m 12/7/93

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

IN REPLY REFER TO:
4160.1
(NV-0241.5)

December 7, 1993

CERTIFIED MAIL NO. P111849791
RETURN RECEIPT REQUESTED

Ms. Cathy Barcomb
Commission for the Preservation
of Wild Horses and Burros
50 Freeport Blvd. #2
Sparks, NV 89431

Dear Ms. Barcomb:

Please find enclosed the Alder Creek Final Allotment Evaluation Summary and the Proposed Multiple Use Decision.

If you have any questions, please contact Richard Barry of my staff at (702) 623-1500.

Sincerely yours,

Scott Bellinger

Area Manager
Paradise-Denio Resource Area

Enclosures

Alder Creek Final Allotment Evaluation Summary
Alder Creek Multiple Use Decision

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

IN REPLY REFER TO:
4160
(NV-0241.5)

December 7, 1993

CERTIFIED MAIL NO. P111849800
RETURN RECEIPT REQUESTED

Mr. Manual Elias
Alder Creek Ranch
Denio, NV 89404

PROPOSED MULTIPLE USE DECISION
ALDER CREEK ALLOTMENT

Dear Mr. Elias:

The Record of Decision for the Paradise-Denio Environmental Impact Statement and the Paradise-Denio Management Framework Plan (Land Use Plan) were issued on July 09, 1982. These documents established the multiple use goals and objectives which guide management of public lands in the Alder Creek 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 Alder Creek allotment and to determine if management adjustments may be necessary to meet the management objectives.

On August 05, 1988, a draft allotment evaluation was sent to the previous owner for his review and comment. On July 24, 1993, a second draft evaluation of this allotment was sent to you for your review and comment.

During the preparation of the final allotment evaluation, you purchased the Alder Creek Ranch and the base properties associated with the Alder Creek grazing allotment. The transfer of the grazing preference for the Alder Creek allotment is now being completed.

The following are multiple use objectives under which livestock grazing management on the Alder Creek Allotment will be monitored and evaluated.

Short Term Objectives:

Utilization of key plant species (STTH, AGSP, FEID, ORHY, POA, ELCI, SIHY, ATCO, EULA) in upland habitats is 50%. Utilization data will be collected at the end of the grazing period.

Utilization of key streambank riparian plant species (CAREX, JUNCUS, POA) is 30% on Big, N. Fork Big, Alder, Little Alder, Wood Canyon, and Alta Creeks. Utilization data will be collected at the end of the grazing period.

Utilization of key upland wet meadow plant species (CAREX, JUNCUS, POA) is 50%. Utilization data will be collected at the mid-point during the late summer treatment and the end of the grazing period(s).

Utilization of current years growth on woody riparian species (SALIX, ASPEN) is 30%. Utilization data will be collected at the end of the grazing period.

Utilization of key upland browse species (MAHOGANY, CEANOTHUS, SNOWBERRY, BITTERBRUSH, SERVICEBERRY) is 50%. Utilization data will be collected at the end of the grazing period.

Utilization of crested wheatgrass in the seeded pastures is 50%. Utilization data will be gathered at the end of the grazing period.

Rationale

Utilization objectives of 30% on woody riparian plant species such as aspens and willows will promote successful recruitment of suckers and saplings within stream-side riparian and upland riparian meadows habitats.

Utilization objectives of 30% on stream-side riparian habitats and 50% on key upland wet meadow habitat plant species will ensure adequate stubble height and species diversity on spring pastures for sage grouse cover, and to minimize headcutting and erosion; on summer pastures to maximize plant vigor and encourage regrowth; and on fall and winter pastures to minimize the threat of spring runoff events leading to headcutting and erosion in meadows.

Utilization of 50% on annual leader growth of snowberry, bitterbrush and serviceberry will ensure successful reproduction and recruitment within the stand and to maximize annual leader production. Fifty percent utilization on mahogany and ceanothus will ensure adequate reproduction and recruitment of young plants in the stand.

Long Term Objectives:

Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with a forage demand of 1,328 AUMs for mule deer, 247 AUMs for pronghorn, and 207 AUMs for bighorn sheep by:

1. Improve to and maintain 27,925 acres in McGee Mtn. DW-8, 25,000 acres in Pine Forest DW-7, and 25,841 acres in Pine Forest DS-5 in good or excellent mule deer habitat condition

2. Improve to and maintain 56,609 acres in Denio PY-1, 12,866 acres in McGee Mtn. PW-1, 11,540 acres in Alta Creek PW-2, and 4,176 acres in Big Creek PY-4, 14,203 acres in Alta Creek PS-1 and 260 acres in Leonard Creek PS-3 in fair or good pronghorn habitat condition.

3. Improve to and maintain 56,975 acres in Pine Forest BY-7 and BY-8 in good or excellent bighorn sheep habitat condition.

Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with a stocking level of 11,784 AUMs.

Improve range condition from poor to fair on 9,651 acres and from fair to good on 1,776 acres.

Improve or maintain upland riparian and meadow habitat to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian species.

Improve or maintain aspen stands to ensure good reproduction and maximize recruitment within the stand.

Improve or maintain mahogany stands to ensure good reproduction and maximize recruitment within the stand.

Improve or maintain Ceanothus with good age class distribution.

Improve or maintain snowberry, bitterbrush and serviceberry with good reproduction and maximize recruitment within the stand.

Maximize condition and quantity of pine, pine/mahogany, and pine/aspen associations.

Provide forage for 41 burros (492 AUMs).

Improve 37.6 miles of riparian/stream habitat (see below) to a condition of good (60%, from baseline data) within the short term period (five year period) and to good or excellent condition (60% of habitat optimum or more) within the long-term (20 year period):

1. BIG CREEK (includes North Fork)

   In the short-term (over a 5 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek by 10% (or to a rating of good).

   In the long-term (over a 20 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek to a rating of good or excellent.

2. ALDER CREEK

   In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek by 5 to 10% (or to a rating of good).

   In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek to a rating of good or excellent.

3. LITTLE ALDER CREEK

   In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek to a rating of good or excellent.

4. WOOD CANYON CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek to a rating of good or excellent.

5. ALTA CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek to a rating of good or excellent.

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

Improve to and maintain the state water quality criteria for Alder, Big, Alta and Wood Canyon Creeks.

Analysis and evaluation of monitoring data indicates that short and long term objectives are not being met on the Alder Creek allotment under current management. Monitoring data shows that by shortening the season of use in the in the spring and summer pastures and reducing livestock numbers, a significant recovery period to complete yearly vegetative growth cycles will be provided. Analysis of wildlife monitoring data does not indicate a need for a change in existing management of wildlife.

LIVESTOCK DECISION

Based upon the evaluation of monitoring data for the Alder Creek Allotment, consultation with the permittee and other affected interests, and recommendations from my staff, and the final Alder Creek Allotment evaluation dated October, 1993, it is my proposed decision for livestock grazing management to change the management and transfer the following grazing privileges:

CHANGES IN LIVESTOCK USE

From: (Description of existing use)

1. Grazing Preference

a.	Total Preference	12,445
b.	Suspended Preference	661
c.*	Active Preference	11,784

* Revised as per Craig Moore Land Sale Completion October, 1989.

2. Season of Use: 04/01 to 09/15; 11/01 to 02/28

3. Kind and Class of Livestock: Cattle (Cow/Calf)

4. Percent Federal Range - 97%

5. Grazing System

The following system are approximates to what the permittee ran from 1987 to present. The use periods, livestock numbers, and AUMs fluctuated yearly and could not accurately be reflected in this document. This is due in part to factors such as the phenological stages of the plants, weather conditions, and the range readiness of the summer pastures. However, the permittee stayed within the grazing system as documented above during this time period and took considerable nonuse. From 1987 to 1991, actual use records indicated AUMs varied from 6,177 AUMs to 5,192 AUMs.

Bog Hot/Gridley Lake

Treatment "A"	11/01 to 02/28
Treatment "B"	04/15 to 06/15

Pasture Schedule

Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

East Side

Treatment "A"	04/15 to 05/15
Treatment "B"	05/16 to 06/15
Treatment "C"	04/15 to 06/15
Treatment "D"	Rest

Pasture Schedule

Year	South Rattlesnake	Highway	Big Creek Winter
1	A	B	C
2	D	D	D
3	B	A	C
4	D	D	D

Year	North Rattlesnake	Maintenance	Lower Ashdown
1	D	D	D
2	A	B	C
3	D	D	D
4	B	A	C

Big Creek Seeding

Treatment "E" 05/01 to 06/15

Year	Treatment
1	E
2	D

Summer Pastures

Treatment "A" 06/16 - 07/31
Treatment "B" 08/01 - 09/15
Treatment "C" Rest

Pasture Schedule

Year	Big Creek	Stone Cabin	Upper Ashdown
1	A	B	C
2	C	A	B
3	B	C	A

Terms and Conditions:

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

To: (Description of Changes)

Livestock management on the Alder Creek allotment will be as follows:

a. Grazing Preference Status (AUMs)

1.	Total Preference	12,445
2.	Suspended Preference	6,532
3.	A. Active Preference	5,113
	B. Not Scheduled	800

b. Season of Use: 04/01 to 08/15; 10/01 to 02/28

c. Kind and Class of Livestock: Cattle (Cow/Calf)

d. Percent Federal Range - 97%

e. Grazing System

Livestock Reduction:

During the preparation of the final allotment evaluation, the Alder Creek Ranch and the base properties associated with the Alder Creek grazing allotment were sold. The transfer of grazing preference from the previous landowner to the new landowner is now being completed.

Through the transfer process, the grazing permit may be modified to meet Land Use Plan and allotment specific objectives for the Alder Creek allotment. To meet these objectives, the following actions shall be implemented through the multiple-use decision and transfer process:

1. Years 1 (1994) and 3 (1996) of the reduction schedule as outlined in the technical recommendation section will not be implemented.

2. Year five (1998) of the reduction schedule, along with terms and conditions, will be implemented in 1994.

3. The active preference will be reduced from 11,784 to 5,113 AUMs. An additional 800 AUMs shall be held in non-use (Not Scheduled).

From:	Total Preference	Suspended Preference	Active Preference
	12,445	661	11,784

To:	Total Preference	Suspended Preference	Active Preference	Not Scheduled
	12,445	6,532	5,113	800

Bog Hot	318 C	10/01 to 02/28	1,531
Fenced Federal Land		04/01 to 02/28	104
Gridley Lake	356 C	04/01 to 05/31	693
Big Cr. Wtr/L. Ashdown/ South Rattle. Seeding	232 C	04/01 to 05/31	451
Seedings	212 C	04/01 to 05/31	414
Summer	800 C	06/01 to 07/08	960
	800 C	07/09 to 08/15	960
		Total	5,113

Rationale:

The stocking rates selected were based on monitoring and actual use data and determined using the desired stocking rate formula as specified by BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7.

Not Scheduled AUM's:

The 800 AUM's held as Not Scheduled (non-use) are for McGee Mountain and fall use in the Upper Ashdown pasture (700 AUMs - McGee Mountain, 100 AUMs - Upper Ashdown pasture). These AUM's may be activated by application from the permittee as follows:

McGee Mountain:

Water availability is the limiting factor for use on McGee Mountain. Use will be based on available water with the stipulation that a specific area will not be utilized more than two consecutive years. When water is available in existing reservoirs, up to 700 AUMs are available for livestock use. These AUMs will be held in nonuse when water is not available. This area will be available for late spring - early summer use.

Upper Ashdown Pasture:

Livestock use during the fall may be considered in the Upper Ashdown pasture in lower elevational areas adjacent to and south of the Alder Creek ranch. Use will be considered when the Upper Ashdown Field is scheduled for early use in the recommended summer pastures three - pasture rotation system and if utilization levels along the Alder Creek riparian habitat are below 20% and associated upland and wet meadow habitats are below 40% during the growing season. The Bureau will conduct monitoring studies prior to authorization. No fall use will occur when the Upper Ashdown pasture is scheduled for rest or for use during the late summer grazing period. The following indicates livestock numbers, the use period and AUMs:

105 C - 10/1 to 10/31 - 100 AUMs

Rationale:

Monitoring data indicates approximately 700 AUMs are available for livestock use in McGee Mountain when water is available. When water is not available in existing waters (i.e. reservoirs, catchments, etc.), these AUMs will be held in non-use.

Monitoring data indicates the lower elevational areas of the Upper Ashdown pasture south of the Alder Creek Ranch traditionally receives slight use during the early summer use period. This area is traditionally used for trailing from the ranch to the upper elevational areas of the summer pastures. These AUMs will be held in nonuse when the Upper Ashdown pasture is scheduled for rest, the late summer treatment, or use levels are above 20% and 40%, as identified above.

Grazing Treatments:

Bog Hot/Gridley Lake

Treatment "A"	318 C	10/01 to 02/28	1531 AUMs
Treatment "B"	356 C	04/01 to 05/31	693 AUMs

Pasture Schedule:

Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

Spring Grazing:

Highway/Maintenance/North Rattlesnake/Big Creek Seeding

Treatment "C"	211 C	04/01 to 04/30	205 AUMs
Treatment "D"	211 C	05/01 to 05/31	209 AUMs
Treatment "E"	Rest		

Pasture Schedule:

Year	Highway	Maintenance	North Rattlesnake	Big Creek Seeding
1	C	D	E	E
2	E	C	D	E
3	E	E	C	D
4	D	E	E	C

Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding

Treatment "F"	232 C	04/01 to 04/30	222 AUMs
Treatment "G"	232 C	05/01 to 05/31	228 AUMs
Treatment "H"	REST		

Pasture Schedule:

Year	Big Creek Winter	Lower Ashdown	South Rattlesnake
1	F	G	H
2	H	F	G
3	G	H	F

Summer

Big Creek/Stone Cabin/Upper Ashdown

Treatment "I" 800 C 06/01 to 07/08 960 AUMs
Treatment "J" 800 C 07/09 to 08/15 960 AUMs
Treatment "K" Rest

Pasture Schedule:

Year	Stone Cabin	Upper Ashdown	Big Creek
1	I	J	K
2	K	I	J
3	J	K	I

Rationale:

Maintain spring/winter grazing in the Bog Hot/Gridley Lake use area. Use pattern maps and actual use data indicates that current livestock management practices are meeting upland utilization objectives in the Bog Hot/Gridley Lake use area. Monitoring data indicates that current stocking levels for both spring and winter use in the Bog Hot/Gridley Lake use area are meeting upland objectives.

Spring use for the native pastures and seedings will be as per the following grazing systems: The Highway/ Maintenance/North Rattlesnake/ Big Creek seedings will be utilized under a rest rotation system with two pasture being rested each year. The Big Creek Winter/South Rattlesnake Seeding/Lower Ashdown pastures will be used in a three pasture rest-rotation system with one pasture being rested each year. Season of use for both systems would be from 04/01 to 05/31.

The recommended grazing system implements a rest rotation prescription for the Highway/North Rattlesnake/ Maintenance/Big Creek Seedings. This will provide for a significant recovery and regrowth period to complete yearly growth cycles. The season of use has been reduced 15 to 30 days. A three pasture rest rotation system will be implemented in the Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding pastures. The system provides an early removal date and lower stocking levels which will provide for a recovery period to complete yearly vegetative growth cycles. The stocking rates selected were based on monitoring data and actual use data which indicates a lower desired stocking rate and a shorter period of use will result in the achievement of short and long term management objectives.

Maintain the three pasture - rest rotation system in the summer pastures. The season of use and AUMs will be reduced to protect riparian/meadow resources. Analysis of monitoring data collected from 1983 to 1992 indicates that utilization of forage in riparian areas and meadows in the summer pastures are consistently above acceptable use levels due to livestock management practices and poor distribution patterns during the late season. Data indicates that short term utilization objectives are being met during the early summer grazing period. By reducing livestock stocking rates and the grazing period by 30 days, a period of regrowth will be provided for riparian and meadow habitats with short-term riparian utilization objectives being met.

Late Summer Use:

The following actions will be employed to manage livestock use within the pasture scheduled for the late summer use period (Treatment J):

The short-term utilization objective for upland wet meadow habitats is 50%. When 50% utilization is reached on upland wet meadows during the late summer treatment, livestock will be removed from the pasture. To determine removal dates from the pasture scheduled for late summer use, mid-point utilization studies will be conducted by BLM specialists. Additional studies may be required after the mid-point inspection if utilization levels is approaching 45% in these habitats. When utilization levels reach 45% in wet meadow habitats, the livestock operator will be given a seven (7) day notice in which to remove livestock from the pasture.

Livestock will not be authorized in the pasture scheduled for the late summer treatment after 08/15 if utilization levels do not reach 50% in wet meadow habitats.

Rationale:

Monitoring data indicates the majority of unacceptable use levels in riparian/meadow habitats located in summer pastures occurs during the late summer use period. Removal of livestock when 50% utilization are reached in upland wet meadow habitats will allow for short term utilization objectives to be met during the late summer use period. These actions, along with reducing the season of use and livestock numbers will allow for regrowth of both woody and herbaceous species at the end of the grazing period.

Terms and Conditions

The livestock operator will be given a seven (7) day notice in which to remove livestock from the pasture scheduled for the late summer use period when utilization levels reach 45% in upland wet meadow habitats. Livestock will not be authorized in the pasture scheduled for the late summer treatment after 08/15.

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

The grazing authorization with the schedule of use outlined in the Multiple Use Decision will be the only approved use and all other schedules, flexibilities and terms and conditions addressed in the 1971 Allotment Management Plan are suspended until the plan is revised.

A re-evaluation will be conducted prior to the 1998 grazing season.

Structural Projects:

Determine the feasibility of gap fencing portions of the natural barrier between the Stone Cabin and Big Creek pastures.

As per MFP III decision R2.12, fence the Blue Lakes area.

Construction of the above mentioned projects will be dependent on funding, manpower and project priorities.

The preferred alternative identified construction of riparian pasture fences on the Big Creek drainage and several upland meadow habitats. Monitoring data indicates that short term utilization objectives for stream side riparian vegetation and upland meadow habitats are being met during the early summer use period and not met during the late summer use period. The Grazing System section identified removal of livestock when 50% utilization levels are reached in upland meadow habitats during the late summer use period. Based upon the recommended changes of livestock management for the summer pastures, short term utilization objectives for riparian and meadow habitats will be met without the proposed riparian pasture fences. Therefore, the proposals for fencing these habitats will not be carried forth as technical recommendations in the multiple use decision. However, the Bureau may re-initiate the Big Creek Riparian Pasture proposal during the upcoming evaluation period (1993 to 1998) should monitoring data indicate it is required to meet short term objectives for the area.

Rationale:

The construction of gap fences on the natural barrier between the Stone Cabin and Big Creek pastures will reduce instances of livestock drift between the two pastures. This area is already partially fenced.

The Blue Lakes area is a high profile - high recreational use area. In order to reduce conflicts between livestock and outdoor recreationists in the lake area, MFP III Decision R2.12 recommended closing Blue Lakes to livestock grazing by fencing.

FUTURE MONITORING AND GRAZING ADJUSTMENTS

The Paradise-Denio Resource Area will continue to monitor the Indian Creek Allotment. This monitoring data will continue to be collected in the future to provide the necessary information for subsequent evaluations. These evaluations are necessary to determine if the allotment specific objectives are being met

under the new grazing management strategy. In addition, these subsequent evaluations will determine if adjustments are required to meet the established allotment specific objectives.

AUTHORITY

The authority for this decision is contained in Title 43 of the Code of Federal Regulations, which state in pertinent parts:

§ 4100.08 "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 "The authorized officer shall periodically review the grazing preference specified in a grazing permit or grazing lease and may make changes in the grazing preference status. These changes shall be supported by monitoring, as evidence by rangeland studies conducted over time, unless the change is either specified in an applicable land use plan or necessary to manage, maintain or improve rangeland productivity."

§ 4110.2-3(a)(3) "The transferee shall accept the terms and conditions of the terminating grazing permit or lease (see § 4130.2) with such modifications as he may request which are approved by the authorized officer or with such modifications as may be required by the authorized officer."

§ 4110.3-2(b) "When monitoring shows active use is causing an unacceptable level or pattern of utilization or exceeds the livestock carrying capacity as determined through monitoring, the authorized officer shall reduce active use if necessary to maintain or improve rangeland productivity, unless the authorized officer determines a change in management practices would achieve the management objectives."

§ 4130.6 "Livestock grazing permits and leases shall contain terms and conditions necessary to achieve the management objectives for the public lands and other lands under Bureau of Land Management administration."

§ 4130.6-1(a) "The authorized officer shall specify the kind and number of livestock, the periods(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 as determined through monitoring and adjusted as necessary under 4110.3, 4110.3-1 and 4110.3-2."

§ 4130.6-2 "The authorized officer may specify in grazing permits and 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..."

§ 4130.6-3 "Following careful and considered consultation, cooperation and coordination with the lessees, permittees, and other affected interests, the authorized officer may modify terms and conditions of the permit or lease if monitoring data show that present grazing use is not meeting the land use plan or management objectives."

If you wish to protest this decision for livestock management in accordance with 43 CFR 4160.2, you are allowed fifteen (15) days from receipt of this notice within which to file such protest with the Paradise-Denio Resource Area Manager, Bureau of Land Management, Winnemucca District, 705 E. 4th Street, Winnemucca, NV 89445. Subsequent to the fifteen day protest period, a final decision will be issued which will provide opportunity for appeal in accordance with 43 CFR 4160.4 and 43 CFR 4.470.

WILD BURROS MANAGEMENT DECISION

Based upon the final evaluation of monitoring data for the Alder Creek allotment, the permittee and other affected interests and recommendations from my staff, it is my proposed decision for wild burros to:

Adjust the HMA boundary during the Resource Management Plan (RMP) Process to include Bog Hot and Gridley Lake pastures within the Alder Creek Allotment. Delete those portions of the HMA within the Wilder-Quinn and Knott Creek allotments. Set the initial AML at 41 burros as per the Paradise-Denio Resource Area Multiple-use Framework Plan.

Rationale:

The McGee Mountain area has not been a year long area for burros to reside in due to lack of water and the topography of the area. The west side of McGee Mountain is unfenced which allows the burros to use the Sheldon Refuge, the Bog Hot/Gridley Lake area and springs in the lower elevations of McGee Mountain. Census data and personal observations gathered since the 1970's indicates that the majority of burros are in the Sheldon Refuge and Bog Hot/Gridley Lake area with very little burros use occurs in the McGee Mountain HMA. A 1989 census indicated there were 37 burros in the Bog Hot/Gridley Lake area and a 1980 aerial census indicated 41 burros, most of which were out of the HMA. Current census data and general observations indicates 20 to 30 head in the Bog Hot/Gridley Lake use areas.

Studies such as burro herd movement have not been conducted inside and outside of the HMA. However, use pattern mapping in the Bog Hot/Gridley Lake use areas indicates current livestock stocking levels and burros numbers are not having detrimental impacts on upland habitats.

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 in pertinent parts:

§ 4700.0-6(a) "Wild horses and burros shall be managed a 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 necesarry to attain the objective identified in approved land use plans and herd management plans."

§ 4720.1 "Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exist, the authorized officer shall remove excess animals immediately..."

§ 4770.3(c) "The authorized officer may place in full force and effect decisions to remove wild horses and burros from public or private lands if removal is required by applicable law or to preserve or maintain a thriving ecological balance an multiple use relationship. Full force and effect decisions shall take effect on the date specified, regardless of an appeal. Appeals and petitions for stay of decisions shall be filed with the Interior Board of Land Appeal as specified in this part."

If you wish to protest for wild horse management, in accordance with 43 CFR you are allowed fifteen (15) days from receipt of this notice within which to file such protest with the Paradise-Denio Area Manager, Bureau of Land Management, Winnemucca District, 705 East Fourth Street, Winnemucca, NV 89445. Subsequent to the fifteen day protest period, a final decision will be issued which will provide opportunity for appeal in accordance with 43 CFR 4160.4 and 43 CFR 4.470.

Sincerely yours,

Scott Billing

Area Manager
Paradise-Denio Resource Area

Certified copies:

Nevada Farm Bureau Federation P111849777
Winnemucca Unit, NCA P111849778
Natural Resources Defense Council P111849779
Sierra Club-Toiyabe Chapter P111849780
Craig C. Downer P111849781
The Wilderness Society P111849782
Desert Bighorn Council P111849783
NDOW -Fallon P111849784
John Marvel P111849785
Nevada Cattleman's Assoc. P111849786
USFWS P111849787
Sagebrush Chapter, Trout Unlimited P111849788
Wild Horse Organ. Assist. P111849789
Animal Protection Institute of America P111849790
Commission for the Preservation
of Wild Horses and Burros P111849791
International Society for the Protection
of Mustangs and Burros P111849792
American Horse Protection Assn. P111849793
U.S. Humane Society P111849794
Claudia J. Richards P111849795
NDOW - Winnemucca P111849796
Humboldt County Commissioners P111849797
Mr. Bruce Greenhalgh P111849798
Stephen A. Moen P111849799
Sheldon-Hart Mountain Refuge P111849801
Nevada Outdoor Recreation Assoc. P111849802
National Field Rep, NORA P111849803
S.I. Newhouse Center for Law & Justice P111846925
MetLife P374306734
Bob Silva P219922498
Jack Bowers P219921313
Art Richards P219922499
Julian W. Marcuerquiaga P219921497

Alder Creek Final
Allotment Evaluation Summary

I. INTRODUCTION

A. Alder Creek Allotment (00051)
B. Permittee - Julian Marcuerquiaga
C. Evaluation Period - October 14, 1983 to present
D. Selective Management Category I

II. INITIAL STOCKING LEVEL

A. Livestock

1. Grazing Preference

a.	Total Preference	12,445
b.	Suspended Preference	661
c.*	Active Preference	11,784

* Revised as per Craig Moore Land Sale Completion October, 1989.

