U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

FINAL

Oregon State Office

February 1983

Andrews Grazing Management Program

Environmental Impact Statement

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

FINAL Environmental Impact Statement

Andrews Grazing Management Program

Prepared by
Bureau of Land Management
U.S. Department of the Interior
1983

State Director, Oregon State Office

IN REPLY REFER TO

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Burns District Office
74 South Alvord, Burns, OR 97720

The Andrews Grazing Management Final Environmental Impact Statement (EIS) consists only of the comments and responses to the draft EIS, and a listing of necessary text changes. Therefore, this final EIS must be used in conjunction with the earlier draft statement which was distributed to the public in September 1982.

This environmental impact statement is not the decision document. If you wish to comment for the District Manager's consideration in development of the decision, please submit your comments to the District Manager by the end of March 1983. Your comments should be sent to the District Manager at the above address.

The Management Framework Plan decisions on the action to be taken will he based on the analysis contained in the EIS, any additional data available, public opinion, management feasibility, policy and legal constraints. The Range land Program Summary (which includes the final decision) will be released in late 1983.

Thank you for your interest in this environmental impact statement.

District Manager

ANDREWS PROPOSED GRAZING MANAGEMENT

Draft ( ) Final (x) Environmental Impact Statement
Department of the Interior, Bureau of Land Management

1. Type of Action: Administrative (x) Legislative ( )

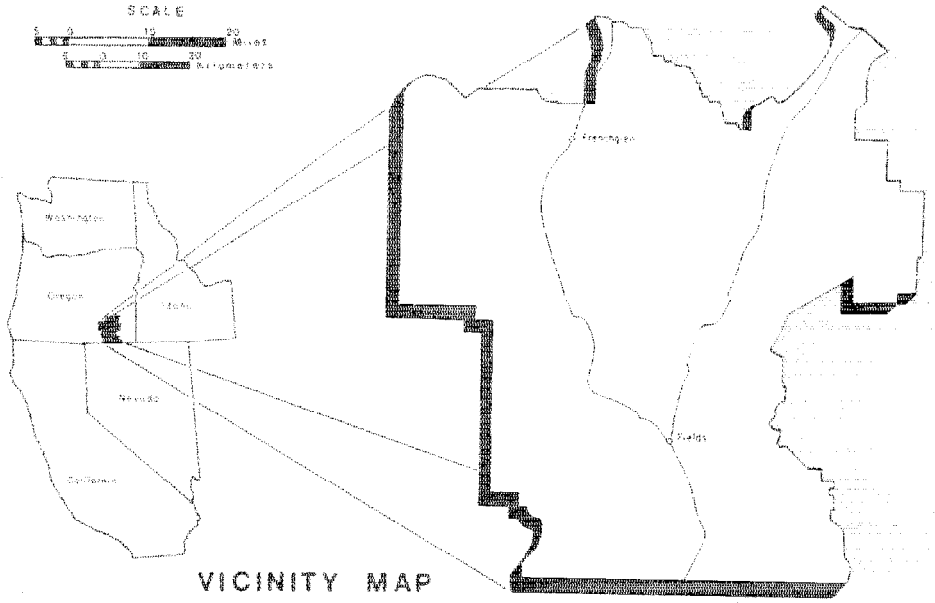
2. Abstract: The Bureau of Land Management proposes to implement livestock grazing management on 1.6 million acres (24 allotments) of public land in eastern Oregon. Unallotted status would continue on 509 acres. Implementation of the proposed action includes allocation of forage to livestock, wild horses, wildlife and nonconsumptive uses; establishment of grazing systems; and construction of range improvements. Forage condition would improve and forage production would increase.

Initially, there would be a 10 percent decrease in allocation to livestock from the 1980 actual use of 101,769 AUMs. No change in the amount of water runoff would occur; however, sediment yield would decrease. Big game populations and fish production are expected to increase. Six permittees would lose forage exceeding 10 percent of their annual requirements under the proposed action and Alternative 2, and 14 would be so affected under Alternative 3. Under Alternative 3, losses exceeding 50 percent of current requirements would be experienced by six permittees for a period of 1 or more months of the year.

3. Alternatives analyzed:

a. No Action
b. Emphasize Livestock Grazing
c. Emphasize Non-Livestock Values.

4. Draft statement made available to EPA and the public late September 1982.



VICINITY MAP
ANDREWS EIS

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SUMMARY

This environmental impact statement (EIS) describes and analyzes the environmental impacts of implementing a livestock grazing management program in the Andrews EIS area of the Burns District in eastern Oregon. The proposed action, developed through the Bureau planning system using public input, is the preferred alternative. Three other alternatives are also described and analyzed.

The proposed action consists of range improvements, livestock forage allocation and implementation of grazing management of 24 allotments covering 1,573,481 acres of public land and continued unallotted status (no authorized livestock grazing) on 509 acres.

The purpose of the proposed action is to implement planning decisions needed for management, protection and enhancement of the rangeland resources. The proposal would cover a 25-year period: 10 years for implementation and 15 additional years to achieve objectives.

Under the proposed action, the existing forage production of 102,536 AUMs would be allocated to livestock (91,687 AUMs), wildlife (3,399), wild horses (5,680) and nonconsumptive uses (1,770 AUMs). The allocation to livestock constitutes a 10 percent decrease from the 1980 actual use of 101,769 AUMs.

In the long term, implementation of grazing systems and range improvements would result in future forage production that could be as much as 158,224 AUMs. It is anticipated that this would be allocated to livestock (147,375 AUMs), wildlife (3,399 AUMs), wild horses (5,680 AUMs) and nonconsumptive uses (1,770 AUMs). Rest rotation grazing system would be implemented on 55 percent of the area, winter grazing on 13 percent, spring grazing on 12 percent, spring/summer grazing on 9 percent, and other systems on 11 percent.

Proposed range improvements include 262 miles of fence, 47 springs, 103 miles of pipeline, 18 wells, 55 reservoirs and 26 waterholes. Vegetation manipulation is proposed for 153,751 acres and would consist of 78,520 acres of brush control and seeding, 72,731 acres brush control only and 2,500 acres of irrigated pasture. Brush control would consist of spraying with 2,4-D herbicide or burning.

Three alternatives to the proposed action were analyzed:

1. **No action -** Under this alternative, there would be no change from present management conditions. Livestock use would be allowed to continue at the 1980 active preference level of 102,988 AUMs. In addition, use by wildlife (3,399 AUMs), wild horses (5,680 AUMs) and nonconsumptive use (1,522 AUMs) would occur. The total use of vegetation under this alternative would be about 11,053 AUMs higher than the existing livestock forage production (which is based on proper use levels). Spring/summer grazing would continue on 56 percent of the area, winter on 15 percent, spring on 12 percent, rest rotation on 10 percent and others on 7 percent. No additional range improvement projects or grazing systems would be undertaken.

2. **Emphasize Livestock Grazing -** In the long term, this alternative would provide 32,205 AUMs more than the proposed action from implementation of the following additional improvements: 69,280 acres brush control and seed, 72,880 acres brush control, 3,900 acres irrigated pasture, 5 wells, 46 miles of pipeline and 86 miles of fence. Rest rotation grazing would be implemented on 54 percent of the area, winter on 13 percent, spring on 12 percent, deferred rotation on 7 percent, spring/summer on 9 percent and others on 5 percent. The wild horse numbers would be 30 in the South Steens herd management area and 60 in the Alvord/Sheepshead herd management area. All riparian areas would be grazed by livestock except in existing exclosures. The initial allocation of forage production would be the same as for the proposed action for wildlife, 218 AUMs less for nonconsumptive uses, 4,640 AUMs less for wild horses and 5,088 AUMs more for livestock.

3. **Emphasize Non-livestock Grazing Values -** In the long term, this alternative would provide 23,843 AUMs less than the proposed action. There would be an additional 61 miles of fence constructed. Other range improvements would be less than the proposed action level as follows: 43 miles of pipeline, 6 springs, 1 well, 2 reservoirs, 73,563 acres brush control and seed and 66,281 acres brush control only. Livestock grazing would be excluded from 263,262 acres with special values (17 percent of the area). Rest rotation grazing would be implemented on 38 percent of the area, deferred rotation on 5 percent, winter on 11 percent, spring on 11 percent, spring/summer on 16 percent and others on 2 percent.

ENVIRONMENTAL CONSEQUENCES

Vegetation

Under the proposed action and Alternatives 2 and 3, forage conditions would improve and livestock forage production would increase. Total residual ground cover would decrease significantly under the proposed action and Alternative 2. Alternative 1 would result in a decline in forage condition, an

unquantified decrease in livestock forage production and a decrease in total residual ground cover. The proportion of residual ground cover composed of perennial vegetation would increase under all alternatives except Alternative 1. The proposed action and Alternative 3 would result in significant increases in woody key species on poor and fair condition riparian areas. Alternatives 1 and 2 would result in decreases in woody species in these areas. The standard procedures and design elements would prevent impacts to proposed threatened, endangered and sensitive plants from construction of range improvements. The impacts from other aspects of the grazing management program on these plant species are unknown.

Soils

Erosion would be slightly decreased under the proposed action and Alternatives 2 and 3 due to the increase in the proportion of residual ground cover composed of perennial vegetation. Erosion would increase on allotments presently overstocked under Alternative 1. Streambank stability would significantly increase under Alternative 3 and slightly increase under the proposed action. Decreases in streambank stability would occur under Alternative 1.

Water

No change in the amount of runoff would occur under any of the alternatives. Sediment yield would decrease under the proposed action and Alternative and remain the same under Alternative 2. Under Alternative 1, sediment yield would increase over present levels.

Wildlife

Small mammals, birds and fish which are dependent on riparian areas would increase under the proposed action and Alternative 3. Most increases would occur during the first 6 years under Alternative 3. The proposed action may take 10-20 years for significant increases to occur. Alternatives 1 and 2 would decrease wildlife dependent on riparian areas.

Vegetation manipulation would greatly decrease small mammals and birds which are dependent on sagebrush. Decreases would occur on 150,000 acres in the proposed action, 293,000 acres in Alternative 2 and 11,000 acres in Alternative 3. Sage grouse populations associated with 5 strutting grounds would be decreased in Alternative 2.

The proposed action would support a slight increase in deer numbers. Alternatives 1 and 3 would maintain existing numbers. Decreased cover from sagebrush control in Alternative 2 would slightly decrease deer.

The proposed action and Alternative 2 would support increased antelope numbers. Alternative 1 and 3 would maintain existing populations.

Wild Horses

Temporary disturbances to wild horses would occur during the period of construction of range improvements under the proposed action and Alternatives 2 and 3. Wild horses would be allocated sufficient forage to provide for a maximum total population of 540 head under the proposed action and Alternatives 1 and 3; and 90 head under Alternative 2.

Recreation

Projected visitor use to 1990 would not be significantly impacted under any alternative. As a result of impacts to recreational experiences and recreation-related wildlife populations, visitor use reductions would tend to balance increases in visitor use in activities beneficially impacted. Under all alternatives, area-wide 1990 projected visitor use for public lands in the EIS area would show an estimated 26 percent increase over existing levels for a total of about 155,710 visitor days.

Cultural Resources

Appropriate measures would be taken to identify and protect cultural sites prior to ground-disturbing activities. No impacts would occur to known cultural sites of significance.

Visual Resources

Certain portions of the EIS area may experience slight degradation of visual quality due to contrast created by range improvements. Project design features, as well as VRM program procedures and constraints, would minimize land form and vegetative contrast. In the long term, visual quality would improve as range condition improves.

Special Areas

No adverse impacts would occur to potential ACECs or proposed RNAs under the proposed action or any alternative. Livestock exclusion from special areas currently being grazed would have the potential to create beneficial impacts.

Socioeconomics

Six permittees would lose public forage exceeding 10 percent of their total annual forage requirements in the short term under the proposed action and Alternative 2. None would lose as much as 10 percent under Alternative 1. Under Alternative 3, 14 permittees would lose more than 10 percent of their annual requirements. In terms of their month-to-month requirements, under the proposed action and under Alternative 2 one permittee would lose 50 percent or more of herd requirements for 1 or more months during the year. Under Alternative 3, six permittees would be so affected.

Local personal income and employment in the short term would be increased under all alternatives, however, increases under Alternative 3 would be negligible. In the long term under the proposed action, income would be increased by $805,000 annually and employment by 78 jobs. Increases would also occur under the other alternatives.

CONSULTATION AND COORDINATION ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Draft Andrews Grazing Management Environmental Impact Statement (Interior DEIS 82-50) was filed with the Environmental Protection Agency and released to the public in September 1982 and open to comment until December 1, 1982. Informal public meetings were held in Denio, Nevada and Burns, Oregon November 16 and 17, 1982 to answer questions on the draft EIS.

Comments that presented new data, questioned facts or the adequacy of the impact analysis, or raised questions or issues bearing directly on the draft EIS were responded to in this final EIS. Several reviewers made various resource management recommendations. These recommendations, as well as all public input, will be considered before the final decision is made.

The letters which were received have been reproduced in this final, with each substantive comment identified and numbered. BLM responses immediately follow each of the letters.

Response to Comments

All comment letters received were assigned an index number.

Letter Number	Agency, Organization or Individual
1.	USDI, Bureau of Reclamation
2.	Karl Lundberg
3.	USDI, National Park Service
4.	Oregon Intergovernmental Relations (A-95 Clearinghouse) Fish and Wildlife
5.	Kent Erskine
6.	Wildlife Management Institute
7.	Richard Anderson
8.	USDA, Soil Conservation Service
9.	Native Plant Society of Oregon
10.	Edgar B. Robinson, Jr.
11.	Stanley G. Jewett, Jr.
12.	Paul J. Johnson
13.	USDI, Geological Survey
14.	Natural Resources Defence Council, Inc.
15.	Sierra Club ... Oregon Chapter
16.	Harold Otley
17.	Allan and Jennie Otley
18.	Mark A. Stern
19.	Dave Gracia
20.	David B. Herbst
21.	Wild Horse Organized Assistance
22.	Perry W. Still
23.	Leo R. Barclay
24.	William Moser
25.	Central Oregon Conservationists
26.	The Wilderness Society, NW Representative
27.	Edith F. Moore
28.	USDA, Forest Service
29.	Fred I. Otley
30.	USDI, Fish & Wildlife Service Division of Ecological Services
31.	U.S. Environmental Protection Agency, Region X
32.	Bill Tomlinson

United States Department of the Interior
BUREAU OF RECLAMATION
PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043, 550 WEST FORT STREET
BOISE, IDAHO 83724

REPLY REFER TO: PN 150

October 12, 1982

Memorandum

To: District Manager, Bureau of Land Management, 74 S. Alvord Street, Burns, Oregon 97720

From: Regional Director, Boise, Idaho

Subject: Andrews Grazing Management Program EIS, Oregon (DES 82-50)

We have reviewed the subject DES and have no objections to its content.

