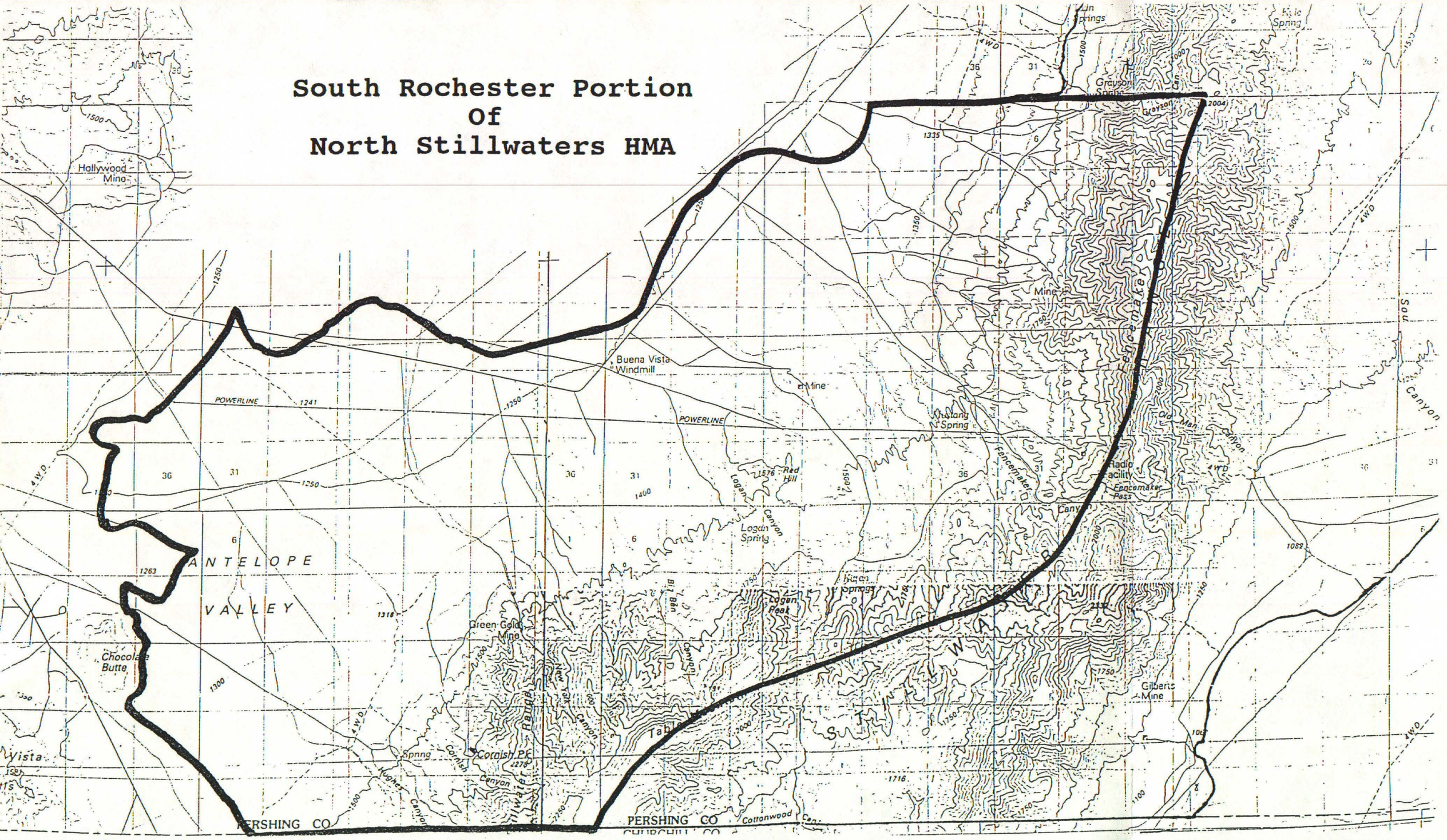
III. Combined Inside/Outside AUMs = 10319 AUMs minus 1508 horse AUMs = 8811

Livestock AUMs = 8811



South Rochester

South Rochester Portion
Of
North Stillwaters HMA



July 24, 1998

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

Subject: Soldier Meadow Activity Plan

Dear Mr. Christensen;

The Commission for the Preservation of Wild Horses has reviewed the Proposed Multiple Use Decision and Allotment Evaluation for the South Rochester Allotment. This allotment may have significant portions of private land and does not have a cooperative agreement with private interests to sustain the wild horses herd. We would appreciate additional information concerning this matter.

Appendix IX discloses the use of weight averaging use pattern mapping data to determine the appropriate management level. During drought years, the use pattern mapping data suggested that one third of the land monitored suffered over use by livestock and wild horses. As the Commission has stated before, the practice of weight averaging "moderate use" with heavy and severe can dilute the resource impact of overuse.

According to the Sonoma-Gerlach Draft Grazing Environmental Impact Statement, the animal unit month equivalent for wild horses is one adult wild horse. The land use plan glossary established this definition.

Appendix IX did not disclose the allocation of available forage to wild horses. We

recommend a proportional allocation be done based upon the percentages of offending animal.

We encourage the District to determine the biological parameters of the herd management area considering the private holdings. If cooperative agreements have not been completed in 17 years of land use plan implementation, it may be time to make adjustments based upon the Bureau ability to manage the herd.

If you have any questions, please feel free to contact me.

Sincerely,

CATHERINE BARCOMB
Administrator