2. Season of Use 04/15 to 09/15; 11/01 to 12/31
3. Kind and Class of Livestock Cattle (Cow/Calf)
4. Percent Federal Range - 97%
5. Grazing System

The following system has been utilized from 1983 to present consisted of four individual grazing systems. Following is a brief description of each.

1) Alder Creek - Spring

In this system, there are two pastures/use areas--Gridley and Lower Ashdown--that have been grazed each year from approximately April 20 to May 31. On or about June 1 these cattle are moved onto summer ranges in common with cattle from other use areas on the east side of the Pine Forest Range.

The system was modified in 1988 to incorporate complete rest for the Lower Ashdown pasture.

2) Big Creek Seeding Complex

This system consists of four crested wheatgrass seedings. Two pastures were grazed and two rested each year. The period of use was 05/01 to 05/31. However, due to poor conditions in the seeding and fluctuation in annual production, scheduled use was determined by forage availability. The grazing period varied from 04/15 to 06/30. Portions of the South Rattlesnake and Highway seedings burned in 1985 and were closed to grazing until the spring of 1989.

3) Summer Grazing Season

The summer grazing system is a three pasture rest-rotation system which began in 1983. The pastures involved are Upper Ashdown, Stone Cabin and Big Creek.

The grazing treatments are:

A - 6/1 - 7/31
B - 8/1 - 10/31
C - REST

From 1979 to 1983 the grazing system for the summer pastures was a two pasture deferred system for Big Creek and Stone Cabin pastures, resting one if possible and deferred use each year for the Upper Ashdown pasture.

4) Big Creek Winter

This simply involved repeated winter use in the Big Creek Winter Pasture. This option has been exercised in only one (1984) of the last 10 years.

5) Substantial nonuse has been taken each year since 1984, primarily due to change in ownership and fire closures.

Since 1989, the grazing system consisted of specific use areas and rest-rotation systems in the seedings and summer pastures. The west side of the Alder Creek allotment is used primarily in the spring/winter. The east side is used in the spring only.

Spring Use

1) West Side

a) The use areas include Gridley Lake and Bog Hot. Bog Hot is used early each year. However, the system is applied realizing that a division fence does not separate these two areas and that livestock may drift and utilize both areas. Altering the area turned into and the control of water sources incorporates rest into the system. The McGee Mountain area will be utilized when water is available. Use occurs approximately 04/01 to 05/31 - 06/15 with approximately 685 cows.

b) Lower Ashdown is utilized in conjunction with seedings on the east side. See East side description for details.

2) East Side

The east side of the Alder Creek allotment is utilized in the spring only. Use occurs approximately 05/01 to 06/15 with 250 cows in the seedings and 150 in the native pastures. This area consists of the following seedings and use areas.

Pasture Arrangement

a) South Rattlesnake Seeding, Highway Seeding and Big Creek winter.

b) North Rattlesnake Seeding, Maintenance Seeding and Lower Ashdown.(Lower Ashdown utilized in conjunction with seedings)

Treatments

The following treatments are utilized.

Treatment A	05/01 to 05/31
Treatment B	06/01 to 06/30
Treatment C	05/01 to 06/30
Treatment D	Rest

Pasture Schedule

Pastures

Year	South Rattlesnake	Highway	Big Creek Winter
1	A	B	C
2	D	D	D
3	B	A	C
4	D	D	D

Pastures

Year	North Rattlesnake	Maintenance	Lower Ashdown
1	D	D	D
2	A	B	C
3	D	D	D
4	B	A	C

Summer

The summer use consists of a three pasture rest-rotation system. Use occurs approximately 07/01 to 09/15, with the following treatments:

Treatment A	07/01 to 08/07
Treatment B	08/08 to 09/15
Treatment C	Rest

Pastures

Big Creek
Stone Cabin
Upper Ashdown

Pasture Schedule

Pastures

Year	Big Creek	Stone Cabin	Upper Ashdown
1	A	B	C
2	C	A	B
3	B	C	A

Winter

The area utilized is Gridley Lake, winter use occurs from 11/01 to 12/31.

B. Wild Horse and Burro

1. Land Use Plan Level - 41 burros

2. Herd Management Area - McGee Mountain

3. AUM's for Burro's - 492 AUMs

C. Wildlife Use

1. Wildlife Species

a. Reasonable Numbers

1)	Mule deer	1,328 AUMs
2)	Pronghorn	245 AUMs
3)	Bighorn Sheep	207 AUMs
4)	Elk	253 AUMs

b. Wildlife Use Areas:

McGee Mtn. DW-8	21,810 acres
McGee Mtn. DW-8 (concentration area)	6,115 acres
Pine Forest DW-7	15,342 acres
Pine Forest DW-7 (concentration area)	9,658 acres
Pine Forest DS-5	18,258 acres
Pine Forest DS-5 (concentration area)	7,583 acres
Denio PY-1	56,609 acres
McGee Mtn. PW-1	12,866 acres
Alta Creek PW-2	11,540 acres
Alta Creek PS-1	14,203 acres
Leonard Creek PS-3	206 acres
Big Creek PY-4	4,176 acres
Pine Forest BY-6 and BY-8	56,975 acres
McGee Mtn. BY-10	35,548 acres

Sage grouse - While only one strutting ground is identified on the allotment for sage grouse, there are eight brooding areas identified.

Several species of waterfowl use the wetland areas associated with Continental, Gridley, Blue Lakes, as well as Onion Reservoir as nesting and broad rearing areas. Several upland game species including chuckar and California quail also occur in varying abundance throughout the allotment.

D. Riparian/Fisheries (1)

There are five major streams which are located within the Alder Creek Allotment: Big Creek (including the North Fork), Alder Creek, Little Alder Creek, Wood Canyon Creek, and Alta Creek. (2)

1. Big Creek: Big Creek and it's major tributaries flow through 19.7 miles of BLM land and 4.1 miles of private land. The mainstem stream has an average stream gradient of 5.6% and ranges from 3.0 to 13.5%. The North Fork tributary has a mean stream gradient of 7.1%. Approximately 7.0 miles of the mainstem and 3.0 miles of the North Fork are considered fishable.

2. Alder Creek: Approximately 6.6 miles of Alder Creek flow through BLM lands within the Alder Creek Allotment.

3. Little Alder Creek: Approximately 3.7 miles of Little Alder Creek flow through BLM lands within the Alder Creek Allotment.

4. Wood Canyon Creek: Approximately 3.4 miles of Wood Canyon Creek flow through BLM lands within the Alder Creek Allotment.

5. Alta Creek: Approximately 4.2 miles of Alta Creek flow through BLM lands within the Alder Creek Allotment.

6. Other riparian areas include Cherry Gulch, Road Canyon, Short Creek, Willow Creek, Boyd Creek and Granite Creek.

7. Blue Lakes: The glacial moraine-dammed Blue Lake Complex, formed after a large depression, is a spring-fed lake characterized by unusual clarity and scenic beauty.

   Blue Lakes supports a fishery and has the highest water quality of all the main water bodies in this area. It is rated Class A for quality. The fishery of the lake includes cutthroat and brook trout with stocking occurring every one to three years. The fishery is considered to be very important since there is no other location in northwestern Nevada that the recreationist can enjoy the same angling experience. From 1988 - 1992, the water level of the lakes was very low due to an extended drought. Aquatic vegetation that had lain under water was exposed and died. In 1989, 1990 and 1991, these lakes were stocked with hybrid sterile trout (tiger and cutbow). Blue Lakes is the only high altitude, cold water fishing lake located within the Alder Creek Allotment.

   Objective 5, Action 4 of the Pine Forest Recreation Area Management Plan (BLM, Winnemucca District) proposes to fence off Blue Lakes from cattle. The construction of a fence in the Blue Lakes Wilderness Study Area (WSA) or designated wilderness will have to conform to all management guidelines for such operations within WSA's

or designated wilderness. Because it is possible to tie in a fence to barriers impassible to livestock, Blue Lakes will not be completely surrounded by fences.

(1) Current fish population data not available.

(2) Key/Crucial management areas: Big Creek, North Fork Big Creek, Alder Creek, Little Alder Creek, Wood Canyon Creek, and Alta Creek.

E. Wetland/meadow habitats are particularly abundant in the upper elevations of the Alder Creek allotment and provide excellent summer habitat for many species of small and large mammals and birds. These upland habitat areas are as follows: Boyd Basin, Theodore Basin, Florence Basin, Stone Cabin Basin, head waters of Granite Creek, and the Onion and Blue Lake meadow complexes.

F. Threatened and Endangered Species

There are currently no threatened and endangered fish species located within the Alder Creek Allotment. Big Creek has been identified by the Winnemucca District of the BLM as "Proposed" Lahontan cutthroat trout (LCT) habitat. The U.S. Fish and Wildlife Service has identified Big Creek as a "Potential" LCT Recovery Stream in the "Draft" LCT Recovery Plan.

III. ALLOTMENT PROFILE

A. Description

The Alder Creek Allotment lies approximately 13 air miles south of Denio, Nevada. The allotment is bordered by State Route 140 on the east and the Sheldon Antelope Range on the west and encompasses the northern half of the Pine Forest Range. The lower elevations are dominated by shadscale and greasewood vegetation types and as elevation increases the vegetation changes to sagebrush, mountain browse, aspen, mountain mahogany and conifer vegetation types.

The portion of the allotment in the Pine Forest Range consists of east to west and west to east oriented drainages with steep, precipitous canyon side slopes. The drainages originate from high mountain wet meadows in Theodore Basin, Boyd Basin, and Florence Basin.

Other significant features in the allotment: Blue Lakes Recreation Area, Blue Lakes WSA, and the Winnemucca District's only population of white bark and limber pine. Portions of the Pine Forest Loop is contained within the Alder Creek allotment. The loop has been officially a Wildlife Viewing Area in the Nevada Viewing Guide (to be published in July 1993).

B. Acreage

1. Allotment Totals

a.	Total acres	117,087
b.	Public acres	110,933
c.	Private acres	6,154
	Total	234,174

2. Pastures

The allotment consists of the following pastures and use areas: Bog Hot/Gridley Lake (Winter), Big Creek Winter (Spring), Lower Ashdown (Spring), North/South Rattlesnake (Spring), Highway and Maintenance Seedings (Spring), Big Creek Seeding (Spring) Stone Cabin, Big Creek and Upper Ashdown (Summer).

C. Allotment Specific Objectives

1. AMP

a. Distribute water so unusable forage can be utilized.

b. Curtail erosion on the entire allotment and reverse the downward trend on 9,890 acres that are in the severe classification.

c. Improve the condition and reproductive capabilities of the perennial grass type (seedings) to near their optimum production.

d. Improve the species composition of perennial grass types outside the seedings allowing more desirable, palatable, and succulent grasses to thrive and reproduce.

e. Increase the present grass and forb composition on the greasewood type from forb 2% to 13%, grass 6% to 20%.

f. Increase % grass and forb composition on the low sagebrush type to 20% grass and 14% forb.

g. Bring the micro-climate back to a moist cool condition around the fringes of aspen clones, thus allowing them to regain their habitat back to their original areas.

h. Strive in the future to do the necessary on-the-ground investigation, thus locating all projects, i.e., fences and land treatments to help assist in resource management.

i. Provide adequate forage on the range, primarily the western portion, so the high elevation plants have a life cycle chance and the range user can hold his cattle in the lower country longer without losing condition.

j. Provide water and fencing in the Stevens seeding, thus assuring properly distributed utilization on these projects.

k. Control gully erosion along live streams (see problem (1) below).

l. Provide adequate protection for browse species so they can reproduce and increase to their original size and quantity.

m. Provide livestock manipulation through a range management plan that will accomplish the multiple use objectives of watershed, recreation, the proposed primitive area, wildlife habitat plan, as well as environmental and aesthetic criteria.

n. Settle the Charles Sheldon grazing question. See problem (2) below.

o. Provide flexible turnout dates that correspond to range condition.

p. Provide enough additional forage on this allotment, thus allowing the return to active status the AUMs which now are held in suspended non-use.

Problem (1)

Livestock use along some streams coupled by heavy run-off and floods have caused streams to become eroded. Gullies are evident in the Big Creek Burn Reseeding, above Knott Creek Reservoir at Cove Camp and at the head of the North Fork of Big Creek. Other areas exist, but these are considered to be the most severe. These gullies, especially when occurring in wet meadows, cause the water table to drop, thus changing the overall composition of the meadows. Continual grazing of these areas has resulted in little, if any, recovery.

Problem (2)

A problem exists along the boundaries of the Charles Sheldon Antelope Refuge. The topographic features between the Alder Creek Allotment and the Refuge do not separate grazing areas. Natural barriers leave some AUMs between the Refuge and Allotment boundaries that cannot be utilized by the current licensed users. At present these AUMs are not allotted to Nevada Alder Creek, but to Montero and Bidard, however, the latter cannot utilize the forage.

Note: These objectives were established for the grazing system prior to division of the area into the Alder Creek and Knott Creek Allotments.

2. Land Use Plan

a. Objective RM-1

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

b. Objective WL-1

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

c. Objective WLA-1

Improve and maintain the condition of all the aquatic habitat of each stream, lake, or reservoir having the potential to support a sport fishery at a level conducive to the establishment and maintenance of a healthy fish community. Maintenance of the existing situation shall be the objective for three years unless habitat improvement programs are developed sooner. After three years, programs will have been developed to remedy those problems causing the present state of low quality aquatic habitat.

d. Objective W-1

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

e. Objective W-2

Provision of adequate water to support public land uses.

f. Objective W-3

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

g. Objective WH/B-1

Maintain wild horses and burros on public lands, where there was wild horse or burro use as of December 15, 1971, and maintain a natural ecological balance on the public lands.

3. Rangeland Program Summary

a. Range

1) Increase available forage for livestock to sustain an active preference of 11,787 AUMs.

2) Initiate a three pasture rest-rotation grazing system on the summer use area (06/01 - 09/30).

3) Initiate a six pasture rest-rotation grazing system on one spring use area and use waters to control livestock distribution and utilization to acceptable levels on the other spring use area.

b. Wildlife

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

Deer	1,328 AUMs
Antelope	245 AUMs
Bighorn Sheep	207 AUMs
Elk	253 AUMs

2) Mitigate existing habitat problems/conflicts at Theodore Basin and Adams Mine Meadow.

3) Provide available wildlife water on McGee Mountain.

4) Protect sage grouse breeding complexes.

5) Improve and maintain the condition of aquatic (and riparian) habitats having the potential to support a sport fishery on Alder, Alta, Granite, and Big Creeks, and Blue Lakes.

6) Preserve woodland habitat.

4. Allotment Specific

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

a. Short Term

1) Utilization of key streambank riparian plant species shall not exceed 50% on Big, N. Fork of Big, Alder, Little Alder, Wood Canyon, and Alta Creeks.

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

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

4) Utilization of crested wheatgrass in the seeded pastures shall not exceed 60%.

b. Long Term

1) Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 1,328 AUMs for mule deer, 247 AUMs for pronghorn, and 207 AUMs for bighorn sheep by: (AMP e,f,l; WL-1, W-3; RPS b 1-5)

a) Improve to and maintain 27,925 acres in McGee Mtn. DW-8, 25,000 acres in Pine Forest DW-7, and 25,841 acres in Pine Forest DS-5 in good or excellent mule deer habitat condition.

b) Improve to and maintain 56,609 acres in Denio PY-1, 12,866 acres in McGee Mtn. PW-1, 11,540 acres in Alta Creek PW-2, and 4,176 acres in Big Creek PY-4, 14,203 acres in Alta Creek PS-1 and 260 acres in Leonard Creek PS-3 in fair or good pronghorn habitat condition.

c) Improve to and maintain 56,975 acres in Pine Forest BY-7 and BY-8 in good or excellent bighorn sheep habitat condition.

2) Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 11,784 AUMs. (AMP b-f, K,M-p, RM-1, W-3; RPS 1-3)

3) Improve range condition [4] from poor to fair on 9,651 acres and from fair to good on 1,776 acres. (AMP c,g; K-p, RM-1, W-3; RPS W-1)

4) Manage, maintain and improve public rangeland conditions to provide forage for a viable population of burros until monitoring data determines the Appropriate Management Level (AML) (AMP c-g; K-1,m, W-3; RPS W-3)

5) Improve to and maintain 286 acres of mahogany habitat types in good condition. [2] (WL-1, AMP L, RPS b,1-6)

6) Improve to and maintain 1,156 acres of aspen habitat types in good condition. [2] (WL-1, AMP L, RPS b. 1-b)

7) Improve to and maintain 733 acres of riparian and meadow habitat types in good condition. [2] (AMP-g;k, WL-1, W-2, W-3; RPS b.1-6)

8) Improve to and maintain in good condition 185 acres of pine-aspen-mahogany associations. (AMP b,g,L; WL-1, W-1, RPS b.1,2)

9) Improve to and maintain 85 acres of Ceanothus habitat types in good condition (WL-1, AMP L, RPS b.1-6)

10) Improve the following stream habitat conditions on Big Creek, N. Fork Big Creek, Alder Creek, Little Alder Creek, Wood Canyon Creek, and Alta Creek from 65% on Big Creek, 53% on the North Fork of Big Creek, 56% on Alder Creek, 39% on Little Alder Creek, 44% on Wood Canyon Creek, and 56% on Alta Creek to an overall optimum of 60% or above. (WLA-1.1, WLA-1.2)

1) Streambank cover 60% or above.
2) Streambank stability 60% or above.
3) Maximum summer water temperatures below 70°F.
4) Sedimentation below 10%.

11) Protect sage grouse strutting grounds and brooding areas. Maintain a minimum of 30% cover of sagebrush for nesting and winter use. (AMP-f, RM-1, WL-1)

12) Improve to and maintain Blue Lake to state Class A water standards. (AMP-g,k; W-1, W-2, W-3)

13) Improve to and maintain the state water quality criteria for Alder, Big, Alta and Wood Canyon Creeks. (AMP g,k; W-1, W-2, W-3)

14) Improve to and maintain the seeded pasture(s) in good condition (5-10 acres per AUM). (AMP c,j; RM-1, WL-1; RPS a.1)

[1] Utilization levels will be used to evaluate and adjust management practices over a period of time.

[2] Ecological status data will be used to redefine/quantify these objectives where applicable.

D. Forage Species Monitored

1. Upland Habitat

Code	Scientific Name	Common Name
AGSP	Agropyron spicatum	bluebunch wheatgrass
STTH2	Stipa thurbiana	Thurber's needlegrass
FEID	Festuca idahoensis	Idaho fescue
SIHY	Sitanion hystrix	bottlebrush squirreltail
POSE	Poa secunda	Sandberg bluegrass
ELCI2	Elymus cinereus	basin wildrye
ORHY	Oryzopsis hymenoides	Indian ricegrass
PUTR	Purshia tridenta	bitterbrush
SYMPH	Symphoricarpos spp.	snowberry
AMELA	Amelanchier spp.	serviceberry
ROSA	Rosa spp.	rose
POTR	Populus tremuloides	aspen

2. Riparian Habitat

Code	Scientific Name	Common Name
CAREX	Carex spp.	sedge
JUNCU	Juncus spp.	rush
PONE3	Poa nevadensis	Nevada bluegrass
POPR	Poa pratensis	Kentucky bluegrass
TRIFO	Trifolium spp.	clover
SALIX	Salix spp.	willow
RIBES	Ribes spp.	currant

Key species and key areas will be identified as the monitoring process continues.

E. Other Information

1. In February of 1982 the Alder Creek allotment was divided into two allotments, Alder Creek and Knott Creek. The allotments had been managed as individual use areas since 1980.

2. The Alder Creek Ranch has had four owners in the last ten years which has created numerous management and administrative problems (i.e. unauthorized use, lack of range improvement maintenance).

3. Fires in 1985 burned 1,700 acres in the Gridley and Upper Ashdown pastures and 1,785 acres in the South Rattlesnake and Highway pastures. The fire in the Gridley and Upper Ashdown pastures burned 1,638 acres of mule deer winter range, including 326 acres of concentrated use. Both fires were closed to grazing for two years and the area in South Rattlesnake and Highway pastures was seeded to primarily crested wheatgrass in 1986.

4. The active preference was reduced 3 AUMs in October 1989, due to the Big Creek land sale.

5. In 1989 sterilized Cutbow and Tiger trout were planted in Blue Lakes by NDOW.

IV. MANAGEMENT EVALUATION

A. Purpose

The purpose of this management evaluation is to assess if current management practices are meeting the allotment specific and LUP objectives and to identify management changes needed to meet objectives.

B. Summary of Studies Data

1. Actual Use

a. Livestock

Year	AUMs Used
1992	3,833*
1991	5,192
1990	6,177
1989	5,258
1988	5,650
1987	5,871
1986	7,202
1985	8,194
1984	7,152
1983	10,245

* Actual use records incomplete, licensed use utilized.

b. Wildlife Populations

1) The Paradise-Denio EIS indicated reasonable number forage demand to be 1725 AUM's for mule deer, 392 AUM's for pronghorn, 319 AUM's for bighorn, and 384 AUM's for elk. Land use plan decision RM 1.12 separated the Alder Creek Allotment into the Alder Creek and Knott Creek Allotments without addressing the re-distribution of wildlife reasonable numbers. By calculating

the proportion of publicly owned big game habitat acres, in the two allotments, the following reasonable forage demand is derived for the current Alder Creek Allotment. Mule deer 1328 AUM's, pronghorn 245 AUM's, bighorn sheep 207 AUM's, and elk 253 AUM's.

An estimate of wildlife existing numbers for the last five years has been calculated for the Alder Creek Allotment (Table 1.). To arrive at these estimates, the proportion of habitat was calculated for NDOW hunt unit 032 in management area 03. The proportion of habitat in unit 032 located within the Alder Creek Allotment was calculated as compared to the total habitat in the hunting unit (see table 2). By using population estimates supplied by NDOW, and applying the proportions in Table 2., a rough estimate of existing numbers of wildlife for the Alder Creek Allotment can be determined. These estimates are not intended to be used as indicators of habitat condition and trend, as they are made based on several assumptions and are directly affected each year by factors which may not be related to forage or habitat condition. Finally, the estimates for a given allotment are made from estimates of larger land units, and significant statistical error can be expected from such an extrapolation.

In general terms, Unit 032 deer, pronghorn and bighorn sheep populations have been increasing in recent years. The Alder Creek Allotment represents over 40 percent of the mule deer, and over 29 percent of the total pronghorn habitat in unit 032, and is justifiably a very high priority area in terms of wildlife interest and concern for this portion of the P-D resource area.

Table 1. Estimated wildlife existing numbers for years 1992-1988 for the Alder Creek allotment portion of NDOW hunt unit 032.

YEAR	MULE DEER		PRONGHORN	
	pop.	AUM's	pop.	AUM's
1988	1005.6	3016.97 *	not available	
1989	1153.22	3405.69 *	not available	
1990	not available		65.53	157.27
1991	195.82	587.40	83.88	201.30
1992	204.31	612.93	99.60	239.05

* population estimate methodologies for the years 1988-89, and 1990-present differ, in the way the data was grouped for input into NDOW population models, and therefore, the end results differed considerably, and are not comparable however, an overall upward trend is indicated.

Table 2. Percent of mule deer and pronghorn habitat in the Alder Creek Allotment, as compared to NDOW hunt unit 032.

species	yearlong	winter	summer	winter + yearlong	032 total
mule deer	----	38.36	46.51	32.94	40.18
pronghorn	28.30	48.43	21.09	31.83	29.54

2) An enclosure was constructed in 1981 around Gridley Lake to improve waterfowl habitat. The enclosure was partially reconstructed in 1986 after high water levels destroyed much of the fence. Two goose nesting platforms were also constructed in 1981 and were covered by high water until 1987.

The Stone Cabin enclosure was constructed in 1968 to rehabilitate the meadow complex.

3) California bighorn sheep were released in 1985 on Mahogany Mountain and now use this allotment as part of their normal use area. Additional bighorn sheep were released on the Charles Sheldon Antelope Refuge in 1987 and now use McGee Mountain as part of their use area. Bighorn sheep were released adjacent to this allotment in 1988. These animals are expected to use additional portions of the allotment.

4) Elk are currently not known to exist in the Alder Creek Allotment, however, the Pine Forest Range is considered within the historical range of elk. Elk have been known to migrate south out of Oregon forests into Nevada, and there have been unverified sightings of elk in the Pine Forest Range in recent years.

c. Wild Horse and Burros

1. The bulk of the McGee Mountain Herd Management Area (HMA) is contained within the Alder Creek Allotment. This HMA is a management area for wild burros; there is no wild horses within the HMA or surrounding area.