Please let us know if we can be of additional assistance.

for the Regional Director

John R. Woodworth

Regional Environmental Officer

2-1

Response to Comment Letter 2.

2-1 Alternative 3 is a total protection alternative which involves a substantial amount of fencing of small areas of riparian habitat. The exclusion of cattle from the additional 1,211 acres of riparian habitat under Alternative 3 would require fencing, which preliminary analysis indicates would be quite costly. Under the proposed action, it is anticipated that grazing systems can be used to correct the adverse conditions in those areas.

United States Department of the Interior

NATIONAL PARK SERVICE

Pacific Northwest Region
Westin Building, Room 1920
2001 Sixth Avenue
Seattle, Washington 98121

3

IN REPLY REFER TO:

1202-03(PNR-RE)

October 22, 1982

Memorandum

To: District Manager, Bureau of Land Management, Burns, Oregon

From: Associate Regional Director, Recreation Resources and Professional Services, Pacific Northwest Region

Subject: Andrews Grazing Management Draft Environmental Impact Statement

The statement describes and analyzes environmental impacts of implementing a livestock grazing management program.

A review of the document indicates that the actions proposed will have either no impacts or insignificant impacts on recreation. It also appears that adequate protection for cultural resources is included and is consistent with 36 CFR 800.

Thank you for this opportunity to comment.

Richard L Winters

Richard L. Winters

4

Executive Department

155 COTTAGE STREET N.E., SALEM, OREGON 97310

November 4, 1982

District Manager
Bureau of Land Management
74 S. Alvord Street
Burns, OR 97720

Subject: Andrews Grazing Management EIS
PNRS #OR820928-032-4

Thank you for submitting the subject draft Environmental Impact Statement for State of Oregon review and comment.

The draft was referred to the appropriate state agencies. The Department of Fish and Wildlife offered the enclosed comments which should be addressed in preparation of the final Environmental Impact Statement.

We will expect to receive copies of the final statement as required by Council of Environmental Quality Guidelines.

Sincerely,

INTERGOVERNMENTAL RELATIONS DIVISION

Kay F. Wilcox

Kay F. Wilcox
A-95 Coordinator

KW:mh
Enclosure

Department of Fish and Wildlife

506 S.W. MILL STREET, P.O. BOX 3503, PORTLAND, OREGON 97208

November 1, 1982

Mr. Josh Warburton
District Manager
Bureau of Land Management
74 South Alvord Street
Burns, OR 97220

Dear Mr. Warburton:

The Oregon Department of Fish and Wildlife has completed review of the Andrews Grazing Management Draft Environmental Impact Statement. Our two part response expresses general concerns and specific comments and recommendations.

General

We see some real benefits for wildlife from some of the practices mentioned in the proposed actions and alternatives. These include additional water developments, smaller wild horse management areas, and range improvements for antelope.

We generally support the vegetation manipulation projects listed for the proposed action and look forward to a continued participation in their layout and design.

4-1 We are concerned that no alternate plans are discussed in the event that funding is unavailable for proposed range improvements such as irrigated pastures and water developments. If the projected forage production increase does not occur would the present allocations continue?

The tables display much information which is not discussed in the text of the draft environmental impact statement which is confusing to the reviewer. We heartily approve the fencing of riparian areas in order to improve and/or restore vegetation and streambank stability.

Specific

4-2 Table 1-1, page 1-2 shows 3,399 AUM's of competitive forage allocated to wildlife. In the Summary of Proposed Land Use Alternatives, Table 3, page 14, alternatives C and D, the wildlife allocation listed 4,063 AUM's which we felt was an acceptable figure. What was the rationale

4-2 for the reduction of 664 AUM's of wildlife forage allocation in the draft environmental impact statement?

4-3 Page 1-1 under Proposed Action, paragraph 5 directs the reader to Table B-4, Appendix B. Was Table B-4 inadvertently omitted?

Table 2-4, page 2-6 is somewhat confusing. If the figures displayed are for wildlife populations on public lands and wildlife habitat on public lands, it would benefit the reviewer to have the headings more clearly designated.

Page 3-11 under "Impacts on Wildlife", the third paragraph devotes extensive narrative to "livestock exclusion" and its benefits to wildlife. We feel that the emphasis on exclusion definitely signals a conflict of wildlife needs versus livestock grazing which will cause unnecessary criticism of the proposed action and of our agency. We feel that the benefits to water quantity were not adequately described. The discussion on page 3-10 emphasizes water runoff and quality, and seems to discount any appreciable effect on water table, water availability, prolonged streamflows, etc. from riparian recovery along
4-4 streams. Many resource users are benefitted by riparian restoration projects and management practices. The implication that fish and wildlife are the primary beneficiaries will tend to alienate non-wildlife interests from sound range restoration practices.

We are looking forward to continuing involvement with your staff in the preparation of the final environmental impact statement of the management program.

Sincerely,

John R. Donaldson, PhD
Director

JRD:tle

Response to Comment Letter 4.

4-1 The initial allocation of forage shown in Table I-1 of the Draft EIS is not dependent upon the implementation of range improvements. Long term allocations of forage would occur only after the range improvements listed in the table are constructed. In adjusting the present allocation, current Bureau of Land Management policy requires any such adjustment to be based on monitoring resource conditions and use levels. In the Andrews EIS area the results of monitoring would be used to refine the determination of existing livestock forage production as described in Appendix C.

4-2 The 4,063 AUMs shown in the Summary of Land Use Alternatives brochure is in error. The correct figure, based on the methodology described in Appendix C of the Draft EIS, is 3,399 AUMs.

4-3 The reference to Table B-4 is not correct. It should have been Table B-2. See text change for page 1-1.

4-4 See page 3-10, first paragraph of the Draft EIS for discussion of prolonged stream flows. It was concluded that there would be no significant changes in water quantity. We agree that many resource uses are benefited by riparian restoration. However, we feel that fish and wildlife are a primary beneficiary on most of these streams.

5

November 6, 1982

Dear Sirs,

I have read over the DETS for the Andrews Grazing Management plan, and I feel that you have done a very good job considering the size and scope of the area. I agree with the proposed action. One of my prime reservations is with wild horse herds. As they are non-native I don't feel that they have a place here, and would urge all to stress native wildlife first.

Somehow Steens Mountain should be a wilderness area with grazing allowed but vehicles excluded. Any management towards that should be stressed.

Thank you

Kent Erskine
272 Orange Ave
Ashland, OR 97520

6

Wildlife Management Institute

709 Wire Building, 1000 Vermont Ave., N.W., Washington, D.C. 20007 • 202 / 347-1774

DANIEL A. POOLE
President
L. R. JAHN
Vice President
L. L. WILLIAMSON
Secretary
JACK S. PARKER
Board Chairman

November 8, 1982

District Manager
Bureau of Land Management
74 S. Olvord Street
Burns, Oregon 97720

Dear Sir:

The Wildlife Management Institute is pleased to comment on DRAFT ANDREWS GRAZING MANAGEMENT PROGRAM ENVIRONMENTAL IMPACT STATEMENT, Oregon.

There is little for wildlife in the plan. It offers an increase of a few hundred big game AUMs to bring the plan up to State Wildlife Management objectives; everything else (44,839 AUMs) goes to livestock.

6-1 We have discussed this with officials of the Oregon Department of Fish and Wildlife. They tell us the present population objectives are based on present habitat conditions. Changes in those habitat conditions, such as those proposed in this grazing plan, will require adjustment in the population objectives. Both agencies should sit down and revise the whole plan and forage allocations. People interested in wildlife will not tolerate BLM placing a permanent population lid on the prime deer habitat of the Steens Mountains.

6-2 The land already targeted and that proposed for treatment and seeding comprise 14 percent of the unit. No specific locations are given, but a companion map shows at least some of it is on deer winter ranges. No guidelines or special management are proposed for winter ranges. Any seedings on this part of the unit should be primarily for wildlife habitat enhancement.

6-3 There are very large areas of treated wheat grass north of the Malheur National Wildlife Refuge. These may be close enough to this unit to effect habitat and monoculture. This must be indicated on a map and analyzed.

The analysis of environmental effects is comprehensive and good. The provisions for riparian management also appear to be above average.

6-4 We found no mention of hunter days. Any economic study should include this and the amount of money generated from wildlife activities.

DEDICATED TO WILDLIFE SINCE 1911

We object to the policy of massive range development. It is economically unsound. The government proposes selling public lands to retire the national debt. The BLM wildlife budget for the entire state of Oregon is projected to be 56 percent less in 1984 than in 1981. Yet this plan proposes an average range development subsidy of $83,250 to each of the 32 grazing permittees!

This subsidy is easily computed from figures in the plan:

Development cost of proposed action (p3-24)		$5,518,000
Minus the public benefits in Alternative 3 (p3-24)		-2,854,000
	Grazing Benefits	$2,664,000
Pro-rated amount 32 (p2-15)	Permittees gives an average subsidy of	$83,250

These range developments will provide an increase of 44,839 AUMs at an average cost of $59.41 per AUM (p1-2).

In addition to the above subsidy, each new AUM is expected to add $45 (p3-22) to the value of base ranch property. This will total $2,017,755 to the 32 permittees or another average subsidy of $63,054 realized when the ranch is sold.

If the grazing fee is $1.88 per AUM, then the interest on the $2,664,000 subsidy would have to be set at 3.15 percent for the interest alone to be paid by brazing fees on the new AUMs created. That of course will never happen; interest will never be paid by grazing fees let alone the principal.

If this is trickle down economics it is a very select trickle to a very small portion of the agricultural industry.

Some specific comments follow:

P 1-15. Under present budget projections there is no hope of even beginning to do the necessary monitoring, especially for nonlivestock resources.

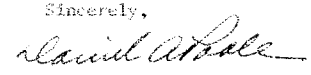
6-5 P 1-15. The Decision. Here again we have the statement that BLM is free to use any bits and pieces from any alternatives recombined to a decision and plan that have never been presented to the public. We object to this policy, it negates all public participation on Draft and final EIS's.

P 2-7. Habitat is poor on upland meadows, yet nothing is to be done to improve them.

6-6 Nowhere have we seen any mention of wildlife problems created when water developments enable livestock to graze areas valuable for wildlife, but presently unused by livestock. This should be analyzed.

These remarks have been coordinated with William B. Morse, the Institute's Western Representative.

Sincerely,



Daniel A. Poole
President

DAP:lbb

Resp e to Comment Letter 6.

6-1 The proposed action and all alternatives meet the current populaton objectives, which were provided by the Oregon Department of Fish and Wildlife. The long-term allocation figures used in the Draft EIS were assumptions made for purposes of analysis. As future forage increases take place, they may be temporarily allocated to livestock pending updated planning. Sustainable allocation, however, would be based on updated planning which would consider all forage needs at the time.

6-2 The specific locations for vegetation manipulation projects are shown on Figure 1-3, page 1-7 of the Draft EIS. None of the native vegetation proposed for treatment and seeding in the proposed action is located in the deer winter range according to our records except for one existing seeding that is proposed to be developed into an irrigated pasture. Some of the proposed treatments under Alternative 2 are located in the deer winter range. Coordination with Oregon Department of Fish and Wildlife would occur prior to implementation of those projects.

6-3 The areas of crested wheatgrass which you refer to are located north and east of the Diamond Craters and are mapped on Figure 2-3, page 2-15, of the Drewsey Grazing Management EIS. The location of these seedings were considered in the analysis of the proposed vegetation manipulation and it was determined there would be no significant impact on wildlife. See pages 3-14 and 3-15 of the Draft EIS.

6-4 Page 3-19 of the Draft EIS identifies an expected slight, long-term increase in hunter use under the proposed action. The slight increase is not expected to have significant economic impacts.

6-5 Regulations covering the procedural implementation of NEPA specifically require that a full range of alternatives be addressed in the EIS and that the decisionmaker consider the impacts of these alternatives and public commitment prior to making a decision. Under NEPA, the decision may fall anywhere within the range of alternatives analyzed in the draft and/or final EIS. We feel that it is important that we consider public input on the desirable features of each alternative in developing our decision.

6-6 See page 3-15 of the Draft EIS which states that "forage competition could result from the introduction of livestock grazing into areas previously used primarily by big game.

7

Richard Anderson
701 Greenwood Ave N
Seattle, WA 98103
Nov 17, 1982

District Manager,
BLM
Burns, OR 97720

Dear Sir

I am writing to comment on the Andrews Grazing Management Program EIS. Under water quality I think you should emphasize the negative impact that grazing has on water sources in the upland areas in late spring summer and fall. For example, on the west side of the highest Steens peak and all the way down through the canyons up to the road, the streams are contaminated by cattle. It is virtually impossible to find any drinkable water while walking through this upper basin. The aspen grove is stripped by the livestock and the ground underneath has no vegetation.

7-1 I strongly support Alternative C which would restrict grazing in the upland areas of the Steens and on Steens Mt. by livestock. I do not favor further restriction of the land allotted for wild horse herds.

Sincerely,
Richard Anderson

Response to Comment Letter 7.

7-1 As stated on page 3-10 of the Draft EIS, fencing of 11.5 miles of stream under the proposed action and Alternative 3 would decrease the fecal coliform content in these areas. The levels in the unfenced streams would remain the same.