2. Since 1973, there have been 8 census or distribution flights over the McGee Mountain area. Results of these flights are as follows:

Date	Adults/Foals	Aircraft Type	Comment
6/73	27/11	Cessna 182	Outside current boundary, along Thousand Creek.
3/74	84/2	Unspecified	Outside Current boundary, on Sheldon Game Refuge to Virgin Valley Ranch.
7/80	39/2	B1 Helicopter	All but 5 adults on refuge, along Thousand Creek.
7/89	32/5	B1 Helicopter	All on refuge, along Thousand Creek.
7/91	0/0	Maule 5	Flew HMA, Bog Hot Valley, Craine Creek, and Gridley Lake areas.
3/92	22/0	Cessna 210	All outside HMA, 11 on Sheldon Refuge, remainder in Gridley Lake area.

Date	Adults/Foals	Aircraft Type	Comment
5/92	20/0	Maule 5	All outside HMA, in Gridley Lake area.
7/92	3/0	Maule 5	North of HMA on Sheldon Refuge.

3. Prior to the June 1989 Interior of Land Appeals (IBLA) ruling the Appropriate Management Level (AML) for the HMA was established by the Paradise-Denio Land Use Plan (LUP) in 1982 at 41 burros. In accordance with the IBLA ruling, management levels for wild horses and burros must be based upon monitoring data. The current (1993) numbers and forage consumption by wild burros within the area is:

Current Number	Forage Consumption (AUMs)
20-25	240-300

4. The majority of burro use occurs outside the HMA and in the Bog Hot - Gridley Lake areas and on the road to Onion Reservoir. The reason for this is the lack of water within the HMA.

2. Climate

Precipitation
For
Leonard Creek Ranch (NOAA Station 1983-1992)
Precipitation in Inches

Year	*Growing Season	Annual Total
1983	6.94 M	17.74
1984	3.0	8.50 M
1985	2.48	6.82 M
1986	4.85	9.60
1987	5.42	9.30
1988	2.94	8.11
1989	3.98	7.48
1990	5.06	8.87
1991	4.67	7.19
1992	6.64	9.04

* Growing season is defined as March through August.
** Not Available
M Partial or Incomplete Data
Growing Season Average 4.60", Yearly Average 9.27"

Precipitation
For
Denio (NOAA Station 1983-1992)
Precipitation in Inches

Year	*Growing Season	Annual Total
1983	8.53	16.97
1984	6.08	10.96
1985	2.32	6.45 M
1986	4.74	10.39
1987	5.44	8.74 M
1988	3.14	7.57
1989	2.49	5.47 M
1990	6.37	11.51
1991	2.31	6.21
1992	4.38	8.10

* Growing season is defined as March through August.
** Not Available
M Partial or Incomplete Data
Growing Season Average 4.58", Yearly Average 9.24"

The Denio Station is 5 miles north of the Alder Creek allotment and is at an elevation of 4,100 feet. The Leonard Creek Station is 18 miles south of the Alder Creek allotment at an elevation of 4,300'.

3. Utilization

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

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

Utilization Data (KFPM)

Year	Pasture	Species	% Utilization	Class
1983	Big Creek	AGSP	18	Slight
		STTH2	40	Light
1983	Big Creek	AGSP	30	Light
		STCO	17	Slight
		ELCI	14	Slight
1983	Big Creek	AGSP	60	Moderate
		ELCI	44	Moderate
		SIHY	33	Light
1983	Big Creek	STTH2	70	Heavy
		STCO	70	Heavy
		FEID	70	Heavy
1983	Florence Basin	FEID	18	Slight
1983	Florence Basin	AGSP	50	Moderate
		FEID	45	Moderate
		SIHY	23	Light
1983	Florence Basin	AGSP	24	Light
		FEID	16	Slight
		STTH2	30	Light
1983	Big Creek Seeding	AGCR	30	Light
1984	McGee Mountain	STTH2	53	Moderate
		AGSP	42	Moderate
1984	Gridley	STCO	18	Slight
		ORHY	17	Slight
		SPCR	10	Slight
1984	Gridley	STCO	20	Slight
		ORHY	20	Slight
		SPCR	40	Light

Year	Pasture	Species	% Utilization	Class
1984	Gridley	STCO	18	Slight
		ORHY	14	Slight
		SPCR	10	Slight
1984	Gridley	ORHY	28	Light
		SIHY	36	Light
		SPCO	10	Slight
1984	Gridley	ORHY	16	Slight
		SIHY	22	Light
1984	Gridley	SIHY	20	Slight
		ORHY	10	Slight
1987	Big Creek Seeding	AGCR	20	Slight
1987	Maintenance	AGCR	73	Heavy
1987	Big Creek	AGSP	17	Slight
		STTH2	31	Light
		FEID	18	Slight
1987	Big Creek	AGSP	10	Slight
		STTH2	20	Slight
1987	Big Creek Seeding	AGCR	20	Slight
1989	S. Rattlesnake	AGCR	68	Heavy
	Seeding	AGCR	40	Light
1989	McGee Mountain	AGSP	22	Light
	(Bench)	SIHY	26	Light
		FEID	16	Slight
1990	Big Creek Seeding	AGCR	45	Moderate
1991	Big Creek	POPR (Riparian)	17	Slight
		JUBA	32	Light
		Aspen	23	Light
		Salix	16	slight
		Carex	36	Light
1991	Big Creek	POPR (Riparian)	25	Light
		JUBA	24	Light
		CAREX	51	Moderate
		SALIX	43	Moderate
1992	Big Creek	CAREX (Riparian)	58	Moderate
		POA	50	Moderate
1992	Big Creek	POPR (Riparian)	60	Moderate
		SIHY	52	Moderate
1992	Big Creek	CAREX (Riparian)	45	Moderate

Year	Pasture	Species	% Utilization	Class
1992	Big Creek	CAREX (Riparian)	62	Heavy
1992	Stone Cabin	POPR (Riparian)	38	Light
		ELCI	30	Light
		SIHY	18	Slight
1992	Stone Cabin	STTH2	44	Moderate
		POSE	35	Light
		ELCI	25	Light

b. Use Pattern Mapping (UPM)

UPM (partial or complete) was completed in 1983, 1987, 1988, 1989, 1990, 1991, and 1992. The following is a summary of this data.

The UPM is summarized below on a pasture by pasture basis. Actual use and licensed use were utilized for AUM computations (see page 19 for utilization classes).

1) Stone Cabin

1983 - 850 C - 06/01 to 08/15 - 2,345 AUMs

data collected 07/20/83

Forty-nine percent of this pasture had slight utilization, 10%-Moderate and 41%-moderate to heavy. Two utilization classes (moderate to heavy) were combined on the UPM, specifically in the Alta Creek Basin and Granite Creek use areas. Moderate use was found in lower elevations, mostly in the Four Spring - Rattlesnake Spring use area.

1988 - 1,085 C - 07/01 to 08/31 - 2,145 AUMs

data collected 10/11 to 10/17, 1988

Forty-eight percent of this pasture had slight utilization, 7%-light, 7%-moderate, 4%-heavy and 34% was not checked. Riparian areas and water sources had heavy utilization. Browse utilization was slight by deer and livestock.

1989 - 528 C - 06/20 to 09/15 - 1,123 AUMs*

data collected 09/12/89

Thirty-five percent of this pasture had slight utilization, 1%-light, 19%-moderate, 29%-heavy and 16% of this pasture was not utilized by livestock. Riparian and meadow habitats had heavy use. Browse utilization by livestock and wildlife was slight.

1991 - 805 C - 08/01 to 09/15 - 1,181 AUMs

data collected 10/21, 22/91

Eighty-two percent of this pasture had slight use, 5%-light, 8%-moderate, and 5%-heavy. Riparian and meadow areas had heavy use.

2) Big Creek

1987 - 1,044 C - 08/01 to 09/30 - 2,031 AUMs

data collected 07/15-16/87

Data was collected while investigating unauthorized use. A complete map was not compiled for this pasture after livestock were removed.

Seven percent of this pasture had slight utilization, 1%-Light, 5%-Moderate, 2%-Heavy and 85% of the pasture was not checked. Heavy use occurred in meadows and riparian areas in the canyon bottoms.

1988 - data collected 10/11/89

Drought conditions resulted in spring sources drying up in the southwest corner of the Stone Cabin pasture. Livestock drifted through portions of the unfenced boundary between the Stone Cabin -Big and utilized Boyd and Florence Basin. Actual use by livestock is uncertain because this pasture was scheduled for rest. The following is a description of the utilization in these areas.

Florence Basin had 100% slight use while Boyd Basin had 1% heavy utilization, 1%-light, 1%-moderate and 97%-slight use. The heavy use occurred in meadows and riparian areas. Browse utilization was slight by deer and livestock.

1989 - 316 C - 05/23 to 06/12	-	212 AUMs
- 439 C - 06/13 to 07/01	-	266 AUMs
- 539 C - 07/02 to 09/15	-	1,306 AUMs
Total		1,784 AUMs

data collected 09/13-14; 10/05/89

Forty-four percent of this pasture had slight utilization, 10%-light, 4%-moderate, 19%-heavy, 19% had no livestock use and 4% was not checked. Riparian areas had heavy utilization. The lower end of Big Creek had 4-6 inches of regrowth in riparian areas. Browse utilization was slight, however Ceanothus was hedged heavily by deer in the upper drainages.

1990 - 1,002 C - 07/26 to 09/02 - 1,246 AUMs
- 859 C - 09/03 to 09/19 - 55 AUMs
- 509 C - 09/05 to 09/15 - 179 AUMs
Total - 1,480 AUMs

data collected 09/19; 10/30, 1990

Of the portion of the pasture use pattern mapped, approximately 60% had slight use, 15% moderate, and 25% heavy. For the most part, riparian and meadow habitats received heavy use with the exception of Big Creek below the seeding which received slight. Heavy use was found in upland areas in the western portion of the pasture. Browse utilization was slight by mule deer and livestock.

1992 - 790 C - 07/22 to 09/05 - 1480 AUMs

data collected 10/28/92

Seventy-five percent of the area use pattern mapped had slight use, 15% light, and 10% moderate. A small portion of the pasture was mapped, mostly northeast of Blue Lake. Moderate use was found in riparian areas and meadows with slight to light use in upland sites.

3) Upper Ashdown

1987 - 420 C - 06/04 to 06/04 - 13 AUMs
- 849 C - 06/05 to 06/09 - 135 AUMs
- 1,044 C - 06/10 to 07/03 - 1,731 AUMs
Total 1,879 AUMs

data collected 07/15-16, 22

Data was collected while investigating unauthorized use. A complete map was not compiled for this pasture after livestock were removed due to time constraints

Six percent of this pasture had slight utilization, 3%-moderate, 3%-heavy and 88% was not checked. Meadows and riparian areas had moderate to heavy utilization. Browse utilization was slight by deer and livestock.

1988 - 702 C - 09/01 to 10/15 - 1,007 AUMs

data collected 10/11-17/89

Fifty-two percent of this pasture had slight utilization, 3%-light, 19%-moderate, 10%-heavy and 16% of the pasture was not checked. The heavy use occurred in riparian areas, in meadows and around water sources. Browse utilization was slight by deer and livestock.

1990 -	250 C	- 06/03 to 06/18 -	128 AUMs
-	350 C	- 06/19 to 06/19 -	11 AUMs
-	802 C	- 06/20 to 06/20 -	26 AUMs
-	1,002 C	- 06/21 to 07/25 -	1,118 AUMs
		Total	1,283 AUMs

data collected 09/20; 10/17, 1990

Of the area mapped, 50% had slight use, 5% light, 40% moderate, and 5% heavy. Approximately 50% of the pasture was use pattern mapped. Heavy use was noted along riparian habitats and meadow complexes in the upper portion of the pasture. Browse utilization was slight by deer and livestock.

1991 - 805 C - 06/15 to 07/31 - 1207 AUMs

Data collected 10/22 & 24/91

Forty percent of the area use pattern mapped was slight, 10% light, 3% moderate, 1% heavy, 2% no use, and 44% not checked. Browse utilization in upland sites was slight to light; heavy use was found on aspen suckers in all aspen groves. Willow suckers and shrubs less than four feet tall in riparian areas received moderate to heavy use.

4) Gridley Lake/Bog Hot

1987 - 429 C - 04/17 to 05/31 - 603 AUMs

data collected 06/17-18, 23, 1987

Four inches of rain occurred in May resulting in regrowth of perennial plants which resulted in utilization level discrepancies. Thirty-seven percent of the pasture had slight utilization, 31% light, 7% moderate, 8% had no utilization and 17% of the pasture was not checked. The moderate use occurred around water sources and adjacent to private land.

1989 -	476 C	- 04/17 to 06/20 -	941 AUMs
	357 C	- 12/20 to 02/15 -	660 AUMs
	369 C	- 02/16 to 02/20 -	153 AUMs
		Total	1,754 AUMs

Spring data collected 06/20/89
Winter data collected 03/02/90

Spring

Thirty-nine percent of this use area had slight utilization, 35%-moderate, 1%-heavy and 25% of the area was not checked.

Winter

Twenty-four percent of the area had slight utilization, 9%-light, 1%-moderate, 66% of the area was not checked. It appeared regrowth had occurred in this area. Use was slight on browse species.

1990 - 502 C - 4/15 to 6/15 - 951 AUMs (Spring)
data collected 06/27/90
453 C - 11/15 to 2/28 -1531 AUMs (Winter)
data collected 04/03/91

Spring - Only the west side of this use area was checked; the east side is utilized during the winter. A portion of the Bog Hot use area was not checked south of the road leading up to McGee Mountain. Heavy use occurred around Bog Hot Well. Moderate use was predominate throughout the accessible areas. Light use occurred along the road leading to McGee Mountain. A band of slight use was observed south of Painted Rock.

Winter - The southern portion of Gridley Lake had moderate use. The area west of Giolloti Well had slight use. This extended north of the windmill adjacent to Alder Creek Ranch.

1991 - 400 C - 11/06 to 02/20 - 1531 AUMs

data collected 04/01/92

Winter - Fifty percent of the Gridley Lake use area had slight use, 20% - light, 7% - moderate, 23% of the use area was not checked.

5) Maintenance Seeding

1984 - 400 C - 04/15 to 05/15 - 387 AUMs
331 C - 05/16 to 05/31 - 165 AUMs
Total 552 AUMs

data collected 05/08/84

Forty-five percent of this pasture had light/moderate utilization, and 50% heavy.

1987 - 195 C - 04/23 to 05/31 - 243 AUMs

data collected 06/03/87

One hundred percent of this pasture had heavy utilization.

6) North Rattlesnake Seeding

1988 - 250 C - 04/23 to 05/31 - 311 AUMs

data collected 05/25/87

One hundred percent of this pasture had heavy utilization.

7) Highway Seeding

1989 - 223 C - 04/22 to 05/15 - 171 AUMs

data collected 05/17/89

Forty-six percent of this pasture had slight utilization, 34%-light and 20%-moderate.

1991 - 155 C - 04/13 to 05/14 - 158 AUMs

data collected 08/14/91

One hundred percent of this pasture had slight utilization.

8) South Rattlesnake Seeding

1984 - 342 C - 04/15 to 05/13 - 310 AUMs
80 C - 05/14 to 05/31 - 45 AUMs
Total - 355 AUM

Data collected 05/16/84

Approximately 100% of the pasture had heavy utilization

1989 - 223 C - 05/16 to 06/15 - 256 AUMs
data collected 06/20/89

One hundred percent of this pasture received moderate utilization.

1991 - 155 C - 05/15 to 06/15 - 158 AUMs
data collected 08/14/91

One hundred percent of the pasture had slight utilization levels.

9) Big Creek Seeding

1989 - 100 C - 06/13 to 07/01 - 61 AUMs
data collected 10/05/89

An ocular estimation of utilization occurred on June 21, 1989 and use was found to be light. The pasture was use pattern mapped on 10/05/89 with 97% of the area receiving moderate utilization and 3% heavy. The heavy use occurred along the north fork of Big Creek. Livestock from an adjacent allotment were found to be in trespass in this pasture. It is uncertain how long these cows were in the seeding.

1990 - 100 C - 04/29 to 06/18 - 191 AUMs
data collected 10/30/90

Utilization was moderate with slight use in the uplands to the extreme east of this seeding.

1991 - 100 C - 04/13 to 06/15 - 204 AUMs

data collected 08/14/91

One hundred percent of the pasture was in slight use.

10) Big Creek Winter

1989 - 316 C - 04/15 to 05/23 - 393 AUMs

Twelve percent of this pasture had light utilization, 23%-moderate and 65%-heavy.

1991 - 155 C - 04/13 to 06/15 - 306 AUMs

data collected 08/14/91

Utilization throughout the pasture was slight.

11) Lower Ashdown

1984 - 225 C - 04/15 to 06/08 - 387 AUMs
Data collected 06/08/84

One hundred percent of the pasture had slight use.

1987 - 420 C - 04/17 to 05/31 - 603 AUMs

Fifty-three percent of this area had slight utilization and 47% had heavy to severe use.

1989 - 100 C - 04/15 to 06/02 - 156 AUMs

data collected 06/27/90

Twenty-one percent of the area mapped had no use, 55% had slight utilization, 1% light, and 23% was not checked due to access and time constraints.

1990 - 250 C - 04/15 to 06/02 - 391 AUMs

data collected 06/27/90

Utilization was slight in accessible areas with light use along Cherry Creek in the burned area.

c. Desired Stocking Rate

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

Desired stocking rates were calculated for the summer pastures (Stone Cabin, Big Creek, and Upper Ashdown) using riparian and/or meadow habitats as key management areas. The desired stocking rates calculated are the stocking rate at which both riparian and upland short-term utilization objectives are expected to be met under present management.

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

Average Desired Stocking Rate by Pasture

Bog Hot/Gridley Lake (Spring Use)	756 AUMs
Seedings:	
Big Creek Seeding	295 AUMs
Highway	205 AUMs
South Rattlesnake	228 AUMs
North Rattlesnake	373 AUMs
Maintenance	340 AUMs
Natives:	
Big Creek Winter	222 AUMs
Lower Ashdown	345 AUMs
Upper Ashdown	960 AUMs
Big Creek	1,407 AUMs
Stone Cabin	1,171 AUMs

4. Trend

Trend index summary data was collected in 1969, 1974, 1977 and 1981. The following summarizes this data. No current trend data have been collected to evaluate the current status.

a. Big Creek

This study was established in 1969 and read in 1974 and 1977 and is located in Boyd Basin. The trend summary index increased from 1969 to 1977. A increase in percent composition occurred for sagebrush and bitterbrush. A decrease in composition occurred with bluebunch wheatgrass.

b. Upper Ashdown

This study was established in 1969 and read in 1974 and 1977 and is located in Boyd Basin. The trend summary index increased from 1969 to 1977. No significant changes occurred in grass species composition. The composition of sagebrush decreased from 1969 to 1977.

c. McGee Mountain

This study was established in 1977 and read again in 1981. The trend summary index increased and the observed trend was upward.

d. North Rattlesnake (Lower Stevens Seeding)

This study was established in 1969 and read again in 1974. The trend summary index increased, percent composition of sagebrush increased and the composition of crested wheatgrass decreased.

e. South Rattlesnake (#1 South Rattlesnake)

This plot was established in 1977. In 1981 the study site stakes were not located, only photographs were taken. Photographs indicated a downward trend in the seeding. In 1985 this pasture burned and in 1986, reseeded. Density studies were initiated in 1986 and read in 1987, 1988, 1990, and 1993. These studies indicate insufficient crested wheatgrass establishment. In 1993, 1 plant per 10 meters were detected and the seeding was considered a failure.

f. Highway (Lower Stevens Seeding)

This study was established in 1969 and read in 1974. The trend summary index increased, composition of sagebrush increased and composition of crested wheatgrass decreased. Trend was downward. In 1981 photographs were taken in the general vicinity of the plot because the study site could not be found. This pasture burned in 1985 and was seeded in 1986. Density studies were initiated in 1986 and completed in 1987-1988. These studies indicate insufficient crested wheatgrass was established. This pasture was opened to grazing in 1989 as general watershed objectives were met.

g. #1 Rattlesnake Stead (located in the Stone Cabin Pasture)

This study site is located in the Upper Ashdown pasture. This study was established in 1968 and read in 1974. No significant changes occurred. In 1981 the study was not conducted due to utilization levels precluding species identification.

h. Stone Cabin Meadow (Stone Cabin Meadow exclosure)

This study site is located in the Stone Cabin pasture. The study was established in 1968 and read in 1969. In 1985 the meadow was inspected and trend was static.

i. Upper Ashdown

This study is located in the Onion Reservoir meadow complex and was established in 1969. The study was relocated in 1974, subsequently no conclusion can be drawn.

5. In 1978, a range survey was conducted using the Ocular Reconnaissance Method. The survey was conducted to provide baseline data for analysis purposes in the Paradise-Denio EIS. This survey, along with suitability criteria, indicated that 9,471 AUMs were available in 1978 for livestock and burros. The Alder Creek allotment in 1978 included what is now the Alder Creek and Knott Creek allotments.

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

Good	Fair	Poor
5,547 (acres)	8,875 (acres)	96,511 (acres)

6. Ecological Status Inventory/Soil Survey

A Order 3 Soil Survey has been completed on this allotment. An Ecological Site Inventory (ESI) has not been initiated for this allotment.

7. Wildlife

   a. Wildlife Habitat Inventory

      1) Priority Species: Mule deer, sage grouse, trout, pronghorn, bighorn sheep, Lahontan cutthroat trout and waterfowl.

      2) Other Game Species: Chukar and Hungarian partridge, California Quail, morning dove, cottontail rabbit and mountain lion.

      3) A special habitat features inventory was conducted in June and August, 1977. This inventory identified the location and acres of special habitats, listed observed plant and wildlife species, and documented ocular observations of the condition and utilization of these habitats. This information was analyzed in the Paradise-Denio EIS.

         a. Aspen - 1156 acres located in the Stone Cabin, Big Creek, and Upper Ashdown pastures.

         b. Curlleaf mountain mahogany - 286 acres located in the Stone Cabin, Big Creek, Upper Ashdown, and Lower Ashdown pastures.

         c. Ceanothus - 85 acres located in the Stone Cabin, Big Creek, Upper Ashdown, and Lower Ashdown pasture.

         d. Limber and whitebark pine, mahogany, aspen associations - 540 acres located in the Stone Cabin, Big Creek, and Upper Ashdown pastures.

e. Mountain Browse - Antelope bitterbrush, serviceberry, snowberry, and currant are identified as components in most of the various ecological sites in the Stone Cabin, Big Creek, Upper Ashdown, and Lower Ashdown pastures. Total public acres of these types is 52,198.

f. This inventory recorded the following in 1977:

Lower Ashdown - Heavy livestock use on riparian vegetation in lower Cherry Gulch.

Stone Cabin - The Stone Cabin Exclosure was in excellent condition including the riparian and meadow habitat. Two other riparian areas had received moderate use by livestock. Heavy use was recorded on five riparian areas. One aspen stand had fair diversity. Summary - most of this area is receiving heavy use unless inaccessible to livestock.

Upper Ashdown - Heavy use was documented on five riparian areas, while moderate use was indicated on eight. Five meadows were in fair condition and were receiving heavy use except for one which had moderate use. Another meadow was in fair condition but had evidence of excessive erosion. Three spring and associated meadow areas were in good condition and had received light to moderate use.

One aspen stand had good reproduction but was receiving heavy use on the young trees. Nine aspen stands had little reproduction while six had fair reproduction. One deteriorated aspen stand was identified as well as one in good condition. No reproduction was found in a curlleaf mountain mahogany stand while fair reproduction was found in a stand of pine. Summary - Riparian (springs and meadows) - Most are accessible and were receiving heavy use, being in fair condition at best. Some are deteriorating due to this use. Aspen stands have little reproduction overall and some are deteriorated. Accessibility is good by livestock for most stands. Mahogany has little reproduction while pine reproduction is good.

Big Creek - Two meadow areas were observed to be in good condition, receiving light use, but there was a high composition of iris. Four spring and associated meadow areas were in fair condition and were also receiving light use by livestock. Two

meadows had moderate use while one was in fair condition with moderate to heavy use. Another meadow was in poor condition and had headcuts and livestock punching. Two meadows had heavy use with a lot of iris and two others were receiving severe use. An inaccessible spring was receiving light use. Two additional springs had heavy to severe use. Of the aspen stands inspected, one had no reproduction, two had little reproduction, and two had fair reproduction. Two pine habitats were documented, one having light to moderate use on a riparian area within the stand while the other had no reproduction recorded. One mahogany stand was recorded to have no reproduction.

Gridley - Gridley Lake was dry and had received heavy use by livestock earlier. Plant composition was mostly saltgrass with some themopsis. Very little rush type vegetation was observed.

b. Habitat Evaluation

A habitat evaluation has not been conducted on this allotment for big game or sage grouse. A habitat evaluation was conducted on the Knott Creek fire which burned 1638 acres of deer winter range in this allotment (326 crucial acres). The burned area is in poor mule deer habitat condition due to loss of the shrub component, which provides forage and cover.

8. Riparian/Stream Survey

a. Riparian

Approximately 733 acres of riparian and meadow habitat is located predominantly in the Stone Cabin, Big Creek, Upper Ashdown, and Lower Ashdown pastures of the allotment. Some is located around Gridley Lake as well.

b. Stream Survey Data

Riparian/stream habitat surveys were completed as follows:

Stream	Dates
Big Creek	1976, 1987, 1989, 1992
Alder Creek	1976, 1987
Little Alder Creek	1987
Wood Canyon Creek	1987
Alta Creek	1987

1. BIG CREEK

Big Creek and it's major tributaries flow through 19.7 miles of BLM land and 4.1 miles of private land. The mainstem stream has an average stream gradient of 5.6% and ranges from 3.0 to 13.5%. The North Fork tributary has a mean stream gradient of 7.1%. Approximately 7.0 miles of the mainstem and 3.0 miles of the North Fork are considered fishable.

Big Creek was first surveyed by the BLM in 1976 and again in 1987 and 1992. NDOW surveyed this system in 1989. Data on habitat parameters was collected on all surveys, while fish population data was collected in 1989. Brown and Brook trout were the only fish species found during the 1989 survey.

Stream Habitat Conditions:

A comparison of changes in percent habitat optimum and the riparian condition class between 1976 and 1992 show that stream habitat conditions, poor in 1976, has improved to a "good" rating in 1992 (Table 1).

Table 1. Changes in stream and riparian habitat condition ratings for Big Creek between 1976 and 1992.

	% Optimum	
Year of Survey	Stream Habitat Condition	Riparian Cond. Class
1976	49	59
1987	46	51
1989	56	63
1992	65	68

Riparian condition class (RCC) is an average of bank cover and bank stability. Stream Habitat Conditions rating is a comparison of changes in percent habitat optimum and the riparian condition class.

Stream/Riparian Habitat Condition Classification
(% of Habitat Optimum)

70 - 100% = Excellent
60 - 69 = Good
50 - 59 = Fair
0 - 49 = Poor

A summary of the data collected from the 1992 BLM Big Creek stream survey for the public land portions can be found in Appendix III.

2. Alder Creek

Approximately 6.6 miles of Alder Creek flow through BLM lands within the Alder Creek Allotment.

Alder Creek was first surveyed by the BLM in 1976 and again in 1987. Data on habitat parameters was collected during both surveys. Although no recent fish population work has been conducted on Alder Creek, it is believed that Rainbow trout are still in this system.

Stream Habitat Conditions:

A comparison of changes in percent habitat optimum and the Riparian Condition Class (RCC) between 1976 and 1987 indicate that habitat conditions (as of 1987) remained fair at 56% and the RCC declined from excellent to good (Table 2). No additional stream survey data is available.

Table 2. Changes in stream and riparian habitat condition ratings for Alder Creek between 1976 and 1987.

Year of Survey	% Optimum Stream Habitat Condition	Riparian Cond. Class
1976	57%	78%
1987	56%	68%

3. Little Alder Creek

Approximately 3.7 miles of Little Alder Creek flow through BLM lands within the Alder Creek Allotment.

Little Alder Creek was surveyed by the BLM in 1987. No additional stream surveys have been conducted for this system. The 1987 stream survey had a percent habitat optimum of 39% (poor) and a Riparian Condition Class of 39%.

4. Wood Canyon Creek

Approximately 3.4 miles of Wood Canyon Creek flow through BLM lands within the Alder Creek Allotment.

Wood Canyon Creek was surveyed by the BLM in 1987. No additional stream surveys have been conducted for this system. The 1987 stream survey had a percent habitat optimum rating of 44% (poor) and a Riparian Condition class rating of 49%.

5. Alta Creek

Approximately 4.2 miles of Alta Creek flow through BLM lands within the Alder Creek Allotment.

Alta Creek was surveyed by the BLM in 1987 where the percent of habitat optimum was 56% (fair) and the Riparian Condition Class is 77%. No additional stream survey information is available.

Table 3. Summary of Stream Survey Data

Stream	Agency	Year	Overall %OPT	% Sed.	Bank Cover	Bank Stability	% RCC
Big Creek	BLM	1976	49	9	54	67	59
	BLM	1987	46	15	48	61	51
	NDOW	1989	56	18	62	70	63
	BLM	1992*	65	9	64	71	68
N. Fk. Big Ck.	BLM	1976	55	11	44	69	56
	BLM	1987	39	29	40	49	44
	NDOW	1989	49	21	49	58	53
	BLM	1992	53	8	54	71	62
Alder Cr.	BLM	1976***	57	17	73	84	78
	BLM	1987**	56	31	68	49	68
L. Alder Cr.	BLM	1987	39	25	43	36	39
Wood Cyn. Cr.	BLM	1987	44	14	50	49	49
Alta Cr.	BLM***	1976	-	-	-	-	-
	BLM	1987	56	58	78	77	77

* Survey summary for 1992 includes North Fork of Big Creek data
** Portion in Alder Creek Allotment.
*** Includes portions in Knott Creek and Alder Creek.
*** In 1976 the stream was not surveyed due to low flow and lack of cover. Overall stream conditions did not appear adequate to support much of a cold water fishery. Therefore, an extensive survey was not conducted on Alta Creek.

The NDOW surveys are completed using different methods. The differences in technique results in ratings of the same habitat conditions being assigned a higher index number when measured by the NDOW method. Though the methods are not directly comparable point by point, each is consistent. More importantly, both methods are good indicators of overall conditions and of which factors are limiting to aquatic productivity when interpreted by professionals.

9. Wild Horse and Burro Habitat

No specific studies have been conducted to document burro use within this allotment. Burro use has been noted in UPM write ups as slight. Currently, 20 to 25 burros consume 240 to 300 AUMs in the Bog Hot - Gridley Lake use area.

10. Water Quality

a. Water quality samples were taken from Blue Lake in July and September, 1979. Another lab analyzed water quality from a sample taken in July 1985.

Both pH readings and two out of three temperatures did not meet the water quality standards. No conclusion can be drawn about pH and temperatures without further research into the geology of the lake and how livestock grazing is related to the variables. Dissolved oxygen was not tested. All other water quality parameters were acceptable.

b. In 1976, water quality data was collected using a Hach Water Quality Kit from Alder and Big Creeks. In 1979 water quality samples were analyzed for Alta, Alder, and Big Creeks (two locations) during May, July and September. Samples were also collected during May, July and September, 1982 from Alder Creek. Water quality samples were collected in 1983 from two locations on both Alder and Big Creeks and in 1984 one sample from Alder Creek and two samples from Big Creek.

Alder Creek - Because water is periodically released from Onion Reservoir, turbidity was too high in 8 out of 10 samples tested, even as late as August. Phosphate levels are high and increase downstream. The only other water quality problems identified were one high stream temperature and high total dissolved solids.

Big Creek - The only water quality problem identified from the various samples was high turbidity, which increases downstream. Alkalinity was low in one sample, but probably is not a problem since all the other samples were acceptable.

Alta Creek - Only three samples were taken in 1979, all of which indicated good water quality.

Wood Canyon Creek - No water quality data.

V. CONCLUSIONS

A. Refer to allotment specific objectives by number from III.C.4.

1. Short Term

a. The objective was met on portions of Alta Creek, in the Stone Cabin pasture in 1983 and in the middle portion in 1988 and 1992. The objective was not met on the majority of Alta Creek in 1983, 1988, 1989 and 1991.

In the Big Creek pasture in 1982, the objective was not met on the upper one third of Big and North Fork Creeks; on the remaining two-thirds of these creeks the objective was met. A partial UPM, collected during droughty conditions in 1987, indicated that the objective was not being met on the upper end of Big Creek and on North Fork Creeks. The objective was met

in Boyd Basin and the North Fork of Big Creek. In 1988 Florence and Boyd Basins were UPM only. Heavy use on Boyd Basin Creek below the private land in Boyd basin resulted in the objective not being met for that creek only. In 1989 the objective was not met. However, the lower end (east) of Big Creek was utilized early and the objective was met.

The 1990 UPM had the same results as the 1989 data. The lower end of Big Creek had slight use, meeting the objective. In 1991, the objective was met on the upper reaches of Big Creek and below the confluence of the South Fork of Big Creek. Heavy use occurred on the North Fork of Big Creek in 1992, thus, the objective was not met.

A partial UPM was completed in 1987 in the Upper Ashdown pasture for Wood Canyon, Alder and Little Alder Creeks. The objective was not met on these creeks. The 1988 UPM indicated that for the majority of the streambank riparian habitat this objective was not being met.

The 1990 UPM indicated that the objective was met on Wood Canyon and Little Alder Creeks. Big Alder Creek was not checked. The upper portion of Oakley Canyon Creek did not meet the objective. Road Canyon Creek, which contains the main livestock trailing route, did not meet the objective.

In 1991, the UPM indicated the objective was met on Little Alder Creek, Alder Creek and not met on Wood Canyon Creek and Road Canyon Creek in the Upper Ashdown pasture.

b. The wetland riparian habitats are mainly located in the summer pastures. UPM data indicates that the objective is not being met, except when rested every third year under the current rest-rotation grazing system or when utilized in the early treatment.

In 1991, the objective was met in the Stone Cabin pasture, and in Theodore Basin, Alder Creek and other meadow complexes located in the Upper Ashdown pasture. The objective was not met in Road Canyon and meadows adjacent to Onion Reservoir in the Upper Ashdown pasture.

c. Heavy utilization was noted in the Lower Ashdown pasture in 1987, therefore the upland utilization objective was not met. The objective was met in 1984, 1989, and 1990.

The 1989 UPM for the Big Creek winter use areas (utilized in the spring) indicates that the objective was not met on 65% (southern two-thirds) of this pasture. The objective was met in 1990.

The 1983, 1988 and 1989 UPM for the Stone Cabin pasture (summer use) indicate the objective is being met in the eastern portion due to steepness and accessibility and that in 1983 the western portion had moderate to heavy utilization. During 1988 the objective was met in the western portion except in the vicinity of the Alta Creek

exclosure and around water sources. In 1989, for the most part, the objective was not met in accessible areas in the western portion, especially in the vicinity of the Alta Creek exclosure and adjacent to private land in the Granite and Rattlesnake Creek Basins.

The UPM completed for 1990 winter use in the Gridley Lake use area indicated the objective was not met in the southern portion of the use area in the Gridley Lake - Basin Well area and met in the northern portion of the use area.

A partial UPM of the Big Creek pasture was completed in 1987, which indicated that the objective was being met except in vicinity of Snowbank Spring. In 1988 the partial UPM indicated that the objective was being met except adjacent to private land in Boyd Basin. The 1989 UPM indicated that the objective was being met except in the upper areas on the western boundary and in portions of Boyd and Florence Basins.

A partial UPM of the Big Creek pasture was completed in 1992 which indicated the objective was being met. A utilization transect conducted in the Stone Cabin pasture showed the objective was being met in the vicinity of the head waters of Granite Creek. The objective was met except north of Boyd Basin, adjacent to riparian areas, along the western pasture boundary and in an area at the head of Big Creek.

A partial UPM was completed for the Upper Ashdown (summer) pasture in 1987. This indicated that the objective was being met except in Theodore Basin. The 1988 UPM indicated the same and that the area near Onion Valley reservoir was not meeting the objective.

The 1990 UPM for the Upper Ashdown pasture, which was utilized in the early treatment, indicated the objective was met except adjacent to Road Canyon Spring, Quaking Aspen Spring, and adjacent to the riparian areas in the drainage below Blue Lake.

In 1991, UPM's indicated the objective was being met in Stone Cabin, Upper Ashdown, Big Creek, and Big Creek Winter Pasture's.

d. The 1987 UPM for Maintenance Seeding indicated that the objective is not being met. The 1988 UPM data indicates the objective is not being met in North Rattlesnake seeding. Highway and South Rattlesnake seedings burned in 1985 and were reseeded to crested wheatgrass in 1986. Community Structure Analysis studies indicated poor seedling establishment. Annual vegetation, however, permitted watershed objectives to be met. The 1989 UPM indicated the number of crested wheatgrass seedlings had increased and utilization levels were below 60% thus the objective was being met. UPM data for Big Creek seeding in 1982 indicates the objective was not met but the objective was met in 1989.

In 1991, UPM data showed the objective being met in the Big Creek, Highway, and South Rattlesnake Seedings.

2. Long Term

a. Baseline and current trend data have not been collected to evaluate the achievement of this objective. However, estimations of mule deer and pronghorn numbers, as determined by NDOW population models, indicates an overall upward trend in population size.

b. Baseline and current trend data have not been collected to evaluate the achievement of this objective. The allotment has not been stocked at the full active preference of 11,784 AUMs since 1979. Short term utilization objectives are not being met especially in the riparian/meadow type habitats in summer use areas during the late treatment. These areas are the most accessible to livestock and are related to water availability. The objective will not be met under the current late grazing treatment and the full active preference.

c. Baseline and current trend data have not been collected to evaluate the achievement of this objective. This objective will be redefined/quantified with ecological status condition as information becomes available.

d. Baseline data collected indicates that the majority of the burro's utilize areas outside the existing HMA due to water availability.

e. Baseline and current trend data have not been collected to evaluate the achievement of this objective for Mahogany habitats. UPM data indicates young plants are hedged heavily.

f. Baseline and current trend data have not been collected to evaluate the achievement of this objective for aspen habitats.

g. Baseline and current trend data have not been collected to evaluate the achievement of this objective. However, UPM data indicates short term objective are not being met in the three summer use areas except during the scheduled year for rest and for the most part during the early scheduled grazing treatment.

h. Baseline and current trend data have not been collected to evaluate the achievement of this objective for pine-aspen-mahogany associations.

i. Baseline data has not been collected to evaluate the achievement of this objective for ceanothus stands.

j. The objective was met on the main stem of Big Creek and not met on the North Fork of Big Creek. Current data is not available for the other stream systems to determine whether or not objectives were met during the evaluation period.

Conclusions for the streams identified are as follows:

BIG CREEK: The long-term objective for the mainstem has been met. Progress has been made in achieving the objective of improving 9.6 miles of the riparian/stream habitat condition of Big Creek. Analysis of the data shows the habitat condition rating has improved 19% during the evaluation period. While the habitat condition rating for the stream in 1992 exceeded the 60% objective, five of the eight stream survey stations were below objective levels of 60%.

Ratings for pool-riffle ratio, pool quality, bank cover, and bank stability have improved. While improvements have been made, livestock use on riparian vegetation appears to have been moderate to heavy during periods of allowed use. The existing season of use has the potential to reverse the upward trend noted during the 1992 survey. Big Creek merits special consideration to ensure the objective will be met.

N. Fork Big Creek: The long-term objectives for the North Fork of Big Creek have not been met based on data collected from the 1992 BLM stream survey. Poor pool to riffle ratios, lack of quality pools and poor bank cover (station 1A) were the major limiting factors.

ALDER CREEK: No recent data is available to determine if stream/riparian objectives were met for the evaluation period.

LITTLE ALDER CREEK: No recent data is available to determine if stream/riparian objectives were met for the evaluation period.

WOOD CANYON CREEK: No recent data is available to determine if stream/riparian objectives were met for the evaluation period.

ALTA CREEK: No recent data is available to determine if stream/riparian objectives were met for the evaluation period.

k. Baseline and current trend data have to be collected to evaluate the achievement of this objective for sage grouse.

l. Overall water quality appears to be good. Total dissolved solids, phosphate, nitrate, and fecal coliform levels were all very low which is good. The temperature readings were probably taken in very shallow water along the lake edge and may not be indicative of the overall lake temperature. The high pH is probably due to the mineral breakdown of granodiorite. Further monitoring will be necessary to draw specific conclusions.

m. The following is a discussion of water quality for those streams identified in this objective.

Alder Creek: There is a definite trend from water samples taken on the same date upstream and downstream for turbidity to increase downstream. The turbidity is too high for cold water aquatic life and is not just a problem in the spring when runoff peaks. Phosphate levels are also too high, particularly downstream for fish. The water quality objective is not being met, in part due to livestock use and the fluctuation of water levels for irrigation requirements.

Only one fecal coliform sample was taken as late as September and it was very high.

Further monitoring is required before definite conclusions can be made toward achievement of this objective.

Big Creek: There is a problem with high turbidity and temperature increases downstream, even in late summer. There probably is inadequate streambank and riparian cover to keep the water cool in summer.

Turbidity may be a function of the three road crossings below the confluence with the North fork. Three of the four stream survey stations are below the confluence. The 1987 survey indicated on all but one station (S-2) that shrub/tree cover was moderate to good. This would indicate that stream temperatures should be cooler - making progress toward this objective.

Based on this data, the water quality objective is not being met for cold water aquatic life.

Alta Creek: Current data has not been collected for Alta Creek.

Wood Canyon Creek: Current data has not been collected for Wood Canyon Creek. However, data collected in 1979 indicated the objective was being met.

n. Current baseline and trend data have not been collected to evaluate the achievement of this objective. However, trend studies established in 1969 and read again in 1974 in the North Rattlesnake and Highway Seedings indicates a downward trend with the composition of sagebrush increasing and crested wheatgrass decreasing. A trend study established in 1977 with subsequent photos taken in 1981 in the South Rattlesnake Seeding indicates a downward trend of crested wheatgrass and sagebrush encroachment. A density study was initiated in 1986 in the Highway Seeding and completed in 1987 and 1988 indicated poor crested wheatgrass establishment and big sagebrush encroachment. Use pattern maps, utilization transects and personal observations indicate the Maintenance, Highway, South and North Rattlesnake seedings are in downward trend. No production data has been collected .

VI. RECOMMENDATIONS

A. Alternative 1

1. Technical Recommendations:

a. Maintain spring/winter grazing in the Bog Hot/Gridley Lake use area. Use pattern maps and actual use data indicates that current livestock management practices are meeting upland utilization objectives in the Bog Hot/Gridley Lake use area.

b. The spring use native pastures and seedings will be used in the following grazing systems: The Highway/ Maintenance/North Rattlesnake seedings will be utilized under a rest rotation system with one pasture being rested each year. The Big Creek Winter/South Rattlesnake Seeding/Lower Ashdown pastures will be used in a three pasture rest-rotation system with one pasture being rested each year. Season of use of use for both systems would be from 04/01 to 05/31.

c. Authorize 200 AUMs every other year in the Big Creek Seeding for one month during the spring grazing period (04/01 to 05/31). The seeding will be used to relieve grazing pressure in other spring pastures/use areas.

d. Water availability is the limiting factor for use on McGee Mountain. Allow limited use (approximately 700 AUMs) when water is available in existing reservoirs. When water is not available, these AUMs will be held in non-use.

e. Develop additional waters (i.e. wells, waterhauls, catchments, etc.) cooperatively with the permittee and the Sheldon Game Refuge on the McGee Mountain use area. Work McGee Mountain into a rotational system for spring with the Bog Hot/Gridley Lake use areas if waters are developed. McGee Mountain could also be available for early summer use (06/01 to 06/30).

f. Maintain the three pasture - rest rotation system in the summer pastures. The season of use and AUMs will be reduced to protect riparian/meadow resources.

g. Actively herd livestock out of riparian/meadow habitats and initiate salting and mineral block practices away from live waters for better livestock distribution in summer pastures.

h. Explore the option with the permittee for developing a cooperative agreement to allow a population of 20 to 40 head outside the established McGee Mountain HMA. Continue monitoring herd distribution and movement within the McGee Mountain HMA.

i. Fence the boundary between the Stone Cabin and Big Creek pastures.

j. Construct a riparian pasture encompassing public land portions of Big Creek and the North Fork of Big Creek. Big Creek is being considered as a potential Lahontan cutthroat trout recovery stream. The fence would provide protection for the riparian area and stream banks.

k. As per MFP III decision R 2.12, fence the Blue Lakes area and suspend 106 AUMs of livestock use (see appendix II for AUMs calculations for the Blue Lakes area).

l. Reduce the active preference by 56% from 11,784 AUM available annually to 5,213 AUMs. When the Blue Lake fence is completed, the active preference will be reduced by 106 AUMs.

m. Restructure the grazing system and implement the reduction as follows:

1. Grazing System

Bog Hot/Gridley Lake

Treatment "A" 11/01 to 02/28 - 400 C - 1,531 AUMs
Treatment "B" 04/01 to 05/31 - 356 C - 693 AUMs

Pasture Schedule

	Pasture	
Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

If permanent waters are developed on McGee Mountain, employ the following system for the Bog Hot/Gridley Lake/McGee Mountain use areas:

Pasture Schedule:

	Pasture		
Year	Bog Hot	Gridley Lake	McGee Mtn
1	A	Rest	B
2	A	B	Rest
3	Rest	A	B
4	B	A	Rest
5	A	Rest	B
6	A	B	Rest

Spring Grazing:

Highway/Maintenance/North Rattlesnake

Treatment "C" - 04/01 to 04/30 - 211 C - 205 AUMs
Treatment "D" - 05/01 to 05/31 - 211 C - 209 AUMs
Treatment "E" - Rest

Pasture Schedule

Year	Pasture Highway	Maintenance	North Rattlesnake
1	C	D	E
2	E	C	D
3	D	E	C

Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding

Treatment "F" - 04/01 to 04/30 - 232 C - 222 AUMs
Treatment "G" - 05/01 to 05/31 - 232 C - 228 AUMs
Treatment "H" - REST

Pasture Schedule

Year	Pasture Big Creek Winter	Lower Ashdown	S. Rattle. Seeding
1	F	G	H
2	H	F	G
3	G	H	F

Summer

Big Creek/Stone Cabin/Upper Ashdown

Treatment "I" 06/01 to 07/08 - 800 C - 960 AUMs
Treatment "J" 07/09 to 08/15 - 800 C - 960 AUMs
Treatment "K" Rest

Pasture Schedule

Year	Pasture Stone Cabin	Upper Ashdown	Big Creek
1	I	J	K
2	K	I	J
3	J	K	I

Fall

Upper Ashdown Pasture

Treatment "L" - 105 C - 10/1 to 10/31 - 100 AUMs

Use is to occur on the lower slopes of the Upper Ashdown pasture adjacent to Alder Creek Ranch. Use to occur on a yearly basis.

2. The proposed reduction will be implemented as per 43 CFR 4110.3-3(a), which requires the decrease to be implemented over a five year period if it is over 10%. Since December 1986, when the present permittee acquired the base properties for the Alder Creek allotment, the highest

stocking rate has been 6,177 AUMs in 1990, as indicated by actual use data. Therefore, 6,177 AUMs will be the initial reduction from the total active preference of 11,784 AUMs. The season of use will be reduced from 09/15 to 08/15 in the summer ranges and be phased in over a five year period. Monitoring data will be re-evaluated prior to the third and fifth year. Implementation will be as follows:

From:	Total Preference	Suspended Preference	Active Preference
	12,445	661	11,784

To:	Grazing Year	Total Preference	Suspended Preference	Active Preference
	1	12,445	2,843	6,177
	3	12,445	4,772	5,693
	5	12,445	6,755	5,213

Reduction Schedule:

Year	Pasture	#	Use Period	AUMs
1	Bog Hot	400 C	11/01 to 02/28	1,531
	Fenced Federal Land		04/01 to 02/28	104
	Gridley Lake/McGee Mtn	390 C	04/01 to 05/31	759
	Big Cr. Wtr/L. Ashdown/ South Rattlesnake	283 C	04/01 to 05/31	553
	Seedings	230 C	04/01 to 05/31	447
	Summer	903 C	06/01 to 07/16	1,342
		903 C	07/18 to 09/03	1,342
	Fall	105 C	10/01 to 10/31	100
			Total	6,177
3	Bog Hot	400 C	11/01 to 02/28	1,531
	Fenced Federal Land		04/01 to 02/28	104
	Gridley Lake/McGee Mnt.	372 C	04/01 to 05/31	726
	Big Cr. Wtr/L. Ashdown/ South Rattlesnake	259 C	04/01 to 05/31	503
	Seedings	220 C	04/01 to 05/31	427
	Summer	851 C	06/01 to 07/12	1,151
		851 C	07/13 to 08/23	1,151
	Fall	105 C	10/01 to 10/31	100
			Total	5,693
5	Bog Hot	400 C	11/01 to 02/28	1,531
	Fenced Federal Land		04/01 to 02/28	104
	Gridley Lake/McGee Mtn.	356 C	04/01 to 05/31	693
	Big Cr. Wtr/L. Ashdown/ South Rattlesnake	232 C	04/01 to 05/31	451
	Seedings	212 C	04/01 to 05/31	414
	Summer	800 C	06/01 to 07/08	960
		800 C	07/09 to 08/15	960
	Fall	105 C	10/01 to 10/31	100
			Total	5,213

2. Rational:

This grazing system reduces the active preference by 56% and reduces the season of use and AUMs in spring and summer pastures. The stocking rates selected were based on monitoring and actual use data and determined using the desired stocking rate formula as specified by BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7. The reductions will be implemented over a five year period as per 43 CFR 4110.3-3(a). Prior to the fifth year implementation, it is expected that the short term objective(s) for Riparian and upland objectives will not be met, specifically during the late treatment in the summer pastures. Long term objective will most likely not be met for streams, with the exception of Big Creek and other riparian pastures if fences are constructed. It is anticipated that upon reaching 5,209 AUMs level and shortened season of use by one month, the objectives will be met.