United States Department of Agriculture
Soil Conservation Service
1220 S. W. Third Avenue
16th Floor
Portland, Oregon 97204

8

November 17, 1982

District Manager
74 S. Alvord Street
Burns, Oregon 97720

We have reviewed the Andrews Grazing Management Draft Environmental Impact Statement and have no comments or suggested changes.

Acting

JACK P. KANALZ
State Conservationist

The Soil Conservation Service is an agency of the Department of Agriculture

9

November 18, 1982

[illegible]

[illegible]ment

The Native Plant Society of Oregon wishes to comment on the Andrews Grazing Management Draft Environmental Impact Statement.

At the outset, let me compliment you on an attractive and useful document. A good deal of research has obviously gone into its preparation. As a botanist, however, I am distressed by the fact that no botanist was included among the "Preparers" (p. 3-26), nor was a copy of the EIS sent to the Native Plant Society of Oregon as a concerned interest group (although my copy arrived quickly after I requested it).

The NPSO feels very strongly that implementation of proposed grazing plan for 1.6 million acres in Harney and Malheur counties must not procede until research has revealed its impact on rare, threatened and endangered plant species endemic to specific habitats in this region.

The BLM is obviously aware that a large number of Oregon R. T. & E. plants occur in the Great Basin Area (including the Alvord Desert), on Steens Mountain and along its stream valleys, and in the Owyhee Uplands. In Siddall, Chambers and Wagner, Rare, Threatened and Endangered Vascular Plants in Oregon (Oregon Natural Area Preserves Advisory Committee, Salem, 1979, pp 13-15) these three areas--Basin, Steens Mt. and Owyhee Uplands, are listed as three of Oregon's 19 regions of "Botanical Interest and Endemism".

On page 3-7 of the Andrews Grazing Management Draft EIS it is indicated that the BLM has identified 110 plant species in the proposed Grazing District as "sensitive", however these species and their specific habitats, requirements, and locations are not specified in the report. In addition, it is repeatedly admitted in the EIS that the BLM lacks information on the impact of the Grazing Management Plan on these plants. For example:

> "Site specific information concerning the impact of existing livestock grazing management is lacking for the 11 plant species under review for Federal listing...
>
> Without information on the response to grazing of these plants, the impact of proposed changes in grazing management cannot be predicted. p. 3-7
>
> ...Impacts to threatened, endangered and sensitive plants from grazing management are largely unknown" p. 3-8

(next page)

It is our stand that additional research is absolutely essential before large scale "range improvement" projects such as the proposed aerial spraying with 2,4-D and burning which is planned for 151,251 Acres (p. ix) is begun.

In the interim, the NPSO wishes to go on record as favoring two aspects of your Alternative Plan 3, specifically:

1- The absolute minimum acreage should be subjected to brush control with, we strongly urge, close attention paid to plant species makeup in any area proposed for aerial herbicide spraying;

2- The maximum proposed area of 263,262 Acres should be designated as special value, cattle-excluded areas as shown in yellow on your map Figure 1-2.

Members of our society would be glad to work with you on research into the impact of your proposals on the R T & E plants within the Andrews District. We consider the Steens Mt., Alvord Desert, Pueblo Mts., Malheur Area and Owyhee Uplands to be one of Oregon's botanical treasures. We hope to be able to work with other conservationists, with the BLM and with local ranchers in such a way as to protect our state's botanical riches without seriously impacting the economic resources of southeastern Oregon.

Thank you very much for your kind attention.

Sincerely,

Rhoda M. Love

Dr. Rhoda M. Love, President
Native Plant Society of Oregon
393 FulVue Drive
Eugene, OR 97405
345-6241

[illegible]

10

EDGAR B. ROBINSON, JR.
P.O. Box 139
MARLBOROUGH, MASSACHUSETTS 01752-0139

November 15, 1982

Bureau of Land Management
District Manager
74 S. Alvord Street
Burns, Oregon

Reference: Andrews Grazing Management Draft
Environmental Impact Statement (EIS)

Dear Sir:

The purpose of this letter is to submit our comments on the EIS cited above as a reference. We admire the EIS for its thorough treatment of each issue.

As a general comment, we object very strongly to a prejudice in the proposed livestock plan against wild horses. It is stated on page 1-1 (right column, tenth line) that the entire long-term
10-1 increase in forage production would be allocated to livestock only. We object strenuously to this added subsidy to livestock owners at the expense of the wild horses who belong to all Americans.

We assert that restricting the size of the wild horse herd is arbitrary and unacceptable. We request that all aspects of wild
10-2 horse treatment in this EIS be rejected and re-submitted separately for public comment as a distinct issue in itself.

Sincerely,

Edgar B. Robinson

E.B. Robinson, Jr.

Response to Comment Letter 10.

10-1 The long-term allocation was assumed for analysis purposes only and all needs would be considered again when additional forage becomes available. Public comment during the EIS scoping process from the environmental groups, wild horse advocates and the ranching industry opposed increasing wild horses in any alternative. Specific comments suggested that the allocation to wild horses under the proposed action was optimum.

10-2 The EIS only addresses those aspects of wild horse management that relate to the livestock grazing program (forage allocation, grazing systems and range improvements). The other aspects of the wild horse program such as Herd Management Plans and gathering are beyond the scope of the livestock grazing EIS.

11

23351 [illegible] Bosky Bell Lane
West Linn, Oregon 97068
November 22, 1982

District Manager
74 South Alvord Street
Burns, Oregon 97720

Dear Sir:

I have reviewed your environmental impact statement for the Andrews Grazing Management Program. The report has been carefully prepared and I commend your staff for a very good job on the topics discussed. I do have a few comments, however, as follows.

11-1 There is no consideration of invertebrates, and this is of concern to me as I am interested in these animals, especially insects.

11-2 I would have appreciated at least a brief description of the remnant sand dunes, some on public land, on the eastern periphery of the Andrews Grazing Area. I feel that these dunes are of paramount value to Oregon's ecosystem and am distressed that more effort is not being taken to preserve them. They are the northernmost remnants of the sand dune system that starts deep in the southwest and contain, undoubtedly, a host of plant and animal species, little known or understood at present, that are faced with possible extinction in the near future unless measures are taken very soon to protect this habitat. The potential development of borax recovery plants and of thermal development in the area calls for immediate steps to preserve the present remnant habitat.

I am a naturalist and have an intense interest in the vertebrates that occur in the Andrews region. The native fishes are of great value and were of great interest to the late Carl Lubbs of the University of Michigan many years ago. He and his son-in-law, Dr. Miller made fairly extensive fish collections in Oregon's southeastern corner in the early 1930's. I am not sure that they were aware of the endemic Borax Lake chub that occupies springs in the Borax Lake area, but they may have been.

I have no sympathy with wild horses and should like to see them completely eliminated as they are competitors for the native herbivores.

I urge that every effort be made to preserve the habitat occupied by both common and endangered plant species.

Somewhere in your grazing management plan is a place to fence at least some of the unique natural habitat that exists in the Andrews Grazing Management Program area.

Sincerely,

Stanley G. Jewett, Jr.

Stanley G. Jewett, Jr.

Response to Comment Letter 11.

11-1 We have no information to indicate that the actions proposed in the Draft EIS alternatives would significantly affect invertebrates. Therefore, they were not addressed.

11-2 Some of the sand dune areas are included in the proposed Alvord Desert Area of Critical Environmental Concern (ACEC). The value has been recognized and a specific management plan will be developed to provide for these values. See the "Summary of Proposed Land Use Alternatives" or "Andrews Land Use Plan Proposed Actions" for more detail on the Alvord Desert ACEC.

12

1408 28th Street, S.E.
Auburn WA 98002

26 November 1982

District Manager
Burns District Office
Bureau of Land Management
74 S. Alvord Street
Burns OR 97720

Dear Sir:

I have reviewed your "Andrews Grazing Management Program Draft Environmental Impact Statement", and have come to the conclusion that your office is attempting the most rational land use decision program yet offered by a BLM district office in the Pacific Northwest. Although there are a small number of minor objections to certain portions of "facts" presented and grammar used in portions of the text; I do feel that the public has been relatively well served, here.

In regards to the four stated alternatives recognized in the draft E.I.S.; I would prefer to see implemented Alternative 3 - emphasizing non-livestock values. The preservation of much needed research and other undeveloped lands is too important to science and society to permit the continued misuse and abuse of a fragile ecosystem. In view of the questionable value of the land as pasture for livestock and the minor economic value in this regard to the public by this use, I feel that total elimination of livestock from certain recoverable lands is essential. This is my primary concern, and I request that regardless of the alternative chosen that the establishment and maintenance of the various ACEC's, RNA's, and wilderness areas as initially proposed and accepted by my fellow scientists and other land users, be given a high priority.

I originally commented on earlier portions of your proposed actions and at your public meetings as an Oregonian and constant user of your lands. Although recently having to leave Oregon for economic reasons, my interest and use of the Alvord Desert, Steen's Mtn area, and other areas within your jurisdiction has continued. Please retain me on your mailing lists, especially for a copy of your final E.I.S. for the Andrews Resource Area.

Thank you very much for caring for the public lands.

Yours sincerely,

Paul A. Johnson,
entomologist & naturalist

13

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA 22092

In Reply Refer To:
EGS-Mail Stop 423

NOV 23 1982

Memorandum

To: District Manager, Bureau of Land Management
Burns, Oregon

From: Assistant Director for Engineering Geology

Subject: Review of draft environmental statement for Andrews Grazing Management Program, Oregon

We have reviewed the draft statement as requested in the State Director's notice.

13-1 Since some of the proposed wells are to be used for flood irrigation (p. 1-14), the statement should indicate the probable magnitude and importance of resultant impacts on ground-water resources; the analysis should include the source of the water, the probable extent of the irrigated area, and the quantities of water involved.

James F. Devine

Response to Comment Letter 13.

13-1 Under the proposed action, 2,500 acres would be irrigated and 6,500 acres under Alternative 2. It is estimated that 2.5 acre feet of water would be required per growing season for each acre under irrigation. As stated in the U.S. Geological Survey Open-File Report 80-419, Ground Water Data for the Riley and Andrews Resource Areas, Southeastern Oregon, "In most of the study area neither rising or declining long-term trends are apparent and the ground water levels are more or less stable." Presently there are approximately 3,000 acres under irrigation in the general vicinity of the proposal. See text changes, page 3-10.

Natural Resources Defense Council, Inc.

25 KEARNY STREET
SAN FRANCISCO, CALIFORNIA 94108
415 421-6561

Washington Office
1725 I STREET, N.W.
SUITE 600
WASHINGTON, D.C. 20006
202 223-8210

New York Office
122 EAST 42ND STREET
NEW YORK, N.Y. 10168
212 949-0049

14

November 24, 1982

District Manager
Bureau of Land Management
74 S. Alvord St.
Burns, Oregon 97720

Dear Manager:

We have received a copy of the Andrews Grazing Management draft environmental impact statement (EIS). Unfortunately, time constraints prevent us from analyzing the document in detail. Nonetheless, our brief review reveals that this EIS fails to comply with at least one critical requirement of the National Environmental Policy Act of 1969 (NEPA), because it does not consider a "no grazing" alternative.

14-1 The Bureau of Land Management (BLM) is required by the final judgment in NRDC v. Morton, 388 F.Supp. 829 (D.D.C. 1974), to prepare EISs which analyze existing and proposed livestock grazing activities and which satisfy NEPA in all respects. Id. at 841-42. Such EISs must include a "no grazing" alternative for two reasons. First, "no grazing" is the "no action" alternative required by the Council on Environmental Quality's regulations, 40 C.F.R. § 1502.14(d), because the issuance of federal grazing permits constitutes the "action" which produces environmental impacts, thereby triggering the application of NEPA. NRDC v. Morton, supra, 388 F.Supp. at 834. Second, analyzing the effects of eliminating grazing generates an essential baseline against which to determine and compare the environmental impacts of all other grazing alternatives. Only through such an analysis will the public and the ultimate decision-makers be apprised of the specific impacts of various levels of grazing.

The BLM has previously recognized its clear obligation to include the "no grazing" alternative in grazing EISs. See, e.g., Instruction Memorandum No. 79-445, "Draft Guidelines for Preparing Interim Strategy Environmental Impact Statements (EIS's)," May 10, 1979, at 1-22. Indeed, up until this year the option was included in every grazing EIS prepared by the Bureau. Thus, the failure to include a "no grazing" alternative in this EIS violates both established NEPA doctrine as well as BLM's consistent interpretation of NEPA, as set forth in policy and practice.

In conclusion, we urge you to include the "no grazing" alternative in the final EIS. Please contact us if you have any questions.

Sincerely,

Johanna H. Wald

David B. Edelson

JHW,DBE:am

Response to Comment Letter 14.

14-1 Neither the National Environmental Policy Act nor Council on Environmental Quality regulations (40 CFR 1500-1508) specifically require the analysis of a "no grazing" alternative. They do require a "no action" alternative, which in the context of an ongoing management program means "no changes" from current management levels. See 46 Federal Register 18027 (March 23, 1981). While on occasion it may be desirable to analyze such an alternative, in this instance, the Oregon State Director has the authorized discretion to determine that a "no grazing" alternative was not needed for the Andrews Grazing EIS. Public comment during the scoping process overwhelmingly opposed the analysis of the "no grazing" alternative in the EIS. However, total livestock exclusion (no grazing) is proposed for 256,307 acres under Alternative 3.

SIERRA CLUB ... Oregon Chapter
2637 S.W. Water St. Portland, Oregon 97201

Please reply to: 754 NW Circle Blvd
Corvallis, OR 97330

15

Mr. Joshua Warburton
District Manager
Bureau of Land Management
74 S. Alvord Street
Burns, Oregon 97720

November 22, 1982

Dear Mr. Warburton:

These are the comments of the Oregon Chapter of the Sierra Club on the Grazing Draft Environmental Impact Statement for the Andrews E.I.S. area of the Burns BLM District. Our group is very concerned about several issues addressed in this document.

The policies that follow should be implemented on these lands:

1. The paramount objective in the management of these lands is to protect and improve the productivity of the range and the condition of the watersheds. The various multiple uses should be managed within the constraints imposed to protect such watersheds.
2. Lands that are unsuitable for grazing should be identified and permanently excluded from that use (includes lands easily eroded because of steepness, aridity, or insufficient cover).
3. Livestock use in the spring should be deferred until the vegetation is ready and the ground dry enough to prevent permanent damage.
4. Sufficient forage should be left after grazing to protect and enrich the soil, reduce evaporation, induce water infiltration, and encourage root system development of native plants.
5. Measures to correct damage from grazing should be taken first where the greatest correctable damage is occurring.
6. Adequate food, cover, and other habitat should be reserved for wildlife, particularly during periods of nesting, breeding, and rearing of young, and for winter survival.
7. Wildlife concerns should be built into all decisions, including those on fence construction, vegetation manipulation, allotment management, and water improvements.
8. Native fisheries should be protected and/or restored by providing for optimum water conditions and habitat.
9. Wildlife conflicts should be given to state, landowner, and conservation groups.
10. Riparian areas should be given special protection through various measures such as grazing rotation and fencing to maintain and/or restore the quantity and quality of water, the health of streamside shrubbery and forage productivity, to prevent streambank erosion and to protect habitat for fisheries, waterfowl, and other wildlife. This includes protection of springs, swampy areas, and places with high water tables.
11. Wild horses should be eliminated from key wildlife habitat, including bighorn sheep winter range, and from designated natural areas. Elsewhere wild horse herd sizes should be minimized to avoid conflicts with wildlife, livestock, and other range values.
12. Willful or negligent trespass cannot be tolerated.
13. Grazing should be practiced in moderation to assure sustained forage productivity. Drought cycles must be taken into account in determining the amount of grazing use.
14. Ranges in "poor" to "fair" condition should be managed to improve their condition expeditiously. A "no change" or "static" trend is unacceptable in ranges that are in poor or fair condition.
15. Range improvement systems or methods should [illegible] as possible, easy to operate, and inexpensive [illegible]. The range should not be managed and developed [illegible] production sustainable only by artificial and [illegible] treatments.
16. Improvements such as fencing and water development should either benefit other uses or [illegible] minimal interference to such uses.
17. For necessary reseeding, native species should be favored.
18. Fire is an acceptable management tool, provided wildlife and watershed protection are given adequate consideration.
19. Until herbicides and pesticides are developed that control only targeted species and carry minimal health and safety risks, they should not be used.
20. Agencies should hold public hearings on decisions that have significant impacts on multiple-use increases or reductions of grazing use management of riparian areas, ORV use, impacts on wildlife by water development, fencing or vegetative manipulation.

None of the alternatives listed in this document meet our concerns. Following are some specific management recommendations we urge the BLM to implement.

Riparian Areas: At least 68 percent of the riparian areas in the Andrews area are rated as being in fair or poor condition. This is completely unacceptable. Any riparian area in the E.I.S. area now classified as being in "fair" or "poor" condition should be relieved of severe grazing impacts as soon as possible. These riparian areas must be rehabilitated until woody vegetation and trees recover and a more natural state is achieved. Following this initial recovery the impacts of future grazing activities should be monitored and action taken to avoid similar, severe impacts in the future. Exclusion of livestock will probably be necessary in many places.

The proposed action provides minimal protection for riparian areas. This is unacceptable and continues a bias toward consumptive

. . . To explore, enjoy and preserve the nation's forests, waters, wildlife, and wilderness . . .

grazing activities at the expense of wildlife, water quality, and fisheries resources. Cattle can be accomodated on the public range land without destroying the riparian resource. For a period of time exclusions may be required to rehabilitate riparian areas. How does the Bureau of Land Management justify the proposed action's handling of riparian areas under the multiple use provisions of the Federal Land Management Policy Act? Alternative 3 better protects riparian areas than the proposed action, but fails to adequately rehabilitate areas along Denio Creek, Ankle Creek, the South Fork of the Blitzen River, and other streams without fisheries.

Wetlands: Wetlands should receive protection under guidelines similar to riparian areas. 25 percent of wetland areas are listed as being in poor condition. These areas should be rapidly rehabilitated.

Forage and Range Conditions: The E.I.S. document lists 49 percent of the range on the Andrews area as being in fair or poor condition. Improvement is necessary on this degraded range land. Measures to reduce grazing pressures on degraded range land should be implemented as quickly as possible. From the information provided in the EIS document it is difficult to determine the
15-1 future trends of range conditions under the various alternatives. How much range land will be in "poor" or "fair" condition in the short term and in the long term?

Wildlife: Conflicts between bighorn sheep and cattle can be expected throughout portions of the Andrews E.I.S. area. We recommend exclusion of cattle grazing from bighorn sheep wintering areas in the Steens Mountains. Wintering areas for bighorn populations in the Alvord Peak and Pueblo Mountains areas should
15-2 be identified in the Final E.I.S. and livestock should be barred from using this valuable resource.

Upland meadows provide important wildlife habitat currently used heavily by cattle in the mountainous areas. Some of these meadows need protection from the impacts of livestock grazing to allow usage by wildlife.

The proposed action does not provide adequate protection of upland meadows and other important wildlife habitats. Alternative 3 does a better job of protecting important wildlife habitats by excluding grazing in the Steens Mountains, Alvord Peak, Pueblo Mountains, and Trout Creek Mountains areas. The Sierra Club sees merit in excluding grazing from these areas to benefit wildlife and watershed values, but we would consider additional proposals that upgrade native wildlife values and improve riparian and upland meadow habitat conditions.

The Andrews EIS Area has some outstanding habitat used by raptors. Brush controls, seeding projects, and grazing activities will affect raptor prey species. The Pueblo Mountains, Oregon End

Table, Catlow Rim, portions of the Besque Hills . . . other rocky areas provide habitat for important popula[illegible] [illegible]ators yet brush control and seeding projects along with grazing are proposed for these areas or adjacent to these areas. What impacts
15-3 will these activities have upon raptor prey species and raptors themselves? Can mitigating measures be taken to reduce impacts upon raptors and their prey?

Brush Control: The Sierra Club opposes the use of chemical herbicides to control brush on the Federal range. The herbicides in use currently are not selective, killing both target and non target species which are important to wildlife and may be important to the ecological stability of an area.

Seedings of crested wheatgrass and other non-native grass species promote unstable monocultures and deleteriously affect many native wildlife species. The Bureau of Land Management should not implement any crested wheatgrass seedings as part of this plan. Native grasses should be planted on all seeding projects.

The Sierra Club vigorously opposes some of the brush control and seeding projects proposed under some of the alternatives listed in the draft E.I.S. document. Brush control and seeding projects in the wilderness study areas should be prohibited. Raptor prey species would be affected by brush control projects in the areas listed previously under wildlife. These projects should not be implemented. Many of the brush control and seeding projects are so large (particulary when considered with already existing projects) we question the ability of the B.L.M. to adequately inventory rare plant sites throughout the affected areas. The associated impacts upon wildlife of brush control projects are magnified in large tracts of land. Large scale applications of herbicides and plantings of crested wheatgrass would be disastrous and emphasize cattle grazing over all other uses.

Intensive Pastures: The Sierra Club vigorously opposes the intensive pasture proposal near Alvord Lake in Alternative 2. Who will bear the cost of developing an intensive pasture? Where will the water come from to water these pastures? Will
15-4 these intensive pastures be treated with herbicides, pesticides, fertilizer, and other chemicals? If chemicals are to be applied what impacts will be associated?

Water: Ground and surface water supplies will be affected by some
15-5 developments proposed under various alternatives listed in this plan. What effects upon water tables are anticipated as a result of implementing these different alternatives? How much water is needed to supply a mile of pipeline for one year?

Horse Management Areas: Conflicts between bighorn sheep and wild
15-6 horses in the South Steens Herd Management Area are of concern to our group. The E.I.S. reports that if wild horse herds are limited to the numbers in the proposed action adequate habitat has been available in the past for horses and other uses. Horses have been

15-6 seen in aspen and meadow areas, at springs, and along streams in the southern Steens Mountains trampling vegetation and feeding upon forage also used by bighorn sheep. Have these conflicts been studied? If wild horses have significant impacts upon bighorn sheep populations in the Steens Mountains, we suggest that the numbers of horses in the South Steens H.M.A. be reduced or eliminated and that the additional forage be allocated to wildlife in the southern Steens Mountains.

Comments on the Draft E.I.S. Document

15-7 1) In the final Grazing E.I.S. the Sierra Club would like a Comparative Impact Summary included similar to the one done in the final Grazing E.I.S. for the Bruneau-Kuna Resource Area on the Boise District in Idaho.

15-8 2) Appendix C, Table C-1 lists a number of streams that have been inventoried to determine what their present condition is or what the future trend would be under the management under the different alternatives. The B.L.M.'s staff should know the conditions of these areas and publish that information in the final E.I.S. document.

15-9 3) A map of existing brush control projects is needed to evaluate the impacts of the proposed seedings and brush controls.

We appreciate the opportunity to comment on this plan.

Sincerely,

Kelly Brilz for

Elizabeth Frankel
Northwest Conservation Chairper
Sierra Club

Response to Comment Letter 15.

15-1 Only long-term changes in range condition were considered to be significant. Predicted long-term condition for each alternative is shown in Table 3-1, page 3-2 of the Draft EIS.

15-2 Bighorn sheep, mountain lion, bobcat, and coyote were not discussed because populations are not expected to change significantly as a result of livestock grazing or other aspects of the proposed action or alternatives.

15-3 Some of these areas mentioned are important habitat for raptor prey species and mitigating measures will be taken to reduce the impacts created by brush control and seeding. Each situation will be looked at separately and a site specific plan will be designed to minimize the adverse impacts to raptors and other species. Some of the possible measures taken may be to make the proposed treatment smaller; create larger leave strips within the treatment area; or insure that adequate acres of critical habitat are left untouched adjacent to the proposed treatment areas.

15-4 It is anticipated that these projects will be paid for with a combination of BLM range improvement funds and contributed funds by other parties. The water for irrigation would come from wells (see response to comment 13-1). Some fertilization would occur on the irrigated pastures to maintain optimum production. If it becomes necessary to use pesticides, the environmental impacts would be analyzed at that time.

15-5 See response to comment 13-1 and text change page 3-10.

5-6 In the proposed action, horses would be removed from the Skull Creek area and the east facing slope of the Steens Mountain south of Wild Horse Creek. This would stop the direct competition between bighorn sheep and wild horses in that area.

5-7 Although the approach to the summary table in the Bruneau-Kuna Grazing EIS has some advantages, we feel that the impacts which they summarized in more detail are not very significant impacts in the Andrews EIS. See the Andrews Draft EIS Table 1-1 for Summary of Components, Table 1-3 for Summary Comparison of Long-Term Impacts of the Proposed Action and Alternatives.

5-8 The major streams have all been surveyed but there are some ephemeral streams which have not been inventoried. The remaining riparian areas will be inventoried as funds become available.

15-9 The map showing the existing brush control projects is available at the Burns District Office.

Nov. 30, 1982

Diamond, Ore. 97722

Mr. Josh Warburton, Manager
Burns District B.L.M.
74 N. Alvord St.
Burns, OR 97720

Dear Mr. Warburton,

I disagree with many of the statements, proposals and conclusions made in the Andrews Grazing Management Plan.

Statements, comments and additional proposals by many self-interested people, groups and organizations were accepted by extension of time or for other reasons after the published cut off date, thus permitting considerable adverse commentary on multiple useage of the public lands under consideration.

The Steens Mountain Recreational Plan, completed in 1972, provided for complete multiple use. The Loop Road was completed for scenic and recreational use. Now, ten years later, you are proposing closure of this road because a few wilderness advocates and devotees want the entire area for their specific playground, at the expense of many people who will now be excluded from the use and enjoyment of this area. The existing loop road and associated spur roads are necessary for the majority of the public, particularly older citizens, those with physical disabilities and many others not able to hike or ride horse back. These limiting proposals at a time when many thousands of dollars are being spent to provide handicapped access to most public facilities seem in opposition to common sense. I contest wilderness and other single use designations that limit resource improvements, management and recreational uses presently available through recreational use designations. The present management of multiple use designation provides the most economical management and responds well to the broadest needs of the entire public.

16-1 I strongly oppose and disagree with the statements made in 2-2 on soils and water. I believe most of these soils and drainages do not now and have not experienced more erosion other than what would normally occur since the 1972-1973 surveys. I have reservations that these surveys were totally unbiased due to the hostile attitudes and inexperience of certain members of the ODFW and other personnel conducting the stream and streambank surveys. However, I do agree that, as stated, beaver were responsible for almost 100% of the damage to these riparian zones along Riger, McCoy and Riddle Creeks. I disagree with the theory that streambank trampling and soil compaction is the cause of channels becoming unstable and vulnerable to erosion. From personal observations, I believe the reverse to be more true.

The miles of fencing proposed will cost thousands of dollars per mile and be almost impossible to maintain, move or remove

at a later date without equivilant thousands of dollars in costs. None of the riparian problems indicated in the EIS are of severity to warrant the extreme exclusion measures recommended. More nearly stable and desirable minimum stream flows could and would be realized in the very near future by the simple expediency of juniper tree removal and control.

Exclusion of Lilly Lake is unnecessary, unwarranted and has not been adequately justified for protection of the "pond weed", a plant species identified as "sensative". This plant has survived consecutive drouth years and was previously more severely stressed by grazing practices that have not been used nor permitted for at least forty years. It is still in existance. Therefore, I protest the exclusion.

I wish to emphatically oppose the TEX of both Riger and McCoy Creeks for reasons set forth above.

Most sincerely,

Harold Otley

HDO/nb

Response to Comment Letter 16.

16-1 We agree that there has been no major change since the 1972-1973 surveys. However, the 1979 survey supported the conclusions of the earlier surveys which indicated that conditions were unsatisfactory.

COMMENT ON ANDREWS GRAZING MANAGEMENT PROGRAM
E I S

Alternative 2, which emphasizes grazing, should be practiced in all areas of this grazing district.