The three pasture rest rotation system will be maintained in the summer ranges. Analysis of monitoring data collected from 1983 to 1992 indicates that utilization of forage in riparian areas and meadows in the summer pastures are consistently above acceptable use levels (heavy to severe) due to livestock management practices and poor distribution patterns. By reducing livestock stocking rates and the grazing period by 30 days, a period of regrowth will be provided for riparian and meadow habitats with short-term riparian utilization objectives being met, specifically during the late treatment. Herding, salting, and mineral block practices by the permittee may move livestock out riparian/meadow habitats and allow for better distribution patterns in upland sites. However, these practices, specifically herding, will be labor intensive.

The recommended grazing system implements a rest rotation prescription for the Highway/North Rattlesnake/Maintenance Seedings. This will provide for a significant recovery and regrowth period to complete yearly growth cycles. Three pastures will be utilized each year. The stocking rates selected for the seedings are based on monitoring data and actual use data which indicates that a lower desired stocking rate for these pastures, along with a shorter and earlier period of use will result in the achievement of short and long term management objectives. The season of use has been reduced by 15 to 30 days.

A three pasture - rest rotation system will be implemented in the Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding pastures. The system provides an early removal date and lower stocking levels which will provide for a recovery period to complete yearly vegetative growth cycles. The stocking rates selected were based on monitoring data and actual use data which indicates that a lower desired stocking rate and a shorter period of use will result in the achievement of short and long term management objectives.

Monitoring data indicates authorizing 200 AUMs in the Big Creek Seeding will meet the short term utilization objective for seedings. The Desired Stocking Rate formula calculated the carrying capacity at 295 AUMs. However, monitoring data indicates this may over-obligate AUMs for the seeding. Authorizing use every other year would provide a significant

recovery period for the seeding and provide protection for the Big Creek riparian area. This type of use in the seeding will relieve grazing pressure from other spring use areas such as the Bog Hot/Gridley Lake use areas.

Monitoring data indicates that current stocking levels for both spring - winter in the Bog Hot/Gridley Lake use area are meeting upland objectives. McGee Mountain can be considered a spring pasture and moved into a three pasture rotation system with the Bog Hot/Gridley Lake use areas if permanent waters (i.e. wells, water tanks and hauls, catchments, etc.) are developed. Until new waters are developed, AUMs calculated for the McGee Mountain use area will be held in nonuse unless water is available in existing reservoirs.

The construction of a boundary fence between the Stone Cabin and Big Creek pastures will end instances of livestock drift between the two pastures. Specifically when hot season use is scheduled for Stone Cabin.

The Blue Lakes area is a high profile - high recreational use area. In order to reduce conflicts between livestock and outdoor recreationists in the lake area, MFP III Decision R 2.12 recommended closing Blue Lakes to livestock grazing by fencing. Once fence construction is completed, 106 AUMs of livestock use will be suspended from active preference.

Big Creek and the North Fork of Big Creek are being considered as a possible site for the introduction of Lahontan cutthroat trout. The length of Big Creek, location of existing fences, and geographical features support construction of a riparian fence which would allow grazing when conditions have met desired objectives. While overall percent habitat optimum for Big Creek indicate the objective for stream habitat has been met, data from the individual stream survey stations indicates that fencing is warranted.

Time, funding, water right issues, and priority of projects will dictate completion of all projects.

3. Terms and Conditions:

Active herding practices will allow for maintenance of a minimum of 30% utilization levels on streambank and riparian habitats.

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

The next evaluation will be conducted in 1996.

B. Alternative 2

1. Technical Recommendations:

a. Maintain spring/winter grazing in the Bog Hot/Gridley Lake use area. Use pattern maps and actual use data indicates that current livestock management practices are meeting upland utilization objectives in the Bog Hot/Gridley Lake use area.

b. The spring use native pastures and seedings will be used in the following grazing systems: The Highway/ Maintenance/North Rattlesnake seedings will be utilized under a rest rotation system with one pasture being rested each year. The Big Creek Winter/South Rattlesnake Seeding/Lower Ashdown pastures will be used in a three pasture rest-rotation system with one pasture being rested each year. Season of use of use for both systems would be from 04/01 to 05/31.

c. Water availability is the limiting factor for use on McGee Mountain. Authorize limited use (approximately 700 AUMs) when water is available in existing reservoirs. When water is not available, these AUMs will be held in nonuse.

d. Develop additional waters (i.e. wells, waterhauls, catchments, etc.) cooperatively with the permittee and the Sheldon Game Refuge on the McGee Mountain use area. Work McGee Mountain into a rotational system for spring with Bog Hot/Gridley Lake if waters are developed. McGee Mountain could also be available for early summer use (06/01 to 06/30).

e. Develop riparian pastures in Theodore Basin/Upper Ashdown pasture, Florence and Boyd Basin-Adams Mine/Big Creek pasture and at the head of Granite and Rattlesnake Creeks/Stone Cabin pasture. The riparian pasture in the Stone Cabin use area would be developed cooperatively with the private land owner, as portions of these areas are privately owned. If riparian pastures are constructed, allow rest for one grazing cycle (3 years) and evaluate long term objectives. If the objectives are being met, allow early summer use. See Appendix II for stocking levels calculated per pasture.

Develop a riparian pasture on Big Creek and the North Fork of Big Creek. Stocking levels will be determined during the planning stage of the fence. If the Big Creek riparian pasture is constructed, allow rest for one grazing cycle (3 years) and evaluate long term objectives. If objectives are being met, authorize use.

f. With the cooperation of the permittee, create a spring use pasture from the Big Creek Ranch to the Big Creek Seeding fence. Expand the Big Creek Seeding Fence as needed to keep livestock in the proposed spring use pasture. The pasture fence will be an extension of the Big Creek Riparian Pasture fence. The Big Creek spring use pasture will be used in a rotational system with the Lower Ashdown/Big Winter Native pasture while the South Rattlesnake seeding will be used in a system with the Highway/Maintenance/North Rattlesnake seedings.

Until the spring use pasture fence is constructed, authorize 200 AUMs every other year in the Big Creek Seeding for one month during the spring use period (04/01 to 05/31). The seeding will be used to relieve grazing pressure from other spring pastures/use areas.

g. Maintain the three pasture - rest rotation system in the summer pastures. The season of use and AUMs will be reduced to protect riparian/meadow resources.

Actively herd livestock out of riparian/meadow habitats and initiate salting and mineral block programs away for live waters in the summer pastures.

h. Explore the option with the permittee for developing a cooperative agreement to allow a population of 20 to 40 head outside the established McGee Mountain HMA. Continue monitoring herd distribution and movement within the McGee Mountain HMS.

i. Fence the boundary between the Stone Cabin and Big Creek pastures.

j. As per MFP III decision R2.12, fence the Blue Lakes area and suspend 106 AUMs of livestock use.

k. Reduce the active preference by 56% from 11,784 AUM available annually to 5,113 AUMs. When the Blue Lake fence is constructed, the active preference will be reduced by 106 AUMs.

l. Restructure the grazing system and implement the reduction as follows:

1. Grazing System

Bog Hot/Gridley Lake

Treatment "A" 11/01 to 02/28 - 400 C - 1,531 AUMs
Treatment "B" 04/01 to 05/31 - 356 C - 693 AUMs

Pasture Schedule

	Pasture	
Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

If permanent waters are developed on McGee Mountain, employ the following system for the Bog Hot/Gridley Lake/McGee Mountain use areas:

Pasture Schedule:

Year	Pasture Bog Hot	Gridley Lake	McGee Mtn
1	A	Rest	B
2	A	B	Rest
3	Rest	A	B
4	B	A	Rest
5	A	Rest	B
6	A	B	Rest

Spring Grazing:

Highway/Maintenance/North Rattlesnake

Treatment "C" 04/01 to 04/30 - 211 C - 205 AUMs
Treatment "D" 05/01 to 05/31 - 211 C - 209 AUMs
Treatment "E" Rest

Pasture Schedule

Year	Pasture Highway	Maintenance	North Rattlesnake
1	C	D	E
2	E	C	D
3	D	E	C

Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding

Treatment "F" 04/01 to 04/30 - 232 C - 222 AUMs
Treatment "G" 05/01 to 05/31 - 232 C - 228 AUMs
Treatment "H" REST

Pasture Schedule

Year	Pasture Big Creek Winter	Lower Ashdown	South Rattle. Seeding
1	F	G	H
2	H	F	G
3	G	H	F

Summer

Big Creek/Stone Cabin/Upper Ashdown

Treatment "I" 06/01 to 07/08 - 800 C - 960 AUMs
Treatment "J" 07/09 to 08/15 - 800 C - 960 AUMs
Treatment "K" Rest

Pasture Schedule

Year	Pasture		
	Stone Cabin	Upper Ashdown	Big Creek
1	I	J	K
2	K	I	J
3	J	K	I

2. The proposed reduction will be implemented as per 43 CFR 4110.3-3(9), which requires the decrease to be implemented over a five year period if it is over 10%. Since December, 1986, when the present permittee acquired the base properties for the Alder Creek allotment, the highest stocking rate has been 6,177 AUMs in 1990, as indicated by actual use data. Therefore, 6,177 AUMs will be the initial reduction from the total active preference of 11,784 AUMs. The season of use will be reduced from 09/15 to 08/15 and be phased in over a five year period. Monitoring data will be re-evaluated prior to the third and fifth year of the alternative. Implementation will be as follows:

From:	Total Preference	Suspended Preference	Active Preference
	12,445	661	11,784

To:	Grazing Year	Total Preference	Suspended Preference	Active Preference
	1	12,445	2,843	6,177
	3	12,445	4,772	5,643
	5	12,445	6,755	5,113

Reduction Schedule:

Year	Pasture	#		Use Period	AUMs
1	Bog Hot	400	C	11/01 to 02/28	1,631
	Fenced Federal Land			04/01 to 02/28	104
	Gridley Lake/McGee Mtn	402	C	04/01 to 05/31	782
	Big Cr. Wtr/L. Ashdown/ South Rattle. Seeding	262	C	04/01 to 05/31	511
	Seedings	239	C	04/01 to 05/31	456
	Summer	903	C	06/01 to 07/16	1,342
		903	C	07/18 to 09/03	1,342
				Total	6,177
3	Bog Hot	400	C	11/01 to 02/28	1,581
	Fenced Federal Land			04/01 to 02/28	104
	Gridley Lake/McGee Mnt.	379	C	04/01 to 05/31	738
	Big Cr. Wtr/L. Ashdown/ South Rattle. Seeding	247	C	04/01 to 05/31	481
	Seedings	225	C	04/01 to 05/31	439
	Summer	851	C	06/01 to 07/12	1,151
		851	C	07/13 to 08/23	1,151
				Total	5,645

5	Bog Hot	400	C	11/01 to 02/28	1,531
	Fenced Federal Land			04/01 to 02/28	104
	Gridley Lake/McGee Mtn.	356	C	04/01 to 05/31	693
	Big Cr. Wtr/L. Ashdown/ South Rattle. Seeding	232	C	04/01 to 05/31	451
	Seedings	212	C	04/01 to 05/31	414
	Summer	800	C	06/01 to 07/08	960
		800	C	07/09 to 08/15	960
				Total	5,113

2. Rational:

This grazing system reduced the active preference by 56% and reduces the season of use and livestock numbers in both spring and summer pastures. The stocking rates selected were based on monitoring and actual use data and determined using the desired stocking rate formula as specified by BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7. The reductions will be implemented over a five year period as per 43 CFR 4110.3-3(a). Prior to the fifth year implementation, it is expected that the short term objective(s) for riparian and upland objectives will not be met, specifically during the late treatment in the summer pastures. It is anticipated that upon reaching the 5,110 AUM level and shortened season of use, the objectives will be met.

The three pasture - rest rotation system will be maintained in the summer ranges. Analysis of monitoring data collected from 1983 to 1992 indicates that utilization of forage in riparian areas and meadows in the summer pastures are consistently above acceptable use levels (heavy to severe) due to livestock management practices and poor distribution patterns. By reducing livestock stocking rates and the grazing period by 30 days, a period of regrowth will be provided for riparian and meadow habitats with short-term riparian utilization objectives being met, specifically during the late treatment.

Construction of the riparian pasture fences will allow for better livestock distribution in the summer pastures while providing protection for critical riparian/meadow habitats in Theodore Basin, Florence Basin, headwaters of Granite Creek, and Boyd Basin. Herding, salting, mineral block practices by the permittee may allow for better livestock distribution by moving livestock into upland sites and out of riparian/meadow habitats. However, these practices, specifically livestock herding, will be fairly labor intensive.

Big Creek and the North Fork of Big Creek is being considered as a possible site for the introduction of Lahontan cutthroat trout. The length of Big Creek, location of existing fences, and geographical features support construction of a riparian protection fence. While overall percent habitat optimum for Big Creek indicate that the objective for stream habitat has been met, data from the individual stream survey stations

indicates that fencing is warranted. The riparian pasture fences would provide protection for critical meadows and/or riparian habitats and allow for better livestock distribution within the summer ranges.

The recommended grazing system implements a rest rotation prescription for the Highway/North Rattlesnake/ Maintenance Seedings. This will provide for a significant recovery and regrowth period to complete yearly growth cycles. The stocking rates selected for the seedings are based on monitoring data and actual use data which indicates that a lower desired stocking rate for these pastures, along with a shorter and earlier period of use will result in the achievement of short and long term management objectives. The season of use has been reduced 15 to 30 days.

Monitoring data indicates that current stocking levels for both spring and winter use in the Bog Hot/Gridley Lake use area are meeting upland objectives. McGee Mountain can be considered a spring pasture and moved into a three pasture rotation system with the Bog Hot/Gridley Lake use areas if permanent waters (i.e. wells, water tanks and hauls, catchments, etc.) are constructed. Until new waters are constructed, AUMs calculated for the McGee Mountain use area will be held in nonuse unless water is available in existing reservoirs.

A three pasture rest rotation system will be implemented in the Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding pastures. The system provides an early removal date and lower stocking levels which will provide for a recovery period to complete yearly vegetative growth cycles. The stocking rates selected were based on monitoring data and actual use data which indicates a lower desired stocking rate and a shorter period of use will result in the achievement of short and long term management objectives.

Monitoring data indicates that authorizing 200 AUMs in the Big Creek Seeding will meet the short term utilization objective for seedings. Approximately 295 AUMs were calculated using the desired stocking rate formula. However, monitoring data suggests such an AUM level may over-obligate the seeding. Authorizing use every other year would provide a significant recovery period for the seeding and protection for the Big Creek riparian area. Creation of a pasture which would include the Big Creek seeding would provide the permittee with an additional spring use area and relieve grazing pressure from other spring pastures/use areas.

The construction of a boundary fence along the between the Stone Cabin and Big Creek pastures will reduce instances of livestock drift between the two pastures.

The Blue Lakes area is a high profile - high recreational use area. In order to reduce conflicts between livestock and outdoor recreationists in the lake

area, MFP III Decision R2.12 recommended closing Blue Lakes to livestock grazing by fencing. Once fence construction is completed, 106 AUMs of livestock use will be suspended from active preference.

3. Terms and Conditions:

Cattle use in riparian pastures will be authorized for a 30 day period when the summer pasture is scheduled for use during the early summer use period. Livestock will be removed when 30% utilization levels are reached on meadows and/or riparian areas, or at the end of the 30 day period in the Big Creek Riparian Pasture. Livestock will be removed when 50% utilization are reached on upland riparian and/or meadow habitats in the Boyd Basin, Theodore Basin, Florence Basin and Granite Creek riparian pastures. To determine removal dates, mid-point utilization studies will be conducted by BLM specialists.

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

The next evaluation will be conducted in 1996.

C. Alternative 3

Permittees Proposal

On April 12, 1993, Julian Marcuerquiaga, permittee of the Alder Creek allotment, delivered the following proposal to the Winnemucca District Office:

Desired Pasture Use Schedule for 1993:

Bog Hot/McGee Pasture	590 C	4/15 - 5/31	912 AUMs
N. & S. Rattlesnake, Maintenance	100 C	4/17 - 5/31	148 AUMs
Big Creek Seeding	100 C	4/18 - 5/31	145 AUMs
Lower Ashdown, Highway, Big Creek Winter	Rest		
Upper Ashdown	790 C	6/01 - 7/15	1169 AUMs
Big Creek	790 C	7/16 - 9/15	1610 AUMs
Stone Cabin	Rest		
Giolotti Well (Gridley Lake)	400 C	11/1 - 2/28	1170 AUMs
Fenced Federal Range		3/01 - 2/28	104 AUMs
		Total	5258 AUMs*

* This schedule is for 1993 only. The full active preference was not requested per the proposal and the remainder will be put into non-use for the remainder of the 1993 grazing season.

The proposal stated the following facts should be considered in this schedule:

1. North and South Rattlesnake, Maintenance, and Big Creek Seedings were rested in 1992.

2. Giolotti Well was rested in 1992.

3. Bog Hot, Giolotti Well, and McGee Mountain are unboundaried by fences, and although the majority of cattle stay were they are placed, some drift does occur between areas.

4. Drift occurs between Stone Cabin and Big Creek pastures through what is supposed to be a natural barrier.

5. This is not to be construed as relinquishing any of my AUM preference.

As long term management proposals to address BLM concerns, the following is proposed:

1. Fence the "natural barrier" in necessary locations between Stone Cabin and Big Creek pastures. This should be accomplished in 1993 and 1994. This would require less than one mile of fencing material.

2. Fence Theodore Basin and Blue Lakes meadows in such a manner as to allow controlled grazing in each of those areas (gathering, time controlled grazing, etc.).

3. Finish the water developments (wells) in McGee Mountain pasture that were started in 1986. This pasture is abundant in forage and could be used through June with proper water developments, delaying entry into the summer pastures with some cattle or expanding on the forage base available.

4. Spray or otherwise remove brush from North and South Rattlesnake, Maintenance, and Highway seedings and reseed with crested wheatgrass.

Rationale:

The grazing schedule would basically continue hot season use within riparian and meadow habitats in the summer pastures with livestock grazing continuing until September 15 each year. This would not provide a significant recovery time for riparian vegetation located in these areas or allow for improvement of plant vigor and cover for stream recovery, specifically along Big Creek and the North Fork of Big Creek. Stocking rates and pasture schedules for spring and winter use are similar to other proposals in this document.

The proposal also discusses range improvement projects which are similar to projects in previously discussed recommendations. Full implementation of these projects may provide additional spring and possibly early summer use areas and may relieve grazing pressure in the summer pastures. The proposal recommends rehabilitating seedings located in the

eastern portion of the allotment. This may not be feasible due to time and monetary constraints. These seedings are also considered critical winter mule deer habitat.

E. Monitoring

1. Collect the following types of monitoring data to continue the evaluation of management practices.

a. Utilization
b. Actual Use
c. Climate
d. Wildlife habitat evaluation
e. Trend
f. Ecological Status
g. Stream habitat inventory
h. Water quality

F. Change the existing short and long term objectives to the following:

1. Short Term Objectives

1. Utilization of crested wheatgrass in the seeded pastures shall not exceed 50%

Long Term Objectives

1. Provide forage for existing populations of burros until the RMP is completed.

2. Wildlife:

Short Term Objectives

a. Limit utilization of current years growth on woody riparian species to 30% to promote successful recruitment of suckers and saplings in the community.

b. Limit utilization of upland riparian meadows habitat to 50% to ensure adequate stubble height and species diversity on spring pastures for sage grouse cover, and to minimize headcutting and erosion; on summer pastures to maximize plant vigor and encourage regrowth; and on fall and winter pastures to minimize the threat of spring runoff events leading to headcutting and erosion.

c. Improve or maintain desirable vegetation composition at 20% grass, 20% forb, and 60% shrubs on big sage types, and 20; 15; 65; respectively on low sage types to ensure species diversity and establish optimum habitat for identified priority wildlife species.

d. Limit utilization of mahogany to 50% to ensure adequate reproduction and recruitment of young plants in the stand.

e. Limit utilization of ceanothus to 50% to ensure successful reproduction and recruitment within the stand.

f. Limit utilization of annual leader growth of snowberry, bitterbrush and serviceberry to 50% to ensure successful reproduction and recruitment within the stand and to maximize annual leader production.

Long Term Objectives:

a. Improve or maintain upland riparian and meadow habitat to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian species.

b. Improve or maintain aspen stands to ensure good reproduction and maximize recruitment within the stand.

c. Improve or maintain mahogany stands to ensure good reproduction and maximize recruitment within the stand.

d. Improve or maintain Ceanothus with good age class distribution.

e. Improve or maintain snowberry, bitterbrush and serviceberry with good reproduction and maximize recruitment within the stand.

f. Maximize condition and quantity of pine, pine/mahogany, and pine/aspen associations.

3. Riparian/Stream Objectives:

Short term Objectives:

a. Utilization of key streambank riparian plant species shall not exceed 30% on Big, N. Fork Big, Alder, Little Alder, Wood Canyon, and Alta Creeks.

b. Limit ungulate caused mechanical damage such as streambank punching and hoof slide to 10% of the public land portions of streambank on Big, N.Fork Big, Alder, Little Alder, Wood Canyon, and Alta Creeks to enhance streambank stability, and to minimize streambank erosion and sediment loading.

Long Term Objectives

a. Improve 37.6 miles of riparian/stream habitat (see below) to a condition of good (60%, from baseline data) within the short term period (five year period) and to good or excellent condition (60% of habitat optimum or more) within the long-term (20 year period):

Stream/Riparian Habitat Condition Classification

(% of Habitat Optimum)
70 - 100% = Excellent
60 - 69% = Good
50 - 59% = Fair
0 - 49% = Poor

The stream condition rating (expressed as percent habitat optimum) is based on the evaluation of factors considered limiting to trout. These include pool-riffle ratio, pool quality, percent gravel and rubble on the stream bottom, bank cover, and bank stability.

As part of the objective of improving overall habitat condition to a rating of good, the riparian condition class (RCC) should also improve to a rating of good or better. RCC is determined in conjunction with percent habitat optimum and represents the average of bank cover and bank stability.

STREAM	MILES OF PUBLIC LAND	1987-1992 % HABITAT OPTIMUM
Big Creek	19.7	65
Alder Creek	6.6	56
Little Alder Creek	3.7	39
Wood Canyon Creek	3.4	44
Alta Creek	4.2	56

1. BIG CREEK (includes North Fork)

   a. In the short-term (over a 5 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek by 10% (or to a rating of good).

   b. In the long-term (over a 20 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek to a rating of good or excellent.

2. ALDER CREEK

   a. In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek by 4% (or to a rating of good).

   b. In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek to a rating of good or excellent.

3. LITTLE ALDER CREEK

   a. In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek by 21% (or to a rating of good).

   b. In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek to a rating of good or excellent.

4. WOOD CANYON CREEK

a. In the short-term (over a 5 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek by 16% (or to a rating of good).

b. In the long-term (over a 20 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek to a rating of good or excellent.

5. ALTA CREEK

a. In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek by 4% (or to a rating of good).

b. In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek to a rating of good or excellent.

VII. Consultation

A. Consultation of this evaluation is listed chronologically as follows:

08/05/88 Alder Creek Allotment Evaluation sent out to Permittee and Nevada Department of Wildlife.

10/06/88 Meeting held with permittee discussing management on the Alder Creek allotment.

06/24/93 Draft Alder Creek Allotment Evaluation sent out to interested parties.

07/16/93 Comments received from the Nevada Department of Wildlife.

07/22/93 Comments received from the Sierra Club - Toiyabe Chapter.

07/23/93 Comments received from the Commission for the Preservation of Wild Horses.

07/26/93 Comments received from the Desert Bighorn Council.

07/28/93 Comments received from the Sierra Club - Toiyabe Chapter.

07/28/93 Comments received from the Nevada Outdoor Recreation Association, Inc.

07/28/93 Comments received from the Public Lands Restoration Task Force.

08/17/93 Meeting with Permittee to discuss Alder Creek Allotment Evaluation.

11/17/93 Meeting with Permittee to discuss Alder Creek Allotment Evaluation.

B. Summary of Comments

Comments received from the Nevada Department of Wildlife.

Comment 1: In 1988 the District issued a draft livestock agreement with the Alder Creek Allotment Evaluation. The Department of Wildlife protested this proposed decision or livestock agreement due to a lack of consistency with the land use plan and its ability to achieve fish and wildlife objectives. To our knowledge, the livestock agreement was not final and management of the Alder Creek Allotment has been in concert with that draft livestock agreement.

Response: In January of 1989, the District issued a draft livestock use agreement to the permittee for an initial review. The document was never signed due to appeals by the Sierra Club, Natural Resource Defense Council, and the Animal Protection Institute on other livestock use agreements and/or decisions issued in 1988. These appeals did not include Alder Creek.

As a result of the appeals, livestock management practices continued as before the 1988 allotment evaluation. These practices will continue until the allotment evaluation is finalized for the Alder Creek Allotment.

Comment 2: Please reference the AMP date.

Response: The AMP date is June 25, 1971.

Comment 3: The first Alder Creek Allotment Evaluation was completed on August 8, 1988. Please summarize the findings of this document and management actions taken by the District.

Response: In August 1988, an Alder Creek Allotment Evaluation was issued to affected interest, including the Nevada Department of Wildlife. Please see the Conclusion Section, page 28, of the document for a summarization of the document.

Any management actions based on the 1988 allotment evaluation document and the subsequent draft livestock use agreement were not implemented (See NDOW Comment 1).