It is necessary to keep wild horse herds at a minimum since they must live on the open range all year. During the deep snow period feed is difficult to find.

Fencing streams in this area tends to cause problems as most of the streams in eastern Oregon are inhabited with beaver. During the run-off period many fallen limbs wash down stream to lodge against these cross fences.

Only the small areas of endangered plants or animals and historical sites should be protected. This could be done without the set-aside of thousands of acres for wilderness. Oregon's economy cannot afford anymore unemployment or loss of tax money by taking lands out of production.

Andrews Grazing Management area should remain in multiple use. All users of these lands should be required to pay a fee including back-packers.

Management should continue.

Sincerely,

Allen Otley
Jennie Otley

18

District Manager
74 S. Alvord Street
Burns, Oregon 97220

I appreciate this opportunity to comment on the Andrews Grazing Management Program. The draft EIS demonstrates considerable effort by the BLM, and in particular the use of references is a positive feature. I am concerned about several points, and hope that these suggestions can be incorporated into the final EIS.

Riparian areas: Though the proposed actions will improve riparian areas through exclosure, it appears that additional protection is needed. These water courses attract cattle and consequently have been generally altered in both veg etion structure and species composition. Though vegetation structure may become re-established within a short period, species composition will not. The two year exclosures on McCoy and Riggs Creeks deparately need to be increased in duration, between a minimum of 4 years, and up to 5 to 10 years, depending on the present condition. In addition to the proposed permanent exclosures as noted in the proposed action, there is a need for exclosure in the Troutcreek Mtns, the Puellos, and East side Steens. Specifically, riparian areas along both Big and Little Trout Creeks, Van Horn Creek and Big Alvord Creek need protection. Exclosure along these creeks will provide a better representation of ecological types, and allow for improvement, substantial improvement in the condition of these areas.

I realize exclosure of riparian areas implicitely directs reduction of AUM allocation to existing permittees, and I would suggest that this can be reconciled by gradually developing these exclosures in conjunction with the development of the brush control programs, thus allowing a permittee to use the seeding when the riparian areas are exclosed.

18-1 Need for increased AUMs. All the alternatives allow for increased AUMs, excepting the No action, yet there is no documentation of a reasonable "need" or "demand" for this. This need should be documented throughly, including the specifics of who will be accorded with the previledges of using the additional AUMs. Will it be the small local ranch, or the larger Corporate Ranches such as Catlow Valley Ranches, the Alvord Ranch? Who is going to benefit from increased availibility of forage? And is there a demonstrated need for this? The EIS and grazing management program is based on this assumption, that a need exists, and without supporting the assumption there is little apparent reason to propose increased forage allocations.

The proposed action allows for extension use of brush control with and without seedings in the south 1/2 of the Andrews RPA, especially in the Flagstaff Butte, Black Point Rim and Troutcreek Mtn areas. This same area have very productive goldeneagle nests (BLM survey 1980). Six nests were located in 1980, and produced 12 fledged young, an average of 2 per nests. This area is this most productive
18-2 area on a per nest basis within the district, yet the changes in the environment that might affect these six pairs of eagles has not been assessed. It may be deemed desireable to concentrate brush control sites distant to these known nest areas.

18-3 The economic viability of ranch improvements is not adequately discussed. It states that range improvements will be cost-effective, but does explain what this means. Will the range improvements pay for themselves by generating grazing receipts? If indeed not, then the improvements are not cost-effective, and need to be explained in this light.

Stern 2

18-4 The long term impact of well developments in this arid region is not adequately assessed. The predictions that no effects will be impacted on ground water is not stantiated, and apparently is unstudied. The Final EIS should included a plan to monitor water tables, and water flow. It may be that increase quality of the riparian areas will result in increased stream flow, and help to offset other water development projects. But this needs to be monitored.

I know it is difficult to develop these draft statements, and it appears that considerable was put into this project. I think this statement and future statements can be improved by incorporating both the existing style with a systems type conceptional framework. For example, I think stream exclosures need to include an entire drainage. The notion of excloding a piece here and a piece there certainly benfits the individual piece, but to truely regenerate the system, I think the entire drainage needs recovery time as a whole, not as individual pieces. The statement that the total is larger than the sum of the individual parts, is applicable to management of streamside areas, and should be incomporated into the management plan.

Thank you.

Mark A Stern
PO Box 797
Silver Lake, Oregon 97638

Response to Comment Letter 18.

18-1 For purposes of impact analysis, the initial allocations of forage to livestock were assumed to be based on EIS area permittees active preference (qualifications) long-term increases in livestock forage were assumed to be allocated to the EIS area livestock industry as a whole. Allocations of long-term forage production will be made for each allotment and only after an evaluation indicates the additional forage is available for that allotment. A discussion of demand for livestock forage on public land in the EIS area is available in the Harney Planning Area's Resource Industry Analysis (Riley and Andrews) on file at the Burns District Office. The Resource Industry Analysis predicts an increase in demand of 24 percent over 1976 demand by 1990.

18-2 As indicated on page 1-15, paragraph 1 of the Draft EIS, vegetation manipulation projects would be designed using irregular patterns to provide for optimum edge effect for wildlife. Golden eagles are a wide ranging species, at times using over 10 square miles in their hunting. Black-tailed jackrabbits are a key prey species. The Trout Creek area with its diverse flora and fauna offers additional prey species not usually present on an arid rangeland site. The Black Point Rim area does not offer the diversity of habitat that Trout Creek does. Brush control east of Black Point may require more untreated brush to allow additional habitat for foraging eagles, and this would be considered in planning and project design for specific treatments.

18-3 The cost effectiveness of the proposed projects in an allotment is determined by comparing total benefits from the projects in that allotment with the total cost of constructing those projects. Not all benefits can be measured economically. In benefit/cost analysis, livestock grazing benefits are measured in terms of economic value which typically exceeds grazing receipts to the Government. A complete benefit/cost analysis will be compiered in connection with the Resource Program Summary (RPS) document to be issued later this year.

18-4 See response to comment 13-1.

Dave Garcia
Post Office Box 972
Jacksonville, Oregon 97530

19

Nov. 30, 1982

District Manager
74 S. Alvord St.
Burns, Oregon 97720

My compliments to you and your staff for a job well done in preparing the Malheur Grazing Management - Draft EIS. In fact, I plan to use this statement extensively in my high school science classes when we study resource management. (How can I get at least 25 copies for my students?)

However, I am not satisfied with the proposed action. I do not believe there is adequate protection for wetland or riparian habitats. Over the years I have seen the increased degradation of vegetation, severe erosion problems, reduced water quality, and a severe impact on fish and wildlife in general because of grazing in wetland and riparian areas. As the draft EIS points out in numerous places this is a problem. Although the data given is generally excellent I am afraid the survey and mapping of wetlands was incomplete. Spring seeps, meadows and similar wetland environments are critical resources in the Burns District. The present wetland inventory in the draft EIS seems to include only the large streams and bodies of water. The omission of this data is misleading. Obviously there is a limit to the amount of data one can necessarily

19-1

and economically acquire in the making of management decisions of this type. But, my God, we are talking about boats on Southeast Oregon the environmental factor of this area.

In the last few years in the Burns District and on U.S. Forest Service lands I have seen the dramatic difference exclosures make in maintaining healthy wetland habitats. Therefore, I personally would like to see a more complete inventory of wetlands; an increase in fencing and exclosures to protect wetlands; and based on the information available, I certainly hope you would consider alternative 3.

Sincerely,
Carl Garcia

Response to Comment Letter 19.

19-1 See response to comment 15-8

20

District Manager
Bureau of Land Management
74 S. Alvord St.
Burns, OR 97720

Nov. 30 1982

The draft grazing EIS prepared for the Andrews Area is a commendable effort to plan for a balance in range use by livestock and improved habitat quality for wildlife. However, I believe that the latter has been seriously compromised for several reasons:

-The poor condition of present streams and associated riparian zones, especially in the Trout Crk. Mtns. and east side drainages of the Steens and Pueblos are not likely to improve without complete exclusion of grazing at least temporarily. Once re-established, these productive but fragile aquatic systems may be reopened to peripheral grazing (ie livestock should be kept out of the stream bed/banks) on a seasonal or rotating basis.

20-1 -Groundwater pumping required for large-scale irrigation projects seems to have received little in-depth attention from the EIS. Short-term withdrawal may not have a marked impact but have the long-term effects been evaluated? A recent EIS in Inyo Co. CA prepared by the Los Angeles Department of Water and Power regarding groundwater pumping was recently dismissed in a lawsuit as inadequate due to the long-term deleterious effects of a lowered groundwater table. Perhaps the potential for such problems should be addressed in your final EIS.

-Studies acknowledged in the bibliography indicate the devastating effects of brush removals (big sagebrush) and seedings to crested wheatgrass on small ground-dwelling birds, mammals and reptiles. To mitigate these impacts, I urge diversified seedings and retention of stands of native vegetation and big sagebrush within brush control areas.

Monitoring programs should be established to assess any grazing-associated impacts (groundwater, brush control, streams as well as the direct effects of livestock) on the quality of the native environment. I hope, as the report so optimistically anticipates, that these natural qualities will actually be enhanced, yet increased AUMs even under "emphasize non-livestock" gives any wildlife biologist cause to be skeptical.

My specific recommendations are:
-exclosure fencing on Little Trout Cr & tributaries, Riddle Cr. and all east side Steens/Pueblos drainages until riparian quality is renewed
-establishment of Alvord Desert ACEC (unique dune/Great Basin habitats found nowhere else this far north)
-establishment of RNAs and ACECs at proposed locations in Pueblos/Steens

Please keep me on your mailing list for any further MFP documents.

Sincerely,

David B. Herbst

David B. Herbst
Dept. Entomology / Zoology
Oregon State University
Corvallis OR 97331

Response to Comment Letter 20.

20-1 See responses to comments 13-1.

Andrews [illegible]

WHOA!

21

BOARD OF TRUSTEES
DAVID R. BELDING
JACK C. McELWEE
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In Memoriam
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WILD HORSE ORGANIZED ASSISTANCE
INC.
A Foundation for the Welfare of
Wild Free-Roaming Horses and Burros

P. O. Box 555
Reno, Nevada 89504
Telephone 323-5908
Area Code 702

Kathryn Cushman
Box 26
Canterbury, New Hampshire 03224
November 28, 1982

District Manager
74 S. Alvord Street
Burns, Oregon, 97720

Dear Sir:

Thank you for the opportunity to comment on the Andrews Grazing Management Program EIS, Draft.

21-1 WHOA does not object to a 50% reduction in the horse herd... provided it is calculated correctly. It appears that the EIS proposes a 50% reduction in numbers, 1070 to 540. However, we must go back to September 1981. Prior to the roundup in 1981, the horses numbered 1946. A 50% reduction of that number is 973 horses, an acceptable number. A reduction to 540 whkls is a 70% reduction, and is too great particularly when one considers the fact that horses receive no share in the forage increase (long term) of 55,000 AUMs. It is preferable to allocate more AUMs to wild horses now.

21-2 Range improvements proposed in the Andrews Grazing Management Program EIS are most optimistic. 262 miles of fence is a very expensive undertaking when budgets are being continually cut back. It is difficult to believe that either the fencing or water improvements will ever be funded. Meanwhile, horses will be removed, the only public land user to pay the price of "management". What guarantee do we have that money will be available for these proposed improvements?

21-3 Can you name specific areas in your district where horses are injuring range vegetation? Do you have full resource data to support such a determination? How is wild horse use separated from livestock and wildlife use?

The Andrews draft gives very little data in regard to decisions made about wild horses. I would like a copy of the Alvord/Sheepshead and the South Steens Wild Horse Herd Management Plans.

Sincerely,

Kathryn Cushman

Kathryn Cushman
WHOA

Response to Comment Letter 21.

21-1 The number of horses proposed in the EIS for each Herd Management Area are the same as the numbers in the Herd Management Plans of 1981. Also see response to comment 10-1.

21-2 There is no guarantee that funds will be available for all of the proposed range improvements. Economic analysis will be conducted on each improvement and the ones that best fulfill the resource needs and have the lowest costs relative to benefits will be funded first.

21-3 We have found heavy to severe use in the South Steens Herd Management Area when the horse numbers exceeded present management objectives. The method for determining how much forage the horses are using is to determine the amount of herbage that has been removed from key grass species during the spring, before cattle are turned out and before deer return from the winter ranges. This data is compared to the utilization taken after the cattle are removed in the previous fall and the difference is primarily horse utilization.

Perry W. Still
Colony Ranch
Fields, Oregon 97710
Nov 30, 1982
Page 1 of 4

Mr Josh Warburton
District Manager
74 S. Alvord Street
Burns, Oregon 97720

22

Dear Sir:

This letter is in regard to the Andrews Grazing Management Program Environmental Impact Statement Draft.

As a ranch owner and resident of this area since 1966, I dislike seeing any restricted or limited land use areas. However, I do agree, good management is necessary on both public & private lands.

To totally exclude livestock from stream beds and creeks would entail an animal tight fence in some place or else there would be no livestock use in the area now. In erecting this fence some species of wildlife would also be excluded thereby changing their life style and habitat. In addition the lush growth of forage along the stream bank would be unharvested; become dense, rank and create an immense fire hazard.

As to the wild horse numbers, I believe they should be reduced to the 90 to 120 head numbers for the following reasons.

1. Once the numbers are reduced the horses would be easier to control and cull.

Perry W. Still
Page 2 of 4

2. The BLM Adopt a Horse program does not seem to be working too well. The giving away (for a fee) and the destruction and removing the carcass of unwanted horses is costly and the 30 to 90 days feed before destruction is also expensive. The reduced numbers of horses needing to be harvested would save both the public and the Bureau money.

3. The horses would still be in the areas designated where the public could see them. Then when other methods of sale or distribution became available the herds could be increased.

I am against Government owned irrigated pastures for the following reasons.