Comment 4: In 1980 the Alder Creek and Knott Creek Allotments were created by dividing the Knott Creek Allotment. Active preference of the original Knott Creek Allotment was divided between the two new allotments. Please explain the division of these AUMs and compare them to the Bureau's 1978 suitability criteria that indicated that there were 9,471 AUMs available to livestock from both allotments.

Response: In the original adjudication of the Alder Creek and Knott Creek allotments, 12,445 AUMs was the total preference for the Alder Creek Allotment and 7,076 AUMs for the Knott Creek Allotment. The allotments and livestock operations were seperate until 1955. During that year, the Alder Creek Ranch bought the base properties tied to Knott Creek and the two allotments were considered the Alder Creek allotment until 1978. The total preference for the combined Knott Creek - Alder Creek allotment was 19,531 AUMs. In September 1978, the Alder Creek Ranch sold the Knott Creek base properties to

RDD Corp. In 1980, a Range Use Area Agreement was signed and the Alder Creek Allotment was separated into the Alder Creek and Knott Creek use areas. In 1982, the Range Use Area Agreement became an Allotment Boundary Agreement with Alder Creek and Knott Creek becoming separate grazing allotments. The AUMs were re-divided as per the original adjudication (pre-1955) as stated above.

The 9,471 AUMs referred to is from the 1978 Range Survey as stated in the Paradise-Denio Environmental Impact Statement. Bureau policy is that decisions adjusting levels of livestock grazing will be based on monitoring data such as climatic, actual use, utilization, trend and supplementary information (fire, insect infestations, etc.) collected over time. SVIM-type survey's or one-point-in-time inventories such as the 1978 Range Survey may not be used to adjust livestock numbers. The Paradise-Denio Rangeland Program Summary - 1983 states the following: "Adjustments in grazing use will be based upon rangeland monitoring and/or agreements". In addition, Range Management Objective 1.1 (RM 1.1) as per the Paradise-Denio Resource Area Management Framework Plan - Step 1 is as follows: "Determine the initial stocking rage of each allotment from the 1978 range survey and adjust the stocking rate of public lands accordingly". This recommendation was rejected by District Manager's Decision with the following rationale: "Forage will not be allocated within the Paradise-Denio Resource Area. Future adjustments in grazing use will be based on monitoring as called for in the Bureau's new Rangeland Management Policy". Monitoring data must show that adjustments are necessary and justified, this includes both permanent increases or decreases in grazing use.

Rangeland inventories are used to determine ecological forage condition or provide a baseline for monitoring. These inventories may be used in combination with other applicable monitoring data as previously discussed to determine if adjustment of livestock numbers are required.

Comment 5: Short term objectives for key stream bank riparian plant species are consistent with the 1988 draft livestock agreement and not the 1988 allotment evaluation.

Response: The 1988 allotment evaluation and draft livestock use agreement were initial efforts to establish utilization objectives for the Alder Creek Allotment. These objectives were neither finalized nor approved through the decision and/or livestock use agreement process. Although the wording of the objectives contained in the 1988 documents and the 1993 draft evaluation are similar, there is no requirement the objectives remain identical due to the 1988 documents not being finalized. During the evaluation period (1983 to 1992), utilization levels and management practices in stream-side riparian areas were evaluated with a short-term utilization objective of 50%. Through the 1993 evaluation process, the recommendation is for the short-term utilization objective for stream-side riparian vegetation to be 30% to meet management objectives for the allotment. This recommendation has been carried forth in the selected management action section of this document and may be initiated through the multiple use decision process. This objective, along with other recommended short and long term allotment specific objectives, can be met by a change of management practices as discussed in the selected management action section of this document.

Comment 6: Mule deer depend upon mountain browse for survival. This allotment contains over 40 percent of mule deer habitat in the Pine Forest Range. The population data provided to the District for the past 10 years indicates a decline in mule deer numbers.

Response: Mule deer population estimates for the Alder Creek Allotment for the last five years were based on estimates provided by NDOW for Hunt Units 031, 032, 034, and 035. The data provided by NDOW since 1990 groups deer populations from these units into a single estimate for area 3. Population estimates have been static to slightly increasing as per the published estimates for area 3 since 1990. Lacking better information, the population estimate for the Alder Creek Allotment was calculated using these numbers. Please refer to pages 13 and 14 for a description of the methodology for calculating an allotment specific population estimate.

Prior to 1990, NDOW estimated mule deer populations for area 3 based on the individual hunt unit. The fall population estimate for unit 032 for the years 1985 to 1989 ranged from 1424 in 1985 to 3982 in 1986, to 3053 in 1987, and finally 3501 in 1988. While there seemed to be a significant decline in numbers from 1986 to 1987, there was also a huge increase in estimated population size from 1985 to 1986. Overall, from 1985 to 1988, the population estimates more than doubled for unit 032.

Comment 7: Mountain browse species include the key species bitterbrush, snowberry, and serviceberry. We fail to find where the District monitored these key species.

Response: Utilization data on mountain browse species was collected during the evaluation period. Pages 21 to 24 of the 1993 Draft Alder Creek Evaluation outlines data collected from 1983 to present. Data on browse species was collected while use pattern mapping occurred. On September 28, 1993 Bitterbrush was inspected in the Stone Cabin, Upper Ashdown, and Big Creek pastures. In addition, Snowberry was inspected in the Upper Ashdown, and Big creek pastures. In both cases, it was determined through inspection of the utilization pattern on the current years growth, as well as previous years leader growth, livestock were not detrimentally effecting either the age or form class distribution in these stands. Serviceberry was not inspected during this trip.

Specific studies monitoring key browse species will be established during the next evaluation period. These may include line intercept, quadrant frequency, cole browse, and vertical cover.

Comment 8: Short term objectives emphasize allowable use criteria for key riparian species on key management areas along streams and in wetland meadows. We fail to find adequate monitoring of the streams and meadows.

Response: Utilization data on stream bank riparian habitats and meadows was collected during the evaluation period and analyzed in the draft evaluation. Please see pages 20 to 24 of the evaluation for a summary of the data. Appendix III of the document discusses the 1992 stream survey and pages 32 - 35 of the document outlines the 1992 surveys and surveys conducted in previous years.

Comment 9: The 1988 Alder Creek Allotment Evaluation disclosed use pattern mapping collected in 1980-1984 and 1987. These data or summary of findings should be presented in the 1993 allotment evaluation.

Response: The evaluation period for the 1993 Alder Creek Allotment Evaluation is from 1983 to 1992. Monitoring data collected prior to this period is not applicable to this document. Data collected from 1983, 1984, and 1987 are summarized on pages 18 - 27 of the draft evaluation.

Comment 10: Utilization of mountain browse species should be documented as to differentiate ungulate use. Form class of heavy and severally hedged plants should indicate type of use.

Response: See response to Nevada Department of Wildlife comment # 7.

On September 28, 1993 representatives from the Paradise-Denio conducted a field trip in the Alder Creek allotment to inspect livestock and deer use on bitterbrush. In all five inspection sites, bitterbrush leaders of the current year had non to slight use to date in the growing season. The plants exhibited a light to moderately hedged form class from previous years which indicates light to moderate utilization has occurred in the past. Based on the utilization of current years growth, the evidence indicates light to moderate utilization occurs on bitterbrush in the late fall - early winter. This is after livestock are removed from the summer pastures.

The draft allotment evaluation (page 3) states livestock use in the summer pastures during the evaluation period was completed by September 15 each year. This indicates the light to moderate hedged form class on bitterbrush is being created and maintained by fall deer use. The short term utilization for key upland species, including bitterbrush and other upland key browse species is 50%. Evidence from the September 28, 1993 trip indicates this objective is being met for this year and previous years by current wildlife and livestock use. However, data collected on this field trip was not considered in the evaluation since it was not collected during the evaluation period.

Comment 11: Use pattern mapping data and summaries indicate heavy and severe use of key species important to fish and wildlife. We fail to find the use of 30 percent, as found in the allotment specific objectives, as the desired utilization rate. We fail to find the actual utilization measured at 80 and 90 percent use in the computations.

Response: See Response to NDOW comments # 5

Desired stocking rate (DSR) calculations in Appendix 1 were based upon actual use data and utilization monitoring data collected from 1983 to 1992. The calculations are based upon the mid-point of the highest utilization level found in key management areas. In the case of the Alder Creek allotment, no key management areas have been established. Therefore, riparian and meadow habitats in the summer ranges and the highest utilization zone in other areas of the allotment were considered as key management areas for the DSR calculations. Analysis of monitoring data, as outlined in pages 18

- 27 of the draft evaluation and further analysis of monitoring data contained in the Alder Creek Allotment monitoring file indicates the majority of utilization within these habitats ranges were slight (1 - 20%), light (21 - 40%), moderate (41 -60%) and heavy (61 to 80%). Therefore, the midpoint of the highest utilization zone found in riparian/upland meadows located in the summer pastures and the highest utilization in other pastures were utilized in the DSR calculations. At no time were the utilization classes combined and averaged. Severe utilization levels (81 -100%) was not used in the calculations because analysis of monitoring data indicated it did not occur from 1984 to 1992. Monitoring data collected in 1983 did indicate that "heavy to severe" utilization levels occurred in the summer pastures. This data was unusable for DSR calculations because the utilization classes were combined on the UPM and trip write-ups.

Comment 12: The 1988 and 1993 allotment evaluations did not complete habitat evaluations. It is apparent that continued over utilization of bitterbrush have contributed to the corresponding decline in mule deer numbers. A habitat evaluation is necessary.

Response: See response to Nevada Department of Wildlife comment # 6.

There is no evidence observed in the summer pastures which suggests that bitterbrush is being over utilized, or that the current light and moderate form class is a result of livestock grazing. A habitat evaluation is a summary of data collected with regard to condition and trend of wildlife habitat, and cannot be completed without this data. At present, there are no wildlife key areas established for the Alder Creek Allotment, however, this allotment will be monitored during the 1994 field season. Following collection of this baseline information, a habitat evaluation will be completed and incorporated into the next evaluation.

Comment 13: Federal Regulations 43 CFR 4110.3-3(a) is in conflict with federal regulations that require resource protection. Implementation of 43 CFR 4110.3-3(a) to support management actions known to cause resource damage and exceed carrying capacities is not in the best interest of the natural resources of Nevada.

Response: The Code of Federal Regulations (CFR) are under the authority of the 1934 Taylor Grazing Act and the Federal Land Policy and Management Act of 1976 as amended by the Public Rangelands Improvement Act of 1978. The CFR regulations and BLM manuals provides the Bureau with specific policy and guidance for multiple-use management under the above acts. The proposed reduction schedule and management actions in the technical recommendation section and as stated in the selected management action are in compliance with appropriate 43 CFR regulations and BLM manuals governing livestock management on public lands.

Comments Received From the Sierra Club - Toiyabe Chapter (letter received July 22, 1993)

Comment 1: Stocking levels appear to be a major cause of the grazing management problems on this allotment. The BLM is proposing to keep the status quo on livestock grazing in the Alder Creek Allotment.

Response: The majority of unacceptable use levels in the summer ranges can be contributed to poor livestock distribution due to the topography of the area and past livestock management practices.

Monitoring data indicates the majority of unacceptable use levels in upland wet meadow habitats located in summer pastures occurs during the late summer use period while short term utilization objectives for these habitats are being met during the early summer grazing period. The proposals for fencing upland wet meadow habitats has not been carried forth in the selected management action and the following action has been inputted for the late summer use period: "Allow 50% utilization on upland wet meadow habitats. When 50% utilization is reached on these areas, livestock will be removed from the pasture. To determine removal dates from the late summer use pasture, mid-point utilization studies will be conducted by BLM specialists. Additional studies may be required after the mid-point inspection if utilization levels are approaching 50% in upland wet meadow habitats. If the recommended utilization levels are reached before the end of the grazing period, the livestock operator will be given a seven (7) day notice in which to remove livestock from the pasture". These actions, along with reducing the season of use and livestock numbers will allow for regrowth of both woody and herbaceous species at the end of the grazing period.

During the preparation of the Final Alder Creek Allotment evaluation, the Alder Ranch and associated base properties were sold. The transfer of the grazing preference for the allotment has yet to completed. In order for short-term utilization objectives to met during the upcoming evaluation period (1993 to 1998), the authorized officer has determined that year five (1998) of the reduction schedule, along with terms and conditions, will be implemented through the multiple-use decision and transfer process. Years 1 (1994) and 3 (1996) of the reduction schedule as outlined in the technical recommendation section of the evaluation will not be implemented.

> 43 CFR 4110.2-3(a)(3) states: "The transferee shall accept the terms and conditions of the terminating grazing permit or lease (see § 4130.2) with such modifications as he may request which are approved by the authorized officer or with such modifications as may be required by the authorized officer."

In the preferred alternative, 5113 AUMs is the desired stocking rate for the allotment with 1920 AUMs being the desired stocking rate for the summer pastures for the entire summer grazing period. This represents a reduction of 402 AUM's from the summer pastures. The season of use for the summer ranges will be reduced by one month from 09/15 to 08/15. The early removal date along with the term and condition for the late summer use period will reduce hot season use by at least one month and allow for vegetative regrowth of both woody and herbaceous species in riparian and meadow habitats. Season of use and livestock numbers will also be reduced in the seedings and native spring pastures.

In addition, 800 AUMs (700 AUMs McGee Mountain, 100-Upper Ashdown Pasture) will be held as not scheduled (non-use) and may be activated by grazing application from the permittee as per stipulations as described in the Selected Management Action Section of this document.

These actions represents a significant change of livestock management in the Alder Creek allotment.

Comment 2: While on the surface, the 56% reduction in livestock numbers looks like a significant change, it is not. It is merely a cut in paper cows, not in the actual livestock numbers which monitoring has documented are causing severe environmental damage. The new "active preference" number of 5,213 exceeds or is close to actual livestock numbers in 5 of the last 6 years.

Response: See response to Sierra Club - Toiyabe Chapter Comment # 1 and the Nevada Department of Wildlife Comment #13.

Comment 3: We question the use of the stocking rate formula in setting a carrying capacity of 5,213 AUMs. In reviewing Appendix I, we found that the 70% actual utilization in the calculations on nearly every use area specified is a clear and obvious reflection of the chronic and severe overgrazing occurring in this allotment by actual livestock use.

Response: See response to Nevada Department of Wildlife Comment # 11.

Comment 4: The narrative says that the desired stocking rates were calculated using riparian and/or meadow habitats as key management areas, the utilization plotted is 50%. My copy of the original allotment evaluation for Alder Creek shows a 30% utilization limit.

Response: See response to Nevada Department of Wildlife Comment # 5.

Comment 5: On p. 29 of the draft AE, information is presented that a 1978 range survey found only 9,471 AUMs for the entire allotment (before the split created the Knott Creek allotment). Why were 12,445 AUMs ever given as total preference for this allotment and explain the discrepancy between carrying capacity estimates in 1978 and in 1993.

Response: See response to Nevada Department of Wildlife comment # 4.

Comment 6: Please explain how any of the actions proposed by BLM will affect each of the following wildlife objectives:

1. increasing grass and forb composition in greasewood and sagebrush communities;
2. protection for browse species;
3. improvement and maintenance of a sufficient quantity, quality, and diversity of habitats for all wildlife species;
4. improvement of aquatic habitats;
5. support of reasonable numbers of big game species,
6. mitigation of existing habitat problems/conflicts in the Theodore Basin and Adams Mine Meadow;
7. protection of sage grouse breeding complexes;
8. improvement and maintenance of sports fisheries;
9. improvement to and maintenance of 27,925 acres in McGee Mtn., 50,841 acres in Pine forest in good and excellent mule deer habitat condition;

10. improvement to and maintenance of 56,609 acres in Denio, 12,866 acres in McGee Mtn., 25,743 acres in Alta Creek, and 260 acres in Leonard Creek in fair or good pronghorn habitat condition;
11. improvement to and maintenance of 286 acres of mahogany habitat types in good condition;
12. improvement to and maintenance of 1,156 acres of aspen habitat types in good condition;
13. improvement to and maintenance of 733 acres of riparian and meadow habitat types in good condition;
14. improvement to and maintenance of 185 acres of pine-aspen-mahogany associations in good condition;
15. improvement to and maintenance of 85 acres of Ceanothus habitat types in good condition;
16. improvement of the following stream habitat conditions to an overall optimum of 60% or above: from 65% on Big Creek, 53% on the North Fork of Big Creek, 56% on Alder Creek, 39% on Little Alder Creek, 44% on Wood Canyon Creek, and 56% on Alta Creek;
17. protection of sagegrouse strutting grounds and brooding areas: maintenance of 30% cover of sagebrush for nesting and winter use.

Response: Through the allotment evaluation process, the authorized officer has determined a change of livestock management is required to meet allotment specific short term utilization objectives and to make progress in maintaining, meeting, and/or improving long term objectives (see responses to Nevada Department of Wildlife Comment # 13 and Sierra Club - Toiyabe Chapter (July 22, 1993) Comment # 1). The recommendations as described in the selected management action section of this document has been developed through a inter-disciplinary team process within the District to meet these objectives. Recommendations have been made to modify objectives for the upcoming re-evaluation period. The revised objectives can be found in the selected management action section of this document.

Fencing Blue Lakes to exclude livestock grazing at the lake will improve recreation opportunities, including sport fisheries, in the grazing allotment.

Comment 7: Please provide information on riparain areas current conditions as well as why riparians are not currently in proper functioning condition.

Response: Since the functionality surveys for streams within the Alder Creek Allotment has not been conducted, it is not known what percentage of riparian areas are in fully functioning condition. Until such surveys are conducted, it is unknown what percentage of riparian areas will be in proper functioning condition by 1997.

Comment 8: Eliminate all livestock grazing from the Blue Lake area immediately and manage the area for its scenic, recreational, fisheries, and water quality values.

Response: This recommendation was discussed in Alternative 1 (pg.43) and Alternative 2 (pg.49) of the draft allotment evaluation and will be carried forth as a recommendation in the selected management action section of this document. The recommendation is for livestock to be excluded from Blue Lakes by fencing with the area being managed for recreational values.

Where there is a decrease in public land acreage available for livestock grazing use within an allotment, the permittees or lessees shall be given 2 years prior notification before their grazing permit or lease may be modified or cancelled. Excluding livestock use from Blue Lakes falls under this category since the area would be devoted to a public purpose which precludes livestock grazing.

After completion of the multiple use decision based on this allotment evaluation, the project planning process for the Blue Lakes Protection fence will began. As per Winnemucca District policy, the project planning will last three years. Actual construction and completion of the project planning process will be dependent on man power, funding, and project priority.

Comment 9: The area proposed to be used by livestock is currently habitat for a thriving flock of big horn sheep. The wildlife do not need water developments to service in this area. Designate the McGee Mountain area as a critical wildlife area and preclude any water developments for livestock use.

Response: Grazing authorizations, monitoring and actual use records indicate that livestock use has occurred on McGee Mountain when water is available on a continuous basis before 1986. Livestock grazing has not occurred from 1987 to 1988 and 1990 to present due to lack of water in existing reservoirs. In 1983, approximately 643 AUMs were authorized and short term utilization objectives for upland habitats were met. This indicates authorizing 700 AUMs or lower will not have an adverse effect on McGee Mountain.

Livestock use in the McGee Mountain use area will be authorized when waters are available in existing structures such as reservoirs and catchments. These reservoirs and catchments are not dependable sources of water as the watersheds above the reservoirs are not very large. When livestock grazing is authorized, use will not be allowed more than two years in row.

The recommendation for water developments (i.e. wells, catchments) will not be carried forth in the selected management section of the evaluation. In 1986, attempts were made to drill a well with no success. However, if water development projects were feasible, this would aid bighorn sheep populations by providing additional waters.

In addition, during the mid to late 1980's, big horn sheep guzzlers were constructed on McGee Mountain to service the sheep relocated to this area during the mid-1980's.

Comments received from the Commission for the Preservation of Wild Horses

Comment 1: We are very concerned with your lack of management of your wild burro population. Your census data shows that since 1973 your population is not being maintained within the boundaries of the HMA, they have all been documented outside of the HMA and within the Sheldon Refuge. It puzzles me that you have provided absolutely no census information showing burro use within the HMA but on page 35, you state "No specific studies have been conducted to document burro use within this allotment", however you conclude that 20 to 25 burros are using the allotment. Please document exactly how you have come to those conclusions.

Response: The McGee Mountain area has not been a year long area for burros to reside in due to lack of water and the topography of the area. The west side of McGee Mountain is unfenced which allows the burros to use the Sheldon Refuge, the Bog Hot/Gridley Lake area and springs in the lower elevations of McGee Mountain. Census data and personal observations gathered since the 1970's indicates that the majority of burros are in the Sheldon Refuge and Bog Hot/Gridley Lake area with very little burros use occurs in the McGee Mountain HMA. A 1989 census indicated there were 37 burros in the Bog Hot/Gridley Lake area and a 1980 aerial census indicated 41 burros, most of which were out of the HMA. Current census data and general observations indicates 20 to 30 head in the Bog Hot/Gridley Lake use areas.

Studies such as burro herd movement have not been conducted inside and outside of the HMA. However, use pattern mapping in the Bog Hot/Gridley Lake use areas indicates current livestock stocking levels and burros numbers are not having a detrimental effect on upland habitats and short-term utilization objectives are being met for uplands.

Comment 2: 43 CFR 4710.4 states that "management of wild horses and burros shall be undertaken with the objectives of limiting the animals to herd areas". Your only reference to burros in the technical recommendations is that you will try work out a cooperative agreement with the permittee to allow 20 to 25 head to reside outside the HMA and you will manage for them in that area.

Response: See responses to Sierra Club - Toiyabe Chapter Comment # 9 and Commission for the Preservation of Wild Horses Comment # 1.

The recommendation in Alternative 2 to work out a cooperative agreement with the permittee for 20 to 25 burros will not be carried forth in the selected management action section of this document. The following recommendation will be in the selected management action section of this document:

> "Adjust the HMA boundary during the Resource Management Plan (RMP) Process to include Bog Hot and Gridley Lake pastures within the Alder Creek Allotment. Delete those portions of the HMA within the Wilder-Quinn and Knott Creek allotments. Set the initial AML at 41 burros as per the Paradise-Denio Resource Area Multiple-use Framework Plan, pending monitoring data".

Comments received from the Desert Bighorn Council

Comment 1: The colored use pattern maps for each year are appreciated; we do question the labor intensity that goes into each reviewers packet.

Response: The colored use pattern maps are xeroxes of the original use pattern maps. The originals are made after utilization data is gathered in a particular pasture or grazing allotment at the end of the grazing period. Based upon this, it is much simpler to photocopy the colored use pattern maps. It has also been our experience that using colors to delineate different use levels is much less confusing then hachures, especially when all or most use levels are found.

Comment 2: California bighorn sheep are mentioned under allotment specific objectives on page 11, but dropped from the conclusions on page 39. It would be appreciated if they were addressed, even with a simple statement that the population appears to be increasing, as is noted in the 1993 Nevada Department of Wildlife Big Game Status and Quota Recommendations.

Response: Thank you for bringing this to our attention. The above mentioned paragraph in the conclusion section (para. 2a., pg. 39) now reflects California bighorn sheep populations as expanding in the Alder Creek allotment.

Comment 3: The long term, allotment-specific objectives which deal with big game forage demand (AUM's), found starting on page 10 and alluded to in the land use plan and specified in the RPS, are dropped entirely in the technical recommendations VI.F on pages 56 and 57.

Response: Thank you for bringing this to our attention. This objective was inadvertently left out of the technical recommendation section as stated. It will be included in the selected management action of the Final Evaluation.

Comments received from Sierra Club - Toiyabe Chapter (July 28, 1993)

Comment 1: I can find no real solution to the severe problems in the WSA in this document. The allowable AUM's in both Alternatives 1 and 2 to 5213 AUM's sounds like a big reduction from 11,784 AUM's until one realizes that according to table of actual use on page 13, the use during the past six years averages 5330 AUMs.

Response: See responses to Nevada Department of Wildlife Comment # 13 and Sierra Club - Toiyabe Chapter (July 22, 1993) Comment # 1.

Comment 2: It may be necessary to totally remove cattle from the WSA until the health of the riparian areas and meadows and the good water quality in streams and lakes are both restored. If grazing is not totally excluded, it must be cut to a level that does not degrade further the wilderness qualities of the WSA.

Response: Through the allotment evaluation process, the authorized officer has determined a change of livestock management is required to meet allotment specific short term utilization objectives and to make progress in maintaining, meeting, and/or improving long term objectives (see responses to Nevada Department of Wildlife Comment # 13 and Sierra Club - Toiyabe Chapter (July 22, 1993) Comment # 1 and # 9). The recommendations as described in the selected management action section of this document has been developed through an inter-disciplinary team process within the District to meet these objectives. Elimination or modification of grazing use within the WSA as per 43 CFR 4110.3-3(c) is not required.

Comment 3: I ask the document be modified to include an environmental alternative which really addresses the problems of overgrazing in the WSA and the degradation of the wilderness resource.

Response: See response to comment 2 of this section.

The alternatives were designed to meet short term utilization objectives within the Alder Creek allotment. The preferred action addresses management of livestock and resources such as riparian and recreation values both inside and outside the WSA.