1. As an operator in this area, if I were to use well irrigation with the high cost of construction, land preparation, equipment, and the rising cost of electricity; I would plant a high producing crop of alfalfa, grain or cash crops to recover those costs and use my meadows and free water (creek water) for irrigated pasture. I do not believe either the Bureau or the operator could recover the cost of a well powered irrigated pasture through pounds of beef or other livestock.

2. Assuming that only a given amount of underground water is available, only x number of wells can be drilled in a given area. Therefore each Bureau well is one less well for the private sector.

3. The operating costs to the Bureau or the operator would be forever continuing and climbing with well and pump maintenance and repair, irrigation and reseeding costs. Yes, and even the man hours necessary for rodent control because that is deffenately a problem on irrigated pasture

A suggestion I have for these proposed irrigated areas is to make or rech seedings into crested wheat or other dry land grasses. This is a relatively cheap and one time expense. Then with proper management this is a low cost high return pasture.

I do not believe the Bureau should compete with private enterprise and there are several operators in this area who do have some irrigated pasture.

To my knowledge other than a one time planting by a local trapper there are no trout in Van Horn Creek and it is my understanding that some camper caught all of those from the hole or location which he placed them. Also I have known Van Horn Creek to dry up in the fall of the year.

Other than these objections, suggestions, and comments I endorse this Environmental Impact Statement. I truly believe that with proper development of water and grazing rotation areas forage will increase. Thereby all species of animal life will reap a benefit from a better environment.

One more comment: The idea of having a designated wilderness area in the Pueblo Mountains just goes against my grain for one thing the topography is such that the area does not lend itself to any but limited development. Roads and ways are admittedly few and vehicle use is limited except during hunting time. I also believe that a designated wilderness area is discrimination against the aged and the handicapped who cannot walk or ride horseback into the area so designated. It is my hope that if I live my 3 score and 10, I will be able to climb into a 4x4 and have my grandson drive me up to the Van Horn rim, 20 hours, sitting with rifle in hand and the sun on my face, I can remember the

days of my younger years and maybe, just maybe, an old four point will pass by

Yours truly

Perry Z. Still

23

Leo R. Barclay
Gen. Del.
Fields, Oregon

Gary Fullerton
EIS Team Leader
BLM Oregon State Office
P.O. Box 2965
Portland Oregon 97208

Dear Sir:

I'm deeply concerned with BLM proposal to establish irrigated pasture in the area adjacent to my property.

It appears to me, BLM is proposing to become a direct competitor with my tax dollars.

23-1 Another grave concern is what the addition of that many wells will do to our water supply. In the past 25 years I have been farming in this location the water table has decreased.

I feel agriculture development should be left to the private individual.

Thank you.

Very truly yours

Leo R Barclay

Response to Comment Letter 23.

23-1 See response to comment 13-

William [illegible]
[illegible]

24

Gerry Fullerton, B.L.M. Team Leader
Interior Land Management
Oregon State Office
P.O. Box [illegible]
Portland, Oregon [illegible]

R.E. [illegible] Environmental Impact Statement

There are several [illegible] in the [illegible] B.L.M. that need [illegible] to be to the best interest of the public.

1. Planting of limited [illegible]

The B.L.M. [illegible] should not [illegible] public [illegible] forage [illegible] direct competition with [illegible] [illegible] is not [illegible] in our [illegible] regardless of the so-called benefit.

If [illegible] [illegible] [illegible]

Response to Comment Letter 24.

24-1 See response to comment 13-1. Proposed sites for irrigation are all within 1/4 to 4 miles from existing pwoer lines.

24-2 The Agriculture Research Service (ARS) Office, in Reno, Nevada stated they they did not have any data on the riparian condition for the Oregon portion of Denio Creek. However, they did work on upland sites in the Denio Basin area.

24-3 We agree that many streams will not support fish due to inadequate flows even during good runoff years.

24-4 Monitoring of the key forage species in the Pueblo-Lone Mountain and Trout Creek Mountain allotments will determine whether a reduction in grazing is necessary.

Central Oregon Conservationists
[illegible] Fifth Street
Prineville, Oregon

December 1, 1982

District Manager
[illegible] Alvord Street
Burns, Oregon

25

Dear Josh,

We wish to make the following comments on the Andrews grazing EIS.

First, we were not sent a copy of the draft document. Our name and address simply wasn't included on the mailing list. I find that difficult to understand considering that I attended the scoping meetings, provided input to the [illegible] and submitted a written request to be placed on all planning mailing lists to your office.

The Oregon High Desert Study Group formally disbanded in May 1981.

25-1 I am a bit disappointed that you didn't present a broader range of alternatives. NEPA requires a full range of alternatives and I don't believe that 4 alternatives really represent a full range. We would like to see an efficiency alternative; one that provides the best grazing program for the cost.

I spent three days reading the document and checking some of the referenced material. You have presented much information in a compact and readable document. The fish, wildlife and riparian discussions are superior and I believe readily substantiate why we prefer burning to spraying, dislike large crested-wheat seedings, and promote riparian system recovery.

Your preferred alternative is a step in the right direction, but doesn't go far enough. Alternative 3, with the exception of riparian fencing, is the most economical, and even with the fencing is the most cost effective, and provides the best resource protection.

There are several areas in which the EIS could be improved:

The realities of land management are a function of budgets, personnel levels, the viability of the livestock industry, and cost trends -- energy in the case of irrigated pastures, fence, pipelines, well drilling costs, etc. I just don't believe planning is very worthwhile unless it seriously considers these factors. And your document doesn't. I spent several hours in burns on Thanksgiving talking to a rancher. When I asked him about the irrigated pastures he replied that electricity costs were going up so rapidly that a lot of private land owners were considering giving up irrigation and couldn't see how the government could afford it either. By the way, I would like to be sent a copy of the EIS on those projects.

Also, if policy is going to require ranchers to paint in, and cover the costs of maintenance of rangeland "improvements" I just don't see how they are going to do it, as marginal as many operations seem to be.

Since I am not a range conservationist I do not feel qualified to question the veracity of your program. We will monitor the program and expect it to do what you claim.

I am skeptical of your assertions that an increase in perennial grasses will compensate for a lack of residual ground cover. Residual ground cover absorbs the energy of falling water, reduces surface water velocity

[illegible], reduced surface ground temperatures, [illegible] [illegible] [illegible]. [illegible] a little [illegible] of it.

[illegible] allocation [illegible] to livestock. [illegible] [illegible] to March. [illegible] [illegible]. There are 147,000 population [illegible]. [illegible] north [illegible] to north of [illegible] [illegible] to [illegible] --to [illegible] our [illegible] [illegible] [illegible]

26

THE WILDERNESS SOCIETY

Northwest Representative
(206) 624-6430

1424 Fourth Avenue, Room 622
Seattle, Washington 98101

December 1, 1982

Joshua Warburton
District Manager
[illegible] South Alvord St.
Burns, Oregon [illegible]

Dear Josh,

We have reviewed the Andrews Grazing Management Program Environmental Impact Statement Draft. Frankly, we do not believe that this document constitutes an environmental assessment. We reach this conclusion because of several statements in the document itself. In Appendix B, paragraph #1 we are told that: "Ecological condition for the EIS area has not been determined." In the range section in paragraph #2 we are told that: "Variables such as large year-to-year fluctuations in precipitation make a precise quantification of impacts to vegetation impossible." In Appendix C, paragraph #1 we are told that the rangeland has not been actually looked at since the "late 1970's for the northern area" and since "the early 1980's" for the southern area. We are further told on page 1-1 in paragraph #14 that: "Additional range improvements may be needed to implement intensive grazing management. Exact numbers and economic feasibility of improvements have not been determined." Given these statements, we do not know the present conditions of the range nor the economic justification for the proposed alternative.

26-1

26-2

We do note that the proposed improvements seem to be located in the allotments with the poorest grazing conditions. There is no economic analysis of the precise costs and benefits per AUM for the improvements proposed versus the costs and benefits to the public and to the specific permittees by allotment of reductions in AUMs that would achieve comparable improvement in range condition. It would also be very useful to know the economic justification for the projected increase in AUMs to be gained by the preferred alternative.

26-3

It is astonishing to be told that the continuing of present conditions would mean that "Grazing permits would continue to be issued at present levels of use which is in excess of grazing capacity on three allotments totaling 400,280 acres." Is this not a violation of the Federal Land Planning and Management Act? There seems little doubt that reductions in AUMs are needed and that thousands of acres of rangeland have been badly overgrazed. We look forward to a more complete environmental and economic assessment of the various alternatives in the final environmental statement.

Sincerely,

Jean Durning

Jean C. Durning
Northwest Representative

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Response to Comment Letter 26.

26-1 Even though ecological condition has not been determined, the existing forage condition is summarized in Table 2-2, page 2-2 of the Draft EIS. Predicted forage condition for each alternative is shown in Table 3-1, page 3-2. BLM is currently collecting soils and vegetation data in the EIS area which will assess the ecological condition of the range. This information will assist in refining grazing systems proposals needed to improve the condition and trend of the range where it is needed. These proposals are now based on livestock forage condition which has been assessed for the study area.

26-2 See responses to comments 18-1 and 18-3.

26-3 The No Action alternative (continuing present management) is required by Council on Environmental Quality (CEQ) Regulations to be analyzed in each EIS. In describing the No Action alternative, it was assumed for analysis purposes that existing grazing permits would continue at present levels.

Edith F. Moore
Dept. of Zoology
Oregon State U.
Corvallis, Oregon
97331

BLM
District Manager
74 S. Alvord St.
Burns, Oregon 97720

December 6, 1982

Dear sir,

I am writing to offer comments on the Andrews grazing management program environmental impact statement issued September 1982. I lived at the base of Mickey mountain from May 8 through the end of July 1982 doing research for my master's degree from Oregon State University, and assisting with an avain ecology project funded by the Oregon Department of Fish and Wildlife nongame program. I feel familar with the conflicts between grazing and the maintenance of wildlife habitat.

I am particularly concerned about the use of defoliant 2,4-D as a brush control agent, and feel that for the first management period use of this chemical should be severely restricted until the long term effects on wildlife are determined. Destruction of sagebrush, though beneficial to cattle grazing, has profoundly adverse effects on communities of plants and animals. Seeding defoliated areas with grasses such as crested wheat grass does not supply members of these communities with shade, or food resources similar to those provided by big sage & other great basin shrubs. In the case of burrowing mammals & reptiles, the roots of these shrubs provide structural support for burrows. Many species of herbaceous plants depend on shrubs for protection from solar radiation and structural damage.

If sagebrush must be cleared from some areas, perhaps burning would be a more conservative approach. In any case, removal of shrubs means habitat destruction for many species of plants and animals. Brush control benefits only cattle, and I believe that the number of cattle on this range

should be reduced, not increased. Historical destruction of rangeland due to overgrazing will not be cured by management whose goals are to manage for maximum grazing potential.

I support alternative number three because I feel that exclusions from sensitive areas are crucial, and I would like to see brush control and seeding projects minimized. Of the alternatives suggested, this one is the most far-sighted, and oriented toward the healthy recovery of the ecosystem.

Thank you for the opportunity to voice my comments,

sincerely yours,

Edith F. Moore
Edith F. Moore

United States Department of Agriculture

Forest Service

Pacific Northwest Region

319 S.W. Pine
P.O. Box 3623
Portland, OR 97208

Reply to: 2500

Date: December 6, 1982

Mr. William C. Leavell
State Director, Bureau of Land Management
P.O. Box 2965
Portland, OR 97208

Dear Bill

Thank you for the opportunity to review the Draft Environmental Impact Statement for the Andrews Grazing Management Program. We have no substantive comment to make on the draft.

Sincerely,

JEFF R. SIRMON
Regional Forester

[illegible]

[illegible]
[illegible]
[illegible]
[illegible]

[illegible]

[illegible] Draft [illegible] Grazing Management Program, Environmental Impact Statement [illegible] appreciate the opportunity to give input because of the importance of the management program to the economic well being of the area.

Many sections of the report indicate a [illegible] and progressive plan to utilize forage potentials for the benefit of all natural resources but other areas of the document [illegible] of uses, [illegible] of outdated rest rotation [illegible] to [illegible] available technologies. [illegible] these [illegible] and other areas of the Draft [illegible]

Summary

Alternative [illegible] my preferred alternative [illegible] reflects [illegible] of the area. [illegible] the program [illegible] environmental benefits to other natural resources.

[illegible] Environmental, natural resource and economic [illegible] change and management [illegible] need [illegible] management adjustments to best meet [illegible] all resources. [illegible] objectives and target resource levels [illegible] can be [illegible] for the next 25 years but selection [illegible] systems, [illegible] and the best combination of management strategies need to be [illegible] over a shorter time frame [illegible] and finalized just prior to implementation of improvements. Management [illegible] and [illegible] personnel need flexibility to [illegible] plans to utilize new information.

Forage Conditions in the Andrews Area. [illegible] Diaries and [illegible] testimony indicate the Andrews [illegible] with very similar forage [illegible] exception to these conditions were in areas [illegible] where fire occurred at fairly regular intervals. [illegible] sufficient fuels [illegible] low annual and winter precipitation [illegible] of the area produced [illegible] fire cycles followed by quick reinvasion of deep rooting [illegible] species.

Low brush control projects and seeding have greatly improved forage conditions from the time when military [illegible] the travelled for three days before finding water and sufficient [illegible] of brush control through the use of fire and herbicides in each of the area

[illegible]

[illegible] Fire suppression, juniper trees and sagebrush [illegible], are at an accelerating rate, are competing for limiting moisture [illegible] particularly late in April [illegible]. Many stream flows are dependent upon snow drifts for sustained flows but juniper and brush increases on winward [illegible] have decreased the snowdrift influences.

In addition to the above changes in watershed conditions much of the area had a high level of sediment and erosion when whitemen first came into the [illegible] area. It is obvious that concentrated livestock is only one of many factors in riparian area management and livestock can be properly managed through timing of use, development of livestock trails, seeding palatable grasses away from streams and using many other management practices adjacent to, and away from the stream channel.

As an example, fall and winter grazing during dry [illegible] and after sufficient rain, many times is an excellent way to entice livestock to use ridge tops away from streams. October, November and December are the best times to utilize many pastures for dry cows. It is extremely important to wean off calves or both cow and calf will rapidly drop off in condition.

Exclusion of use from some streams can leave many areas inaccessible for fishing by the public due to lack of trails and dense brush. Management strategies other than "exclusion" need to be emphasized in riparian areas.

[illegible] the temporary [illegible] those areas. [illegible] areas with fair to poor conditions and have shown continued improvement [illegible] and contain excellent fish populations.

Mulefoot. Mule deer and antelope habitat can be improved in a number of ways. In some cases, existing range improvement programs have greatly [illegible] the Littlewell mule deer and antelope habitat and populations (5-6), [illegible], 6000 and 6010 are examples of areas where these improvements are evident. Studies by the Oregon State Fish and Wildlife over a five year period indicate an average predation by coyotes of 45 percent on mule deer fawns. For the last two years 50-60 percent on antelope kids. Wolf predation, confirmed by the Dept, has limited mule deer and antelope herds of increased density in desert areas.

The same relationship and predation can be documented for ranchers, [illegible] and a variety of birds in many areas. The addition of tall shrubs [illegible] wildrye on draw bottoms and other appropriate areas [illegible] wildlife habitat and further enhance small animal populations.

[illegible] are specific comments to sections of the draft EIS.

Number 1

[illegible] 1-1 (Proposed Action, feature 2) The PA fails to plan for and [illegible] resource potentials in many areas. Improvements in this [illegible] need to be spread over more areas as one step toward. [illegible] a large blocked in area similar to what must be done [illegible] in Figure 1-3, Proposed Vegetation Manipulation. [illegible] has areas where intensive resource improvements [illegible] compliment other resources.

[illegible] 1-1 Proposed Action, feature 1) Even under no overall changes [illegible] total grazing productions and net [illegible]. Recent [illegible] travel throughout a large part of the Jackson Resource Area [illegible] forage utilization and livestock distribution problems [illegible] allocation problems among uses. The result of [illegible] and development of range seedings in past years, have [illegible] while benefitting mule deer, antelope and various other species. Reducing grazing will not help range conditions in the sagebrush plant communities nor help the BLM move toward [illegible] the public rangelands."

[illegible] 1-1 Proposed Action, features 3-5) Exclusion will not meet the needs of all resources and uses of the area. The cost of exclusion will be extremely high and those monies should be used for resource improvement projects.

[illegible] 1-2 (Alternative 1 - No Action) Existing grazing levels are not [illegible] causing resource damage but resource improvements need to be phased for the economic well being of the area and help solve other specific management problems.

[illegible] 1-2 (Alternative 2 - Emphasize Livestock Grazing) The title is a misnomer but number 2 is the preferred alternative for planning purposes. Allocated monies need to be directed at improving all allotments. Slightly scaling down some of the extremely large blocks improvements would allow BLM personnel to better solve problems and make "key" improvements in many areas.

[illegible] 1-2 (Alternative 3 - Emphasize nonlivestock values) This alternative is not biologically sound nor an economical use of our public lands. Nonuse will not meet the needs of primary wildlife species, resource conflicts, watershed conditions nor people living in the area.

----Pg 1-10 - 11 (Grazing Systems) [illegible] the emphasis given to rest rotation grazing systems in the Andrews Resource Area - other grazing systems better meet plant, animal and management needs particularily the deferred rotational grazing system. Complete rest or nonuse for one year or more cause larger bunchgrass plants to become "wolflike" and unpalatable for most ungulates. Smaller more succulent plants receive increased grazing pressure thereby creating grazing utilization (and livestock distribution) problems.

Grazing deferrment past seed maturity achieves the same objectives of restoring plant vigor and carbohydrate reserves as complete rest. When deferrment is combined with early spring grazing, succulent regrowth is available to wildlife species with higher quality of forage for all uses and no damage to the resource. Management also has more flexibility to meet individual pasture and environmental needs by not having certain pastures out of the rotation.

Prescribed management changes relative to climatical changes spell the difference between success and failure of grazing systems. Grazing management by itself will not effect the overstory shrub or tree plant community.

----Pg 1-14 (Range Improvements) Generally the most economical resource management decisions are in the area of brush control, forage seedings, and associated range developments and these were fairly well addressed in Alternative 2. Fencing is usually needed to better utilize and manage seeded areas but is overemphasized in the Draft EIS. Timing of use, seedings, water developments, trails and other improvements that change the distribution of livestock and wildlife grazing are a better useage of resource management monies.

Tall wheatgrass and basin wildrye should be seeded along draw bottoms and other appropriate areas of new seedings. These species are unpalatable to livestock and provide excellent cover for a number of wildlife species. Moving away from rest rotation grazing systems, particularily in crested seedings, should be implemented immediately and would give management flexibility to begin implementing improvement projects.

Chapter 2

29-1 ----Pg 2-2 (Vegetation, par 4) The Riparian Wildlife Habitat Inventory was a one year survey and failed to evaluate ecological conditions and potentials of the stream corridor.

29-2 ----Pg 2-5 (par 1) Delete "allowing cattle access to stream bottom etc." Livestock access has actually decreased due to aspen downfall. The majority of unstable channels is primarily due to high water during spring and changing stream courses due to beaver activity and natural hydrologic forces.

29-3 ----Pg 2-7 (Riparian Areas and Wetlands, par 2) Delete "approximately 50 percent of the streamside riparian habitat has deteriorated to poor condition due to cattle activity." Potentials and trends were not established.

----Pg 2-7 (Fish, par 1) Many areas rated in poor condition have some excellent fish populations.

----Pg 2-7 (Chain Year) Livestock use of bitterbrush is minimum in 6010 but bitterbrush production has severely declined due to natural increases of sagebrush and juniper trees. Bitter brush grazing by deer is continuous from spring through Fall hence show extensive use by midwinter. Until sagebrush control projects by fire or herbicides release bitterbrush growth it will not be a winter staple.

Chapter 3

----Pg 3-2 (Table 3-1) Total residual ground cover decreases are overestimated.

----Pg 3-2. A chart showing the changing carbohydrate reserves would help the reader better visualize the most critical period and realize that spring grazing is not detrimental.

29-4 ----Pg 3-3 (Table 3-2) Spring/fall use (short duration) would not decrease riparian key species, nor would deferred grazing systems. Any grazing system, including rest rotation will cause congregation of livestock during prolonged use during hot weather. Reduced palatability of unused plants in a rest rotation grazing system can amplify congregated use.

----Pg 3-4 (Deferred Grazing System, par 2) The same comments as above apply.

----Pg 3-5 (Exclosure, par 2) Potentials and trend have not been established in these areas.

29-5 ----Pg 3-5 (Range Improvements, par 4) Add "bitterbrush would increase if present in treated stands."

----Pg 3-6 (Forage Conditions, par 2, assumption 1) This general statement is true but category changes of forage condition are dependent upon brush control to allow the number and vigor of grass type plants to increase.

29-6 ----Pg 3-6 (par 3, ass 2) Without brush control, complete rest will not substantially change the species composition nor forage conditions in sagebrush dominated plant communities.

----Pg 3-7 (Riparian and Wetland Vegetation) Prolonged grazing during hot weather is generally when livestock damage occurs and doesn't necessary correlate to the type of grazing system.

29-7 ----Pg 3-9 (Table 3-3) Insufficient data to show trend in streambank stability.

29-8 ----Pg 3-11 (Wildlife Habitat in Riparian Areas, par 1) ---- has not been determined if livestock damage has occurred only that "according to wildlife habitat criteria the streams are in various condition classes. The ability to improve these areas will depend on a number of other factors affecting the stream. The objectives of improving these areas should be retained but determining "how" left to field personnel working with livestock permittees.

----Pg 3-12 (Table 3-5) Although management strategies need to be determined at a later date, short duration grazing using a deferred rotational system should be given priority.

29-9 ----Pg 3-14 (Water Associated Sloughs, par 2) Nonuse of slough areas create minimum edge effects and less habitat diversity.

29-10 ----Pg 3-14 (Mule Deer and Antelope, par 2) Rest rotation grazing will not increase bitterbrush production.

----Pg 3-17 (Conclusion, conclusion 1) Benefits of exclusion overstated and subjective as compared to proper grazing levels and timing.

----Pg 3-19 (Impacts on Recreation, par 1) Exclusion of livestock grazing can decrease fishing opportunities in a number of streams.

Summary

Alternative 2 best meets the needs of livestock, the local community and related uses of the public rangelands assuming progressive design of rangeland improvements. Mosaic design and range seeding prescriptions can enhance mule deer, antelope, nesting bird and other wildlife habitat needs. Water, predators, quality of forage and in some areas of the desert, cover is limiting and can be developed through vegetation manipulation.

The proposed action and alternatives 2 and 3 are extremely short sighted concerning grazing systems. Much greater emphasis is needed for winter, spring/fall, deferred and deferred rotation to best meet the needs of forage species, livestock needs and other resources.

Exclusion of livestock grazing from riparian areas is not necessary. Evaluation of several areas where exclusion is recommended indicated very diverse environmental conditions and other factors affecting riparian areas of which exclusion does not address.

Forage potentials were fairly reasonably addressed although benefits to other resources were somewhat underestimated. Working closely with livestock permittees in planning and implementing improvements and grazing systems dictates the highest benefits of any program due to "combined knowledge of each area."

Thank you very much.

Sincerely,

Fred L. Otley

Fred L. Otley

cc Bob Smith
Denny Smith
Ranchers for

Response to Letter 29.

29-1 The riparian wildlife habitat inventory was completed in 1979. It evaluated the ecological condition of streams including the site potential of riparian habitat.

29-2 Correct, beaver have cut down dense stands of aspens along some streams in allotment 6010, decreasing access to cattle in places. High water during spring and early summer does cause bank erosion. However, heavily grazed streambanks usually show more streambank erosion than comparable lightly grazed streambanks.

29-3 Potentials and trends of riparian habitat were established in the 1979 riparian inventory. This data was not included in the Andrews EIS in order to hold down EIS length and cost. These detailed data are on file at the Burns District office. See Table 2-6, page 2-8 of the Draft EIS which indicated that 56.8 miles are in poor condition and 62.2 miles in fair or better condition. Predicted long-term condition and trend are displayed by alternative in Table 3-7, page 3-13 of the Draft EIS.

29-4 Table 3-2, page 3-3 of the Draft EIS indicates "none present" for the spring/fall grazing system because no streamside riparian vegetation occurs in areas proposed for this system. The deferred system would result in late season use when utilization of riparian woody vegetation is the most heavy.

29-5 See text change page 3-5.

29-6 The assumption was made that poor condition ranges dominated by sagebrush would not improve with grazing management including complete rest within the 15 year timeframe for this analysis as shown by the referenced study (McLean and Tisdale (1972) and Owensby et al. (1973). However, those ranges in fair to good condition would be expected to improve.

29-7 The prediction of streambank stability trend by alternative was based on changes in grazing systems and season of use and resultant changes in vegetation as shown in Table 3-2, page 3-3 of the Draft EIS. See text change, page 3-8, Table 3-3.

29-8 BLM has determined that changes in riparian vegetation have occurred due to livestock grazing. At times striking differences in riparian shrub density occurs where fences cross streams. These differences are due to differences in livestock grazing intensity and timing. An example is the Blitzen River just upstream from Page Springs Campground. Field personnel will work with livestock permittees to improve problem areas.

29-9 Non-use of slough areas does not create a minimum edge effect on BLM wetlands. Edge occurs both horizontally and vertically. A heavily grazed wetland where vegetation has been slicked off to a 2" stubble height has little vertical edge, but could have considerable horizontal edge. A dense stand of tall bullrush would have the edge increased by inducing a change altering part of the stand. Such a change could be induced by grazing, fire, mowing and other means.

29-10 Studies done in the Lakeview District have shown that bitterbrush does improve under rest rotation grazing systems which have been designed with bitterbrush as the key species.

30

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Division of Ecological Services
Portland Field Office
727 N. E. 24th Avenue
Portland, Oregon 97232

Reference: ES

December 1982

MEMORANDUM

To : State Director, Bureau of Land Management
Portland, Oregon

From : Field Supervisor, Division of Ecological Services
Portland, Oregon

Subject: Review of Draft Environmental Impact Statement for Andrews Grazing Management Program

We have reviewed the subject Draft Environmental Impact Statement (DEIS) and provide the following comments for use in preparing the final statement.

In general, the DEIS adequately describes the proposed action, possible alternatives, and the environmental consequences of the alternatives. Alternative 3 would provide the greatest benefit to resources of concern to the Fish and Wildlife Service, although the proposed action would also provide somewhat improved conditions for fish and wildlife resources.

Riparian habitat is of critical importance to a variety of fish and wildlife species. We encourage efforts to improve riparian habitat as recommended in the proposed action and in alternative 3.

We appreciate the opportunity to review and comment on this Draft Environmental Impact Statement.

for Russell D. Peterson

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

31

REPLY TO ATTN OF: M/S 443

DEC 2 0 1979

Joshua Warburton, District Manager
Burns District Office
Bureau of Land Management
74 S. Alvord Street
Burns, Oregon 97720

RE: Andrews Grazing Management Program DEIS

Dear Mr. Warburton

The Environmental Protection Agency (EPA) has completed reviewing the Draft Environmental Impact Statement for the Andrews Grazing Management Program. The DEIS thoroughly presents the proposed and alternative actions and the consequences of selecting and implementing different actions. We do have a few comments addressed to water quality and to chemical treatment for range management and brush control for your consideration.

Water Quality

A laudable goal of the Andrews Grazing Management plan is to improve range productivity for grazing while maintaining water quality and other natural resources. In spite of this, there remains a potential for substantial deleterious effects on water resources, especially from non-point pollution sources, over the life of the plan. The Bureau of Land Management's decision-making process used for plan implementation is the key to meeting water quality needs and maintaining standards. Close ties to the water quality planning and management process administered by Oregon's Department of Environmental Quality are important in this regard.