Comments received from the Public Lands Restoration Task Force

Comment 1: All pastures, Stone Cabin, Big Creek, and Upper Ashdown without exception revealed heavy livestock use on all meadow and riparian areas.

Response: Monitoring data indicates instances of utilization levels in upland wet meadow habitats and riparian areas both above and below acceptable use limits during the evaluation period.

Comment 2: The proposed three pasture rotation system will not allow the reestablishment of woody plants in the wet meadows and riparian areas.

Response: Through the allotment evaluation process, the Bureau has identified problems associated with riparian and meadow habitats. The selected management action address's problems associated with these areas by reducing stocking levels, shortening the season of use in both summer and spring pasture/use areas, and requiring the removal of livestock when 50% utilization levels are reached on upland meadow habitats in the summer pasture scheduled for late summer use. These actions will allow for short term utilization objectives to be met, which in turn, will meet growth requirements of woody plants by allowing for one plus month of regrowth.

Comment 3: Language is included which states, "For Big Creek to support a healthy riparian/stream system and fishery, some alternatives to the current grazing system should be considered: (1) adjust the season of use along Big Creek to allow for adequate regrowth of riparian/stream herbaceous vegetation." We believe this recommendation from your own survey should be followed in any proposed grazing system that will utilize riparian and wet meadow areas.

Response: See Sierra Club - Toiyabe Chapter (July 22, 1993) Comment # 1.

The preferred alternative as discussed in the selected management action addresses this recommendation by reducing livestock numbers, reducing the season of use in the summer pastures by one month, and requiring the removal of livestock from the summer pasture scheduled for the late summer treatment when 50% utilization levels are reached on upland wet meadow habitats. These management actions will allow for adequate regrowth of meadow and riparian vegetation.

Comment 4: It is our understanding that the Bureau's grazing guidelines in Nevada dictate no more than 30% utilization of stream bank riparian vegetation. This should be adhered to.

Response: There is no such grazing guideline or policy dictating 30% utilization on stream bank riparian vegetation in Nevada. This standard came from research conducted by Bill Platts which indicates restricting utilization to 25 percent on riparian habitats within a

3 year rest rotation grazing system such as that on the three summer pastures in this allotment, was adequate to maintain the streambank in satisfactory condition in the most sensitive channel types. Not only does this protect the vigor of the vegetation, it limits the amount of time during which banks are subjected to mechanical damage. This conservative use level also allows for more rapid improvement of aquatic habitat which is in unsatisfactory condition, regardless of channel types. When the habitat is one of those to be managed as a fishery, it is deemed to be essential that livestock management be conservative enough to ensure the fishery is not jeopardized. Thus, these considerations are the basis for the 30 percent maximun use objective being applied to streams supporting fisheries in the Paradise-Denio Resource Area. In streams without fisheries, a 50 percent utilization objective on stream bank riparian habitats is applied.

Based upon this research, the Winnemucca District has adopted these standards for management of stream side riparian habitats. During the evaluation period (1983 to 1992), utilization levels and management practices in stream-side riparian areas were evaluated with a short-term utilization objective of 50% in the Alder Creek allotment. Through the 1993 evaluation process, the recommendation is for the short-term utilization objective for stream-side riparian vegetation to be 30% to meet management objectives for the allotment. This recommendation has been carried forth in the selected management action section of this document.

Comment 5: NDOW indicates their data reveals a decline in mule deer numbers for the past ten years. Your report states at page 14, "in general terms, unit 032 deer, pronghorn and bighorn sheep populations have been increasing in recent years."

Response: See response to Nevada Department Of WIldlife comment # 6.

Comment 6: Our examination of the draft plan does not reveal any attempt to monitor or evaluate key browse species; i.e., bitterbrush, snowberry, and serviceberry.

Response: See response to Nevada Department of Wildlife comment # 7.

General Comment: Allotment specific short term utilization objectives for key browse species is 50% to ensure adequate reproduction and recruitment of young plants, and to maximize annual leader growth. Long term objectives for key browse species state improve or maintain browse species to ensure good reproduction, maximize recruitment, and have good age distribution within communities. How will browse species be monitored to assure these objectives are being met.

Response: The following studies to monitor key browse and upland habitats will be considered: line intercept, quadrant frequency, cole browse, vertical cover, and key browse. These studies will be established in accordance with BLM Manual 6630 guideline and Rangeland Monitoring - Trend Studies (Technical Reference 4400-4). The following is a brief description of each study:

1. Line Intercept: monitors species diversity and frequency of occurrence within the study site based on canopy coverage and basal width. This method can be applied to variety vegetative types and is suited for use with grasses, forbs, and shrubs.

2. Key Browse: evaluates key browse age and form class distribution. This method determines annual utilization and composition of browse species and is conducted in areas of big game and domestic livestock interaction.

3. Cole Browse: evaluates key browse age and form class distribution, availability and hedging of browse species, and growth indices for the browse component of the plant community. The method determines annual utilization and trend estimates and is conducted in areas of big game use.

4. Vertical Cover: evaluates the ability of vegetation and topographic factors to provide crucial hiding and thermal cover, and provide photo points in which trend can be assessed.

5. Quadrat Frequency: measures frequency or occurrence of vegetative species within a community. Provides cover (Basal and Litter) and reproduction of key species data. This method can be applied to variety vegetative types and is suited for use with grasses, forbs, and shrubs.

VIII. Management Action

Selected Action:

The following is the preferred management action for the Alder Creek allotment. Upon further review, monitoring data indicates adjustments of livestock numbers and season of use to meet short term utilization objectives are warranted in the summer ranges, the seedings and native spring pastures. The proposed change in livestock management is as follows:

A. From: (Description of existing use)

1. Grazing Preference

a.	Total Preference	12,445
b.	Suspended Preference	661
c.*	Active Preference	11,784

* Revised as per Craig Moore Land Sale Completion October, 1989.

2. Season of Use: 04/01 to 09/15; 11/01 to 02/28

3. Kind and Class of Livestock: Cattle (Cow/Calf)

4. Percent Federal Range - 97%

5. Grazing System

The following system has been utilized from 1983 to present consisted of four individual grazing systems. The use periods as listed in this section are approximate to what the permittee ran from 1987 to present. The use periods, livestock numbers, and AUMs fluctuated yearly and could not accurately be reflected in this document. This is due in part to factors such as the phenological stages of the plants, weather conditions, and the range readiness of the summer pastures. However, the permittee stayed within the grazing system as documented above during this time period and took considerable nonuse. From 1987 to 1991, actual use records indicated AUMs varied from 6,177 AUMs to 5,192 AUMs.

Bog Hot/Gridley Lake:

Treatment "A"	11/01 to 02/28
Treatment "B"	04/15 to 06/15

Pasture Schedule

Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

East Side:

Treatments

Treatment "A"	04/15 to 05/15
Treatment "B"	05/16 to 06/15
Treatment "C"	04/15 to 06/15
Treatment "D"	Rest

Pasture Schedule

Year	South Rattlesnake	Highway	Big Creek Winter
I	A	B	C
2	D	D	D
3	B	A	C
4	D	D	D

Year	North Rattlesnake	Maintenance	Lower Ashdown
1	D	D	D
2	A	B	C
3	D	D	D
4	B	A	C

Big Creek Seeding

Treatment "E" 05/01 to 06/15

Year	Treatment
1	E
2	D

Summer Pastures:

Treatment "A" 06/16 - 07/31
Treatment "B" 08/01 - 09/15
Treatment "C" Rest

Pasture Schedule

Year	Big Creek	Stone Cabin	Upper Ashdown
1	A	B	C
2	C	A	B
3	B	C	A

Terms and Conditions:

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

B. To: (Description of Changes)

Livestock management on the Alder Creek allotment will be as follows:

a. Grazing Preference Status (AUMs)

1.	Total Preference	12,445
2.	Suspended Preference	6,532
3.	A. Active Preference	5,113
	B. Not Scheduled	800

b. Season of Use: 04/01 to 08/15; 10/01 to 02/28

c. Kind and Class of Livestock: Cattle (Cow/Calf)

d. Percent Federal Range - 97%

e. Grazing System

Livestock Reduction:

During the preparation of the final allotment evaluation, the Alder Creek Ranch and the base properties associated with the Alder Creek grazing allotment were sold. The transfer of grazing preference from the previous landowner to the new landowner is now being completed.

Through the transfer process, the grazing permit may be modified to meet Land Use Plan and allotment specific objectives for the Alder Creek allotment. To meet these objectives, the following actions shall be implemented through the multiple-use decision process and the new grazing permit shall reflect these actions:

1. Years 1 (1994) and 3 (1996) of the reduction schedule as outlined in the technical recommendation section will not be implemented.

2. Year five (1998) of the reduction schedule, along with terms and conditions, will be implemented in 1994.

3. The active preference will be reduced from 11,784 to 5,113 AUMs. An additional 800 AUMs shall be held in non-use (Not Scheduled).

From:	Total Preference	Suspended Preference	Active Preference
	12,445	661	11,784

To:	Total Preference	Suspended Preference	Active Preference	Not Scheduled
	12,445	6,532	5,113	800

Bog Hot	318	C	10/01 to 02/28	1,531
Fenced Federal Land			04/01 to 02/28	104
Gridley Lake	356	C	04/01 to 05/31	693
Big Cr. Wtr/L. Ashdown/ South Rattle. Seeding	232	C	04/01 to 05/31	451
Seedings	212	C	04/01 to 05/31	414
Summer	800	C	06/01 to 07/08	960
	800	C	07/09 to 08/15	960
			Total	5,113

Rationale:

The stocking rates selected were based on monitoring and actual use data and determined using the desired stocking rate formula as specified by BLM Manual Rangeland Monitoring Analysis, Interpretation, and Evaluation, Technical Reference 4400-7.

Not Scheduled AUM's:

The 800 AUM's held as Not Scheduled (non-use) are for McGee Mountain and fall use in the Upper Ashdown pasture (700 AUMs - McGee Mountain, 100 AUMs - Upper Ashdown pasture). These AUM's may be activated by application from the permittee as follows:

McGee Mountain:

Water availability is the limiting factor for use on McGee Mountain. Use will be based on available water with the stipulation that a specific area will not be utilized more than two consecutive years. When water is available in existing reservoirs, up to 700 AUMs are available for livestock use. These AUMs will be held in nonuse when water is not available. This area will be available for late spring - early summer use.

Upper Ashdown Pasture:

Livestock use during the fall may be considered in the Upper Ashdown pasture in lower elevational areas adjacent to and south of the Alder Creek ranch. Use will be considered when the Upper Ashdown Field is scheduled for early use in the recommended summer pastures three - pasture rotation system and if utilization levels along the Alder Creek riparian habitat are below 20% and associated upland and wet meadow habitats are below 40% during the growing season. The Bureau will conduct monitoring studies prior to authorization. No fall use will occur when the Upper Ashdown pasture is scheduled for rest or for use during the late summer grazing period. The following indicates livestock numbers, the use period and AUMs:

105 C - 10/1 to 10/31 - 100 AUMs

Rationale:

Monitoring data indicates approximately 700 AUMs are available for livestock use in McGee Mountain when water is available. When water is not available in existing waters (i.e. reservoirs, catchments, etc.), these AUMs will be held in non-use.

Monitoring data indicates the lower elevational areas of the Upper Ashdown pasture south of the Alder Creek Ranch traditionally receives slight use during the early summer use period. This area is traditionally used for trailing from the ranch to the upper elevational areas of the summer pastures. These AUMs will be held in nonuse when the Upper Ashdown pasture is scheduled for rest, the late summer treatment, or use levels are above 20% and 40%, as identified above.

Grazing Treatments:

Bog Hot/Gridley Lake

Treatment "A"	318 C	10/01 to 02/28	1531 AUMs
Treatment "B"	356 C	04/01 to 05/31	693 AUMs

Pasture Schedule:

Year	Bog Hot	Gridley Lake
1	A	B
2	B	A

Spring Grazing:

Highway/Maintenance/North Rattlesnake/Big Creek Seeding

Treatment "C"	211 C	04/01 to 04/30	205 AUMs
Treatment "D"	211 C	05/01 to 05/31	209 AUMs
Treatment "E"	Rest		

Pasture Schedule:

Year	Highway	Maintenance	North Rattlesnake	Big Creek Seeding
1	C	D	E	E
2	E	C	D	E
3	E	E	C	D
4	D	E	E	C

Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding

Treatment "F"	232 C	04/01 to 04/30	222 AUMs
Treatment "G"	232 C	05/01 to 05/31	228 AUMs
Treatment "H"	REST		

Pasture Schedule:

Year	Big Creek Winter	Lower Ashdown	South Rattlesnake
1	F	G	H
2	H	F	G
3	G	H	F

Summer

Big Creek/Stone Cabin/Upper Ashdown

Treatment "I"	800 C	06/01 to 07/08	960 AUMs
Treatment "J"	800 C	07/09 to 08/15	960 AUMs
Treatment "K"	Rest		

Pasture Schedule:

Year	Stone Cabin	Upper Ashdown	Big Creek
1	I	J	K
2	K	I	J
3	J	K	I

Rationale:

Maintain spring/winter grazing in the Bog Hot/Gridley Lake use area. Use pattern maps and actual use data indicates that current livestock management practices are meeting upland utilization objectives in the Bog Hot/Gridley Lake use area. Monitoring data indicates that current stocking levels for both spring and winter use in the Bog Hot/Gridley Lake use area are meeting upland objectives.

Spring use for the native pastures and seedings will be as per the following grazing systems: The Highway/ Maintenance/North Rattlesnake/ Big Creek seedings will be utilized under a rest rotation system with two pasture being rested each year. The Big

Creek Winter/South Rattlesnake Seeding/Lower Ashdown pastures will be used in a three pasture rest-rotation system with one pasture being rested each year. Season of use for both systems would be from 04/01 to 05/31.

The recommended grazing system implements a rest rotation prescription for the Highway/North Rattlesnake/ Maintenance/Big Creek Seedings. This will provide for a significant recovery and regrowth period to complete yearly growth cycles. The season of use has been reduced 15 to 30 days. A three pasture rest rotation system will be implemented in the Big Creek Winter/Lower Ashdown/South Rattlesnake Seeding pastures. The system provides an early removal date and lower stocking levels which will provide for a recovery period to complete yearly vegetative growth cycles. The stocking rates selected were based on monitoring data and actual use data which indicates a lower desired stocking rate and a shorter period of use will result in the achievement of short and long term management objectives.

Maintain the three pasture - rest rotation system in the summer pastures. The season of use and AUMs will be reduced to protect riparian/meadow resources. Analysis of monitoring data collected from 1983 to 1992 indicates that utilization of forage in riparian areas and meadows in the summer pastures are consistently above acceptable use levels due to livestock management practices and poor distribution patterns during the late season. Data indicates that short term utilization objectives are being met during the early summer grazing period. By reducing livestock stocking rates and the grazing period by 30 days, a period of regrowth will be provided for riparian and meadow habitats with short-term riparian utilization objectives being met.

Late Summer Use:

The following actions will be employed to manage livestock use within the pasture scheduled for the late summer use period (Treatment J):

The short-term utilization objective for upland wet meadow habitats is 50%. When 50% utilization is reached on upland wet meadows during the late summer treatment, livestock will be removed from the pasture. To determine removal dates from the pasture scheduled for late summer use, mid-point utilization studies will be conducted by BLM specialists. Additional studies may be required after the mid-point inspection if utilization levels is approaching 45% in these habitats. When utilization levels reach 45% in wet meadow habitats, the livestock operator will be given a seven (7) day notice in which to remove livestock from the pasture.

Livestock will not be authorized in the pasture scheduled for the late summer treatment after 08/15 if utilization levels do not reach 50% in wet meadow habitats.

Rationale:

Monitoring data indicates the majority of unacceptable use levels in riparian/meadow habitats located in summer pastures occurs during the late summer use period. Removal of livestock when 50% utilization are reached in upland wet meadow habitats will allow for short term utilization objectives to be met during the late summer

use period. These actions, along with reducing the season of use and livestock numbers will allow for regrowth of both woody and herbaceous species at the end of the grazing period.

Terms and Conditions

The livestock operator will be given a seven (7) day notice in which to remove livestock from the pasture scheduled for the late summer use period when utilization levels reach 45% in upland wet meadow habitats. Livestock will not be authorized in the pasture scheduled for the late summer treatment after 08/15.

Salt and/or mineral blocks shall not be placed within 1/4 mile of springs, meadows, streams, riparian habitat or aspen stands.

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

The grazing authorization with the schedule of use outlined in the Multiple Use Decision will be the only approved use and all other schedules, flexibilities and terms and conditions addressed in the 1971 Allotment Management Plan are suspended until the plan is revised.

A re-evaluation will be conducted prior to the 1998 grazing season.

Structural Projects:

Determine the feasibility of gap fencing portions of the natural barrier between the Stone Cabin and Big Creek pastures.

As per MFP III decision R2.12, fence the Blue Lakes area.

Construction of the above mentioned projects will be dependent on funding, manpower and project priorities.
The preferred alternative identified construction of riparian pasture fences on the Big Creek drainage and several upland meadow habitats. Monitoring data indicates that short term utilization objectives for stream side riparian vegetation and upland meadow habitats are being met during the early summer use period and not met during the late summer use period. The Grazing System section identified removal of livestock when 50% utilization levels are reached in upland meadow habitats during the late summer use period. Based upon the recommended changes of livestock management for the summer pastures, short term utilization objectives for riparian and meadow habitats will be met without the proposed riparian pasture fences. Therefore, the proposals for fencing these habitats will not be carried forth in the multiple use decision. However, the Bureau may re-initiate the Big Creek Riparian Pasture proposal during the upcoming evaluation period (1994 to 1999) should monitoring data indicate it is required to meet short term objectives for the area.

Rationale:

The construction of gap fences on the natural barrier between the Stone Cabin and Big Creek pastures will reduce instances of livestock drift between the two pastures. This area is already partially fenced.

The Blue Lakes area is a high profile - high recreational use area. In order to reduce conflicts between livestock and outdoor recreationists in the lake area, MFP III Decision R2.12 recommended closing Blue Lakes to livestock grazing by fencing.

C. Wild Burro Use

Adjust the HMA boundary during the Resource Management Plan (RMP) Process to include Bog Hot and Gridley Lake pastures within the Alder Creek Allotment. Delete those portions of the HMA within the Wilder-Quinn and Knott Creek allotments. Set the initial AML at 41 burros as per the Paradise-Denio Resource Area Multiple-use Framework Plan.

Rationale:

At one time the BLM administered the renewable resources within the Sheldon National Wildlife Refuge (SNWR). When the McGee Mountain HMA was originally established, it included lands within the Refuge boundaries. The Land Use Plan AML of 41 burros was based upon an aerial census conducted in 1980, which counted 41 animals (39 adults and 2 foals). All but 5 adults were on the SNWR, and those animals within the HMA boundary were in the extreme north, next to the Refuge. Sometime in 1980-81, the Fish and Wildlife Service assumed responsibility for all resources on the Refuge. The HMA boundary was changed to its present location, on BLM land only, and indicated as such in the Land Use Plan. However, the AML was not adjusted downwards but remained at 41.

The problem with the HMA itself is the lack of adequate water. There are 5 project reservoirs, one spring and a catchment within the HMA boundary. The troughs at the ends of the Bog Hot Well pipeline (#4869) are within or else very close to the boundary. McGee Mountain Spring, a developed spring, is at the far north end of the HMA, below the mountain, and it appears to be perennial. Another spring, Burro Spring, southeast of McGee Mountain Spring may also be a reliable water source. All but one of the reservoirs, and the spring on the west side of the mountain (#1060), are ineffective. They hold water only during wet years, and then only for brief periods. The pipeline is not a reliable water source, as it would be turned on only when livestock are in the area. Due to the lack of water, the former district wild horse and burro specialist stated that in 14 years on the District, he had never seen more than 3 burros within the HMA, and these were always around McGee Mountain Spring. The mountain itself is not good burro habitat, as the animals prefer flatter areas. This would argue against the considerable expense of developing additional water on the mountain.

Complicating matters when dealing with the McGee Mountain HMA is the fact that the HMA actually is contained within portions of 3 different allotments. Although the bulk of the area is in the Alder Creek Allotment, the northeast portion, including McGee Mountain and Burro Springs, is in the Wilder-Quinn Allotment. The extreme south portion is in the Knott Creek Allotment.

D. Wildlife

Manage Big Creek for the introduction of Lahontan cutthroat trout.

Rationale:

Big Creek has been identified by the Winnemucca District of the Bureau of Land Management as potential Lahontan cutthroat trout habitat. The "Draft" U.S. Fish and Wildlife Service Lahontan cutthroat trout Recovery Plan lists Big Creek as a "Potential" LCT recovery stream.

E. Monitoring

Collect the following types of monitoring data to make a determination of attainment of allotment objectives:

1. Utilization
2. Actual Use
3. Climate
4. Wildlife habitat evaluation
5. Trend
6. Ecological Status
7. Stream habitat inventory
8. Water quality

F. Objectives

The allotment objectives under which the grazing use will be monitored and evaluated prior to the 1998 grazing season should have the phrasing modified to accurately reflect how these objectives will be used in the future. The short term objectives can be examined on an annual basis after the end of the grazing season when monitoring data is collected and analyzed. All data will be evaluated to determine if short term objectives are being met and to determine if changes in management will be required to meet objectives.

The allotment objectives under which grazing management will be monitored and evaluated are as follows:

Short Term Objectives:

Utilization of key plant species (STTH, AGSP, FEID, ORHY, POA, ELCI, SIHY, ATCO, EULA) in upland habitats is 50%. Utilization data will be collected at the end of the grazing period(s).

Utilization of key streambank riparian plant species (CAREX, JUNCUS, POA) is 30% on Big, N. Fork Big, Alder, Little Alder, Wood Canyon, and Alta Creeks. Utilization data will be collected at the end of the grazing period(s).

Utilization of key upland wet meadow plant species (CAREX, JUNCUS, POA) is 50%. Utilization data will be collected at the mid-point during the late summer treatment and the end of the grazing period(s).

Utilization of current years growth on woody riparian species (SALIX, ASPEN) is 30%. Utilization data will be collected at the end of the grazing period(s).

Utilization of key upland browse species (MAHOGANY, CEANOTHUS, SNOWBERRY, BITTERBRUSH, SERVICEBERRY) is 50%. Utilization data will be collected at the end of the grazing period(s).

Utilization of crested wheatgrass in the seeded pastures is 50%. Utilization data will be gathered at the end of the grazing period(s).

Rationale

Utilization objectives of 30% on woody riparian plant species such as aspens and willows will promote successful recruitment of suckers and saplings within stream-side riparian and upland riparian meadows habitats.

Utilization objectives of 30% on stream-side riparian habitats and 50% on key upland wet meadow habitat plant species will ensure adequate stubble height and species diversity on spring pastures for sage grouse cover, and to minimize headcutting and erosion; on summer pastures to maximize plant vigor and encourage regrowth; and on fall and winter pastures to minimize the threat of spring runoff events leading to headcutting and erosion in meadows.

Utilization of 50% on annual leader growth of snowberry, bitterbrush and serviceberry will ensure successful reproduction and recruitment within the stand and to maximize annual leader production. Fifty percent utilization on mahogany and ceanothus will ensure adequate reproduction and recruitment of young plants in the stand.

Long Term Objectives:

Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with a forage demand of 1,328 AUMs for mule deer, 247 AUMs for pronghorn, and 207 AUMs for bighorn sheep by:

1) Improve to and maintain 27,925 acres in McGee Mtn. DW-8, 25,000 acres in Pine Forest DW-7, and 25,841 acres in Pine Forest DS-5 in good or excellent mule deer habitat condition

2) Improve to and maintain 56,609 acres in Denio PY-1, 12,866 acres in McGee Mtn. PW-1, 11,540 acres in Alta Creek PW-2, and 4,176 acres in Big Creek PY-4, 14,203 acres in Alta Creek PS-1 and 260 acres in Leonard Creek PS-3 in fair or good pronghorn habitat condition.

3) Improve to and maintain 56,975 acres in Pine Forest BY-7 and BY-8 in good or excellent bighorn sheep habitat condition.

Manage, maintain, and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with a stocking level of 11,784 AUMs.

Improve range condition from poor to fair on 9,651 acres and from fair to good on 1,776 acres.

Improve or maintain upland riparian and meadow habitat to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian species.

Improve or maintain aspen stands to ensure good reproduction and maximize recruitment within the stand.

Improve or maintain mahogany stands to ensure good reproduction and maximize recruitment within the stand.

Improve or maintain Ceanothus with good age class distribution.

Improve or maintain snowberry, bitterbrush and serviceberry with good reproduction and maximize recruitment within the stand.

Maximize condition and quantity of pine, pine/mahogany, and pine/aspen associations.

Provide forage for 41 burros (492 AUMs).

Improve 37.6 miles of riparian/stream habitat (see below) to a condition of good (60%, from baseline data) within the short term period (five year period) and to good or excellent condition (60% of habitat optimum or more) within the long-term (20 year period):

Stream/Riparian Habitat Condition Classification
(% of Habitat Optimum)
70 - 100% = Excellent
60 - 69% = Good
50 - 59% = Fair
0 - 49% = Poor

The stream condition rating (expressed as percent habitat optimum) is based on the evaluation of factors considered limiting to trout. These include pool-riffle ratio, pool quality, percent gravel and rubble on the stream bottom, bank cover, and bank stability.

As part of the objective of improving overall habitat condition to a rating of good, the riparian condition class (RCC) should also improve to a rating of good or better. RCC is determined in conjunction with percent habitat optimum and represents the average of bank cover and bank stability.

STREAM	MILES OF PUBLIC LAND	1987-1992 % HABITAT OPTIMUM
Big Creek	19.7	65
Alder Creek	6.6	56
Little Alder Creek	3.7	39
Wood Canyon Creek	3.4	44
Alta Creek	4.2	56

BIG CREEK (includes North Fork)

In the short-term (over a 5 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek by 10% (or to a rating of good).

In the long-term (over a 20 year period) maintain or improve stream and riparian habitat conditions on 12 miles of Big Creek to a rating of good or excellent.

ALDER CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 6.6 miles of Alder Creek to a rating of good or excellent.

LITTLE ALDER CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 3.7 miles of Little Alder Creek to a rating of good or excellent.

WOOD CANYON CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat condition on 3.4 miles of Wood Canyon Creek to a rating of good or excellent.

ALTA CREEK

In the short-term (over a 5 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek by 5 to 10% (or to a rating of good).

In the long-term (over a 20 year period) improve stream and riparian habitat conditions on 4.2 miles of Alta Creek to a rating of good or excellent.

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

Improve to and maintain the state water quality criteria for Alder, Big, Alta and Wood Canyon Creeks.

H. Future Monitoring and Grazing Adjustments

The Paradise-Denio Resource Area will continue to monitor all existing studies and establish additional studies as identified in Section VII of the Allotment Evaluation. This monitoring data will continue to be collected in the future to provide the necessary information for subsequent evaluation. These re-evaluations are necessary to determine if the allotment specific objectives are being met under the selected grazing management strategies.

I. The selected management action for grazing in the Alder Creek Allotment conforms with the environmental analysis of grazing impacts described in the Final Environmental Impact Statement dated September 18, 1981.

The EIS and NEPA Compliance Record are on file in the Winnemucca District Office, located at 705 E. 4th Street, Winnemucca, Nevada 89445.

Appendix I

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

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

Desired Stocking Rate Formula:

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

KMA = Key Management Area - Riparian/Meadow Habitat

Estimated Desired Stocking Rates:

Upper Ashdown Pasture

KMA Calculation Number 1-1983

Desired Utilization	=	50
Actual Utilization	=	90
Actual AUMS	=	1,496
Desired Stocking Rate	=	831

KMA Calculation Number 2-1987

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMS	=	1,879
Desired Stocking Rate	=	1,342

KMA Calculation Number 3-1988

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMS	=	1,007
Desired Stocking Rate	=	719

KMA Calculation Number 4-1990

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMS	=	1,283
Desired Stocking Rate	=	916

KMA Calculation Number 5-1991

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMS	=	1,207
Desired Stocking Rate	=	862

Average Desired Stocking Rates: 960 AUMs

Big Creek Pasture:

KMA Calculation Number 1-1983

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	3,070
Desired Stocking Rate	=	2,192

KMA Calculation Number 2-1987

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	2,031
Desired Stocking Rate	=	1,450

KMA Calculation Number

3-1989

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	1,647
Desired Stocking Rate	=	1,176

KMA Calculation Number

4-1990

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	1,480
Desired Stocking Rate	=	1,057

KMA Calculation Number

4-1992

Desired Utilization	=	50
Actual Utilization	=	50
Actual AUMs	=	1,159
Desired Stocking Rate	=	1,159

Average Desired Stocking Rates: 1,407 AUMs

Stone Cabin Pasture:

KMA Calculation Number

1-1983

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	2,445
Desired Stocking Rate	=	1,675

KMA Calculation Number

2-1988

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	2,145
Desired Stocking Rate	=	1,532

KMA Calculation Number

3-1989

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	1,123
Desired Stocking Rate	=	802

KMA Calculation Number

4-1991

Desired Utilization	=	50
Actual Utilization	=	30
Actual AUMs	=	1,207
Desired Stocking Rate	=	862

KMA Calculation Number

5-1992

Desired Utilization	=	50
Actual Utilization	=	30
Actual AUMs	=	592
Desired Stocking Rate	=	986

Average Desired Stocking Rates: 1,171 AUMs

Alder Creek

December 3, 1993

Bog Hot/Gridley Lake Use Area:

Spring Use:

KMA Calculation Number

1-1984

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	724
Desired Stocking Rate	=	517

KMA Calculation Number

2-1987

Desired Utilization	=	50
Actual Utilization	=	50
Actual AUMs	=	616
Desired Stocking Rate	=	616

KMA Calculation Number

3-1989

Desired Utilization	=	50
Actual Utilization	=	50
Actual AUMs	=	941
Desired Stocking Rate	=	941

KMA Calculation Number

4-1990

Desired Utilization	=	50
Actual Utilization	=	50
Actual AUMs	=	951
Desired Stocking Rate	=	951

Average Desired Stocking Rate: 756 AUMs

Lower Ashdown Pasture:

KMA Calculation Number

1-1984

Desired Utilization	=	50	
Actual Utilization	=	10	
Actual AUMs	=	387	
Desired Stocking Rate	=	1,953	(1)

KMA Calculation Number

2-1987

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	603
Desired Stocking Rate	=	430

KMA Calculation Number

3-1989

Desired Utilization	=	50
Actual Utilization	=	30
Actual AUMs	=	156
Desired Stocking Rate	=	260

KMA Calculation Number

4-1990

Desired Utilization	=	50	
Actual Utilization	=	10	
Actual AUMs	=	391	
Desired Stocking Rate	=	1,955	(1)

Average Desired Stocking Rate: 345 AUMs

Big Creek Winter:

KMA Calculation Number

1-1989

Desired Utilization	=	50
Actual Utilization	=	70
Actual AUMs	=	312
Desired Stocking Rate	=	222

KMA Calculation Number

2-1991

Desired Utilization	=	50	
Actual Utilization	=	10	
Actual AUMs	=	306	
Desired Stocking Rate	=	1,530	(1)

Average Desired Stocking Rate: 222 AUMs

Big Creek Seeding

KMA Calculation Number

1-1989

Desired Utilization	=	60
Actual Utilization	=	50
Actual AUMs	=	302
Desired Stocking Rate	=	362

KMA Calculation Number

2-1990

Desired Utilization	=	60
Actual Utilization	=	50
Actual AUMs	=	191
Desired Stocking Rate	=	229

KMA Calculation Number

3-1991

Desired Utilization	=	60	
Actual Utilization	=	10	
Actual AUMs	=	204	
Desired Stocking Rate	=	1,224	(1)

Average Desired Stocking Rate: 295 AUMs

South Rattlesnake Seeding

KMA Calculation Number

1-1984

Desired Utilization	=	60
Actual Utilization	=	70
Actual AUMs	=	355
Desired Stocking Rate	=	149

KMA Calculation Number

2-1989

Desired Utilization	=	60
Actual Utilization	=	50
Actual AUMs	=	256
Desired Stocking Rate	=	307

KMA Calculation Number

3-1991

Desired Utilization	=	60	
Actual Utilization	=	10	
Actual AUMs	=	158	
Desired Stocking Rate	=	948	(1)

Average Desired Stocking Rate: 228 AUMs

North Rattlesnake Seeding

KMA Calculation Number

1-1988

Desired Utilization	=	60
Actual Utilization	=	50
Actual AUMs	=	311
Desired Stocking Rate	=	373

Alder Creek

December 3, 1993

Highway Seeding

KMA Calculation Number 1-1989			KMA Calculation Number 3-1991		
Desired Utilization	=	60	Desired Utilization	=	60
Actual Utilization	=	50	Actual Utilization	=	10
Actual AUMs	=	171	Actual AUMs	=	158
Desired Stocking Rate	=	205	Desired Stocking Rate	=	948 (1)

Average Desired Stocking Rate: 205 AUMs

Maintenance Seeding:

KMA Calculation Number 1-1984			KMA Calculation Number 2-1987		
Desired Utilization	=	60	Desired Utilization	=	60
Actual Utilization	=	70	Actual Utilization	=	70
Actual AUMs	=	552	Actual AUMs	=	243
Desired Stocking Rate	=	473	Desired Stocking Rate	=	208

Average Desired Stocking Rate: 340 AUMs

(1) Monitoring data indicates these desired stocking rate values would not meet short term utilization objectives due to an over-obligation of AUMs for these pastures. Therefore, these desired stocking rate numbers were not considered in determining the average desired stocking rate for a particular pasture.

Appendix II

AUM Calculations - McGee Mountain, Blue Lake, Theodore Basin, Boyd Basin, Florence Basin, and head waters of Granite Creek.

The acreages used for these calculations were compiled from the Pine Forest Range Survey Map - Ocular Reconnaissance - summer of 1958, 1963. All acreages were palimetered three times per write-up number and averaged .

Use Area	Write Up Number	Acre./AUM	Season of Use	Acreage	AUMs
McGee Mt.	F-28	18	Spring	762	42
	F-29	51	Spring	1071	42
	F-30	25	Spring	36	1
	F-26	41	Spring	21	1
	F-25	28	Spring	862	31
	F-36	10	Spring	35	4
	F-23	53	Spring	1016	20
	F-20	27	Spring	385	14
	f-22	50	Spring	24	1
	F-17	47	Spring	299	6
	F-19	25	Spring	1103	44
	W-33	23	Spring	1872	81
	F-18	22	Spring	1205	55
	R-25	12	Spring	5502	458
	W-30	10	Spring	524	52
	W-31	10	Spring	422	42
	H-3	8	Spring	2286	286
	H-2	17	Spring	328	20
			Total	17,753	1,200

Use Area	Write Up Number	Acre./AUM	Season of Use	Acreage	AUMs
Blue Lakes	7-R+S	0		180	
	H-9	6	Summer	455	76
	E+L-15	1	Summer	33	33
			Total	668	106
Theodore Basin	H-9	6	Summer	1323	220
	HLP	2	Summer	125	62
			Total	1448	282
Boyd Basin	H-9	6	Summer	277	46
	HLP	2	Summer	154	77
			Total	431	123
Florence Basin	H-9	6	Summer	215	35
			Total	215	35
Granite Crk.	H-9	6	Summer	489	81
	HLP	2	Summer	131	65
			Total	620	146

Appendix III

Stream Survey Write-up

STREAM: BIG CREEK

DRAINAGE: DEEP CREEK - QUINN RIVER

COUNTY: HUMBOLDT, NEVADA

DATE: NOVEMBER, 1992

INTRODUCTION

Big Creek originates from the east slope of the Pine Forest Range, at an elevation of 8,240 feet, in Humboldt County, Nevada. The stream is approximately 19.0 miles in length and flows to the Quinn River. Surface flowing water very seldom reaches Deep Creek as most of the water is diverted for irrigation at the Big Creek Ranch. Big Creek has two major tributaries; the north fork (3.5 miles) and south fork (1.5 miles). There are several smaller spring fed tributaries located in the headwaters section of the drainage (NDOW, 1989). The 1992 BLM stream survey included only the mainstem and the north fork.

Big Creek and its major tributaries flow through 19.7 miles of BLM land and 4.1 miles of private land. The main stem stream has an average stream gradient of 5.6 percent and ranges from 3.0 to 13.5 percent. The north fork tributary has a mean stream gradient of 7.1 percent. Approximately 7.0 miles of Big Creek and 3.0 miles of the north fork are considered fishable (NDOW, 1989).

A total of eight stream survey stations were sampled during the 1992 BLM stream survey utilizing the methodology explained in BLM stream survey manuals 6720-1 and 6671. Five stations were located on the main stem of Big Creek. Station five, which was established during the 1976 stream survey and subsequently left out in the 1987 survey, was re-established in 1992. Stations one through four were located at previously established locations. Three stations were located on the north fork. With few photographs available from previous stream surveys for the north fork, these stations were located as close as possible to previously established stations (based on map location).

Velocity and Discharge

Water velocity and discharge were not physically measured during this survey due to the time of survey. However, visual observations indicated discharge to be approximately 1.5 cubic feet per second at station one.

Habitat Conditions

Based on the results of the 1992 BLM stream survey, habitat conditions have improved to good (65% of habitat optimum) when compared to previous surveys (Table 1.).

Table 1. Changes in overall stream and riparian habitat conditions on Big Creek between 1976 and 1992.

	1976	1987	1989(NDOW)	1992
% Habitat Optimum	49	46	56	65
Riparian Condition Class	59	51	63	68

Riparian condition class (RCC) is an average of bank cover and bank stability.

Stream/Riparian Habitat Condition Classification
(% of Habitat Optimum)

70 - 100%	= Excellent
60 - 69	= Good
50 - 59	= Fair
0 - 49	= Poor

Big Creek is characterized as having fair to excellent streambank riparian conditions throughout most of its length. Two exceptions were stations 1A and 3A on the north fork where the RCC was 52 and 59 percent, respectively. The percent habitat optimum rated 53 percent (fair) for station 1A and 44 percent (poor) for station 3A. Pool quality rated poor throughout the entire watershed (20%) due in part to existing habitat conditions and the seventh consecutive year of drought.

Erosion

Erosion problems were present at Stations 1, 1A, 3, and 3A as was evidenced by exposed streambanks and the potential for sediment to wash into the streambed. Minimal establishment of riparian vegetation in these areas has allowed for the cutting and degradation of streambanks during periods of high flow.

Analysis Of Limiting Factors

Priority "A" Limiting Factors

The only "A" limiting factor for 1992 that was below percent of optimum standards was pool quality (20%, poor). Aside from 1976, this poor pool quality rating has remained about the same (Table 2) throughout the surveyed years. A majority of the pools observed in 1992 were filled in with fine substrate materials. The remainder of "A" limiting factors exceeded desired levels (> 60% of optimum) in 1992. In fact, most "A" limiting factors, initially collected in 1976, have improved over a 16 year period.

Table 2. Comparison of changes in priority "A" limiting factors for Big Creek between 1976 and 1992.

	% OPTIMUM			
"A" LIMITING FACTOR	1976	1987	1989	1992
Pool-Riffle-Ratio	32	34	58	84
Pool Quality	11	17	27	20
Desirable Stream Bottom Substrate	83	77	70	86
Bank Cover	49	45	62	64
Bank Stability	68	56	70	71

Priority "B" Limiting Factors

An analysis of changes in priority "B" limiting factors between 1976, 1987, 1989, and 1992 show that width to depth ratios have improved from 20 to 11 percent (Table 3). Width to depth ratios are comprised of channel depths and widths. A decrease in channel depth and an increase in channel width can have major effects on the biological community. A decrease in depth tends to reduce the number of pools (Beschta and Platts, 1986)[1] which in turn will reduce certain types of fish habitat. An increase in stream width will lead to an increase in net solar radiation and higher summer water temperatures (Beschta et al., 1987)[2]. In the case of Big Creek, a lower width to depth ratio (11 percent, 1992) when compared to 1976 (20 percent), means an improving habitat condition (a smaller stream width divided by an increasing average stream depth = lowered w/d ratios). The magnitude of width to depth ratio changes are highly dependent on valley shape, bank materials, and stream flow.

Table 3. Changes in priority "B" limiting factors for Big Creek between 1976 and 1992.

	% OPTIMUM			
"B" LIMITING FACTOR	1976	1987	1989	1992
Width to Depth Ratio	20	12	19	11
% clinging aquatic vegetation	0	0	n/a	.5
% rooted aquatic vegetation	0	n/a	n/a	8
% sedimentation	10	1	n/a	9

Rooted aquatic vegetation, often associated with improving stream conditions, increased slightly from 0 percent in 1976 to 8 percent in 1992. Percent sedimentation has remained about the same.

Recommendations/Summary

While the overall percent of optimum for the stream exceeded the 60% objective level, five of the eight stream survey stations were below objective levels of 60 percent (stations 2,3,4,1A, and 3A).

STATION 1

Station one had the second highest percent of habitat optimum rating and RCC at 71 and 81 percent, respectively. The dense stands of willow and riparian vegetation combined with the constricted stream channel has allowed significant recovery when compared to 1987 data and photographs. The riparian condition class has improved from 60% in 1987 to 81% in 1992. Photographic comparisons between 1987 and 1992 show that the channel widths have decreased with woody and herbaceous vegetation increasing significantly. The percent of stream width in pools improved from 28% in 1987 to 64% in 1992.

Overall, station one and the lower reaches of Big Creek from the BLM - Private land boundary upstream through the narrow canyon appears to be improving, with conditions currently favorable for trout.

STATION 2

Located approximately 1.5 miles upstream from station one, station 2 had a 1992 percent habitat optimum rating and RCC of 57% and 64%, respectively. A significant improvement in stream/riparian habitat was apparent when 1987 data indicated that the percent of habitat optimum and RCC was 32% and 36%, respectively. 1987 photographs of station 2 show that the stream channel downcut up to eight feet in several locations (possibly in '83-'84). The stream channel has been recovering slowly, although the percent of habitat optimum is still below desired objectives of 60%.

It appears that this station may have historically been a meadow area prior to the downcutting of the stream. An aspen stand is still present, although the size of this stand appears to be declining. Some aspen reproduction was observed at the lower end of this reach. Photos taken in August of 1991 of station 2, a rested year from grazing, show adequate vegetation along the streambank necessary for protection and enhancement of streambanks. However, 1992 BLM stream survey photos taken in November show little if any regrowth of streambank vegetation at the time of the stream survey (November, 1992).

STATION 3

Habitat condition ratings have improved from a poor rating of 43% in 1987 to 59% (fair) in 1992. The RCC has also improved from 57% in 1987 to 66% in 1992. The percent stream width in pools increased significantly from 5% in 1987 to 40% in 1992. Not surprisingly, the pool to riffle ratio increased from 10% to 80%. Although the stream channel appears to be recovering as evidenced by the increase in the number of pools and overall improvement in bank cover and stability, livestock appear to be impacting this reach as was evidenced by moderate to heavy use on herbaceous and woody vegetation along the stream. The season of use by livestock has not allowed significant regrowth of riparian plants by the end of the growing season (as evidenced by the 1992 BLM survey). Without adequate plant regrowth along streams, vegetative productivity declines as well as sediment trapping to rebuild streambanks. A barb wire fence parallels Big Creek in the station three area for about 1/3 mile separating the BLM land from private land. This fence tends to cause cattle to trail along both sides of the fence, most likely causing additional impacts to the stream and riparian area. Attempts should be made to either remove the fence, repair it, and/or construct a riparian exclosure fence on the opposite side of the stream running parallel to the existing fence.

Although stream conditions have been improving in the station 3 area, riparian/stream habitat conditions are currently not being met. However, significant improvements in stream condition could be accomplished with proper distribution of livestock and a return to normal precipitation levels.

STATION 4

Station 4 1992 BLM stream survey data, when compared to the 1987 stream survey, is the only station which showed a decline in overall percent habitat optimum (62% in 1987 to 56% in 1992). Pool quality showed the most significant decline of the factors which comprise percent of habitat optimum. Pool quality, which measured 43% in 1987 dropped to 0% in 1992. Observations made in 1992 were that most of the pools throughout this reach (and the entire system) have filled in with fine and course gravels. This has been a consequence of seven years of low stream flows which have prevented scouring of pools. Livestock trailing along streambanks has also contributed to an increase of fine gravels in the stream. 1992 photographs indicate moderate to heavy use on herbaceous plants along the creek by livestock. When compared to 1987 photographs and data, it appears that continual moderate to heavy late use of riparian plants by livestock has prevented sufficient regrowth of plants which are critical for streambank development and stabilization.

STATION 5

With no photographs available to locate station 5 which was established in 1976, a new station was established in 1992 (see map and photos in file). Station 5 is located about 2 miles upstream from station 4. The condition of Big Creek between station 4 and station 5 improves significantly as you proceed upstream and enter a high gradient reach offering few locations for livestock to access the stream. An abundance of quality pools were observed throughout this reach, with healthy stands of aspen and willow along the creek. Not surprisingly, station 5 had the highest percent of habitat optimum and RCC of 72% and 86%, respectively. The streams natural morphological features have allowed this reach of Big Creek to remain in good to excellent condition. Livestock impacts to springs and seeps on adjacent slopes were observed to be moderate to heavy. These sites may have been grazed heavier than normal as a consequence of the drought.

NORTH FORK BIG CREEK

With few photographs available from prior stream surveys, three stations were permanently established in close proximity to previously established survey stations (based on map locations).

STATION 1A

Station 1A was established about 50 feet upstream from the washed out stream crossing (approximately 200 yards upstream from the mainstem of Big Creek). This station is located within the Big Creek seeding area. Following the recent downcutting of this reach within the seeding (possibly in '83-'84), recovery has been very slow. The 1992 percent of habitat optimum was only fair at 53%, while the RCC was 52%. Limiting factors for station 1A were poor pool quality, shallow and wide riffles, and poor bank cover. The majority of this station and Big Creek within the seeding was a long, shallow and wide riffle. Willow are trying to establish themselves, however, hot season livestock use in this area has prevented any significant willow reproduction. Currently, what little cover that is provided throughout this station is from the streambanks. For station 1A to recover and provide habitat suitable for perennial stream flow, consecutive years of rest from livestock grazing combined with an earlier season of use should be examined.

STATION 2A

Station 2A is located approximately 3/4 mile upstream from station 1A. The first transect begins upstream from where the road first crosses the North Fork. This station was in good condition as reflected by the 63% of habitat optimum and 77% RCC. The majority of station 2A and adjacent reach appeared to have downcut several years ago but has recovered nicely. Although no quality pools were measured at the transects, several were observed throughout the area. Bank stability was excellent at 91% and it appeared that livestock did not impact this reach due to the steepness of the streambanks.

While this station appears to be improving, the adjacent road which parallels the stream is in need of repair. A spring adjacent to the road has caused a portion of the road to collapse. If this problem is not fixed, a heavy rainfall event will send significant amounts of fine sediment into the creek.

STATION 3A

Station 3A had the lowest percent of habitat optimum rating for the entire Big Creek watershed at 44% (poor). The major limiting factors were lack of any type of pool and bank cover. Livestock use on willow averaged 54% (moderate) from Key Forage Plant monitoring conducted along the stream at the time of the BLM stream survey. Several open areas along the stream allow access for livestock. Trailing was evident along streambanks which was contributing to streambank degradation. Upon leaving station 3A and heading downstream, conditions improved where the valley floor narrowed and stream gradient increased.

RECOMMENDATIONS

Big Creek has been identified by the Winnemucca District of the Bureau of Land Management as potential Lahontan cutthroat trout habitat. The "Draft" U.S. Fish and Wildlife Service Lahontan cutthroat trout Recovery Plan lists Big Creek as a "Potential" LCT recovery stream.

Observations made during the stream survey and photographs indicate that the existing season of use for livestock has not allowed adequate re-growth of riparian plants. While stream conditions have improved slightly from 1987, one must consider that the addition of station 5 in 1992 was partially responsible for the overall increase in habitat condition to greater than 60%. The stream quite possibly would have made substantial improvements had 1992 not been the seventh consecutive year of drought. Livestock use for the Big Creek watershed indicated that from 1983 through 1987, season of use was typically summer (hot season) from mid-May through the end of September. The AUM's for this period ranged from 205 to 2655. The Big Creek Field was rested in 1988 and again in 1991 and used in 1989 and 1990. Use periods are from 06/01 to 07/31 or 08/01 to 09/15.

Several studies have shown that allowable use levels should provide for sufficient regrowth to at least a four to six inch stubble height by the end of the growing period within the riparian zone to meet requirements of plant vigor maintenance, bank protection, and sediment entrapment (Clary and Webster, 1989)[3]. Myers (1989)[4] reported that riparian areas in good to excellent or rapidly improving condition were characterized by at least six inches of residual herbaceous plant height at the end of the growing season, and that six inches or more of residual stubble height may be necessary to protect riparian ecosystem function.

For Big Creek to support a healthy riparian/stream system and fishery, some alternatives to the current grazing system should be considered:

1. Adjust the season of use along Big Creek to allow for adequate regrowth of riparian/stream herbaceous vegetation.

2. Construction of a riparian pasture fence and/or exclosure that would tie in to the existing allotment boundary fence on the south side of Big Creek. Once the stream has fully recovered, livestock grazing could be allowed with intensive monitoring.

3. Purchase/trade of private land located near the confluence of the mainstem and North Fork of Big Creek.

In addition, repair two stream crossings on the mainstem of Big Creek and the section of road along the north fork.

References:

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2. Beschta, R.L., R.E. Bilby, G.W. Brown, L.B. Holtby, and T.D. Hofstra, 1987. Stream temperature and aquatic habitat: fisheries and forestry interactions. Pages 191-232 in E.O. Salo and T.W. Cundy (eds.), Streamside Management: Forestry and Fishery Interactions. Contr. no. 57, Inst. Forest Resources, Univ. Washington. Seattle, WA.

3. Clary , W.P. and Webster. 1989. Managing grazing of riparian areas in the Intermountain Region. U.S.D.A. Forest Service, Intermountain Research Station, Ogden, Utah.

4. Myers, L.H. 1989. Impacts of livestock grazing systems on riparian habitats in Southwest Montana.