31-1 EPA suggests implementation reviews be conducted in cooperation with DEQ to evaluate the adequacy and effectiveness of site specific monitoring and other water quality management tools. Memoranda of Understanding can be evaluated and revised when appropriate to assure that grazing and range management objectives are consistent with water quality management.

Chemical Treatment for Brush Control

Both use of 2,4-D and prescription burning are proposed as treatment to control brush on approximately 150,000 acres (Table 1-1). While the proportion of land likely to be chemically treated is not specified, the DEIS notes that decisions about treatment methods will be made as a

31-2 function of the area to be treated, the time of year, the particular species of brush being treated and other immediate conditions. However, if an estimate of the amount of land to be chemically treated can be made, and locations identified, this information should be included in the Final EIS.

31-3 EPA also recommends that the Final EIS discuss in more detail the controls and alternative application strategies which can prevent or mitigate the potential adverse effects on wildlife and water quality of herbicide spraying. For example, on page 3-10, the DEIS notes that a 100 foot buffer strip is to be used on each side of perennial streams. While this may be an appropriate buffer in many instances, its effectiveness can be reduced substantially by the mode of aerial application (fixed wing aircraft vs. helicopter) and immediate weather conditions. Thus, the required width of a buffer zone for stream protection becomes a function of methods and conditions at time of treatment. It is conceivable that 100 foot buffers may be insufficient.

EPA has rated this DEIS LO-2 [LO -- Lack of Objection; 2-- Inadequate Information]. The letter rating reflects the above comments. We appreciate the opportunity to review this report. Should you want to discuss EPA's recommendations, please contact Mr. Dick Thiel, our Environmental Evaluation Branch Chief, at (FTS) 399-1728.

Sincerely,

John R. Quarles
Regional Administrator

Enclosure

cc: Oregon Operations Office

Response to Comment Letter 31

31-1 Amendment number 1 to the Oregon Department of Environmental Quality - Bureau of Land Management Memorandum of Understanding has recently been updated which sets forth the "Best Management Practices for Range and Grazing Activities on Lands Administered by BLM."

31-2 The preferred treatment for brush control would be by burning, however, this is not feasible on approximately 50 percent of the area because there is insufficient understory vegetation to carry a fire and/or the site has sandy soils which would be subject to wind erosion following burning.

31-3 It is our policy to adequately preserve water quality while spraying herbicide 2,4-D. The standard procedures (as referenced on page 1-14 of the Draft EIS) such as not spraying when winds are greater than 5 miles per hour and temperatures greater than 70 degrees are intended to minimize drift. Under these conditions the 100-foot buffer strip on each side of the stream would provide adequate stream protection. If project design indicates that a wider buffer is necessary, the decision can be made to maintain a wider buffer.

24 December 1982

32

Bill Tomlinson
4623 NE 47th place
Portland OR 97211

attn: Gerry Fullerton, EIS Team - de
Bureau of Land Management
Oregon State Office
PO Box 8965
Portland, OR 97208

re: Andrews Grazing Management Program EIS.

dear Gerry,

For several years I have spent considerable time in the vicinity of the Andrews area. From 1978-1981 I was employed as Frenchglen Fire Guard Station Foreman, and before that by the Forest Service out of Burns. I had the pleasure of laying some of the first rock cairns of the High Desert Trail through the Pueblo Mountains. I've built fences enclosures around springs, set guzzlers in place, helped catch wild horses, and fought fires in many locations included in the EIS. I've participated in brush control + seeding projects using fire as the primary tool. I've worked with people employed by the BLM

to study riparian areas, raptor populations, and endangered plant species.

In reading the EIS, the largest impact of any of the proposals seemed to be on riparian areas. These areas contain the greatest densities and variety of wildlife species, and grazing in + around the riparian habitat has a great effect on the condition of these areas. As an avid fisherman and bird-watcher, I am particularly interested in the health of the riparian areas. You state that "livestock exclusion would improve riparian habitat to good or excellent condition" and that "most of the improvement would occur during the first six years", this speaking primarily to wildlife habitat. Fish habitat would improve also due to decreased erosion, improved riparian vegetation, and other bovine-related factors. The exclusions called for in Alternative 3 seem the only choice for protecting these valuable areas. Indeed - it is the only choice that puts the long term condition of the majority of stream-miles of riparian habitat above POOR condition !! (according to Table 3-6). When dealing with such potentially rich watersheds as the Trout Creek, Pueblo + Steens Mtn West slope systems, I do not think we can compromise. And looking at the long term change in personal income for citizens of Harney County, there is still a net increase with this alternative,

a greater one than if no change was made at all (Alternative 1). Long term ranch property values would also improve (albeit slightly).

The other concern I have for the area is that the unique communities + habitats harbored there are preserved. All the areas identified as ACEC or RNA I feel fit this concern. In particular the ACEC's: Alvord Desert, Steens Mtn alpine community, Borax Lake, Alvord Peak and Pickett Rim are important to be excluded from grazing - it is a sin to have ever let cattle graze on the high elevations of the Steens!! As the entire length of the Blitzen has been identified as a potential scenic waterway designee, it should, as well, be excluded from grazing (I'm aware that parts of it already are). The large area of the Trout Creeks proposed for exclusion under Alternative #3 (94,430) is also a boon to a very overgrazed area. The Pueblo Mts exclusion under 3 (96,420 acres) ensures that the high desert trail will continue to be a diverse + scenic traverse across a most beautiful range of mountains.

I hope this has been some help to you, and that you've received generous input from all sides so that a fair decision can be made. Looking forward to my next trip into the beautiful

country in south Barney county.

Sincerely
Bill Tomlinson

APPENDIX G, TABLE G-1 Riparian Habitat - Predicted Trend & Condition

					PROPOSED ACTION			ALTERNATIVE 1 NO ACTION			ALTERNATIVE 2 EMPHASIZE LIVESTOCK			ALTERNATIVE 3 EMPHASIZE NON-LIVESTOCK		
STREAM NAMES	ALLOT	MILES	ACRES	EXIST-ING CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION
*LITTLE BLITZEN R	6002	0.60	41.00	F	DF	U	G	RR2	S	F	RR2	S	F	EX	U	E
*LITTLE BLITZEN R	6002	1.55	22.00	G	DF	U	E	RR2	S	G	RR2	S	G	EX	U	E
*LITTLE BLITZEN R	6002	1.84	76.20	F	DF	U	G	RR2	S	F	RR2	S	F	EX	U	E
*LITTLE BLITZEN R	6002	68	103.85	E	DF	S	F	RR2	S	E	RR2	S	E	EX	U	E
*LITTLE BLITZEN R	6004	0.25	10.00	F	EX	U	E	EX	U	E	EX	U	E	EX	U	E
*LITTLE BLITZEN R	6004	0.95	60.45	P	EX	U	E	EX	U	E	EX	U	E	EX	U	E
*LITTLE BLITZEN R	6004	0.95	94.00	G	EX	U	E	EX	U	E	EX	U	E	EX	U	E
LITTLE BRIDGE CR	6008	3.56	12.24	P	RR2	S	P	RR2	S	P	RR2	S	P	RR2	S	P
LITTLE INDIAN CREEK	6002	3.65	89.77	G	SS	S	G	SS	S	G	SS	S	G	EX	U	E
LITTLE CROW CR	6019	0.30	0.30	?	RR1	?	?	RR1	?	?	RR1	?	?	RR1	?	?
LITTLE MC COY CR	6026	4.00	4.80	?	RR1	?	?	SS	?	?	RR1	?	?	EX	?	?
*LITTLE TROUT CR	6015	1.00	6.60	P	RR3	S	P	SS	S	P	RR3	S	P	RR3	S	P
*LITTLE TROUT CR	6015	1.46	8.42	P	RR4	U	G	DF	D	P	DF	D	P	EX	U	E
*LITTLE TROUT CR	6015	1.69	24.59	F	RR4	U	G	DF	D	P	DF	D	P	EX	U	E
*LITTLE TROUT CR	6015	2.60	22.82	P	RR3	U	F	SS	D	P	RR3	U	F	EX	U	E
LITTLE WILDHORSE CR	6013	0.50	3.90	F	RR2	U	G	RR2	S	F	RR2	S	F	EX	U	G
LITTLE WILDHORSE CR	6013	0.70	4.10	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
LITTLE WILDHORSE CR	6013	2.10	21.80	F	RR2	U	G	RR2	S	F	RR2	S	F	EX	U	G
LONG CAN CR	6017	0.30	0.30	?	RR2	U	?	SS	?	?	RR2	U	?	RR2	U	?
MANN CR	6026	3.50	4.20	?	RR1	?	?	SS	?	?	RR1	?	?	EX	?	?
MC COY CR	6010	0.25	0.30	?	SS	?	?	SS	?	?	SS	?	?	SS	U	G
MC COY CR	6010	0.80	1.00	?	SS	?	?	SS	?	?	SS	?	?	EX	U	G
MC COY CR	6010	1.94	11.15	F	SS	S	F	SS	S	F	SS	S	F	EX	U	G
MC COY CR	6010	1.56	23.60	P	SS	D	P	SS	D	P	SS	D	P	SS	D	P
*MC COY CR	6010	1.96	26.28	G	TEX	U	E	DF	S	G	DF	S	G	EX	U	E
*MC COY CR	6010	2.48	20.14	F	TEX	U	G	DF	S	F	DF	S	F	EX	U	G
*MC COY CR	6010	4.84	61.00	P	TEX	U	G	DF	D	P	DF	D	P	EX	U	G
MC COY CR TRIB	6010	0.40	1.94	F	SS	S	F	SS	S	F	SS	S	F	SS	S	F
MIRANDA CR	6019	0.40	0.50	?	SS	?	?	SS	?	?	SS	?	?	SS	?	?
MOSQUITO CR	6026	3.00	3.60	?	RR1	?	?	SS	?	?	RR1	?	?	EX	?	?
MT CR	6016	3.50	4.20	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
MUD CR	6002	0.40	1.12	G	SS	S	G	SS	S	G	SS	S	G	SS	S	G
*MUD CR	6006	0.40	2.20	F	EX	U	E	RR2	D	P	RR2	D	P	EX	U	E
*MUD CR	6006	1.60	8.00	P	EX	U	G	RR2	D	P	RR2	D	P	EX	U	G
*MUD CR	6006	2.70	20.50	F	EX	U	E	RR2	D	P	RR2	D	P	EX	U	E
*MUD SP	6001	0.40	2.00	?	EX	U	G	EX	U	G	EX	U	G	EX	U	G
NO NAME CR	6015	0.50	0.80	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
NO NAME CR	6015	0.75	0.90	?	RR3	?	?	SS	?	?	RR3	?	?	RR2	?	?
OREANNA CR	6015	0.50	0.60	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
OREGON END CR	6020	2.60	2.40	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
PASS CR	6019	4.00	4.80	?	RR1	?	?	RR1	?	?	RR1	?	?	RR1	?	?
PIKE CR	6012	2.00	2.40	?	RR1	?	?	RR1	?	?	RR1	?	?	EX	?	?
POLE CR	6016	0.30	2.40	P	RR2	U	G	DF	D	P	DF	D	P	EX	U	E
POLE PATCH CR	6015	0.17	1.20	P	RR2	S	P	SS	D	P	RR3	S	P	EX	U	E
PUEBLO CR	6020	1.75	2.10	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
REAUX CR	6020	1.74	10.76	P	RR3	D	P	SS	D	P	RR3	D	P	EX	U	G
RED MT CR	6015	0.50	1.00	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
RED MT CR	6015	2.00	2.00	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
RED PT CR	6020	0.50	0.60	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
REYNOLDS CR	6020	1.25	1.50	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
*RIDDLE CR	6012	7.15	64.96	P	RR4	U	F	SS	D	P	RR4	U	F	EX	U	G
RINCON CR	6020	0.50	0.60	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
ROCK CABIN CR	6015	1.00	1.20	P	RR4	U	G	DF	D	P	DF	D	P	EX	U	G
ROCK CR	6001	0.25	0.50	P	EX	U	G	EX	U	G	EX	U	G	EX	U	G
ROCK CR	6001	3.75	4.30	P	SS	D	P	SS	D	P	SS	D	P	EX	U	G
ROUGH CR	6020	1.75	2.10	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
SCHOUVER CR	6019	2.50	3.00	?	RR1	?	?	RR1	?	?	RR1	?	?	EX	?	?
SESENA CR	6020	4.00	4.80	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
*SOUTH FORK BLITZEN R	6002	3.99	32.40	P	RR2	U	G	SS	D	P	RR2	U	G	EX	U	G
SOUTH FORK BLITZEN R	6002	1.78	6.09	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
SKULL CR	6002	0.21	1.71	P	W	U	F	SS	S	P	W	U	F	EX	U	G
SKULL CR	6002	1.50	9.20	P	SS	D	P	SS	D	P	SS	D	P	EX	U	G
SQUAW CR	6011	0.50	0.60	?	RR1	?	?	SS	?	?	RR1	?	?	RR1	?	?
STARR CR	6020	3.25	3.90	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
STILL CR	6020	1.00	1.20	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
STONEHOUSE CR	6011	1.00	1.20	?	DR	?	?	DR	?	?	DR	?	?	DR	?	?
STONEHOUSE CR	6012	0.25	0.30	?	RR1	?	?	SS	?	?	RR1	?	?	EX	?	?
STONEHOUSE CR	6020	4.00	4.80	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
STONEY CR	6015	1.50	1.80	?	RR3	?	?	SS	?	?	RR3	?	?	RR3	?	?
STONEY CR & SP	6016	0.50	0.60	?	FFR	?	?	FFR	?	?	FFR	?	?	FFR	?	?
*THREE MI CR	6002	3.20	19.30	G	EX	U	E	FFR	S	G	FFR	S	G	EX	U	E
TOMBSTONE CR	6002	0.40	0.58	F	RR2	U	G	SS	S	F	RR2	U	G	SS	S	F
T36R33SS1	6019	2.75	3.30	?	RR1	?	?	RR1	?	?	RR1	?	?	EX	?	?
TROUT CREEK TRIB	6015	1.00	4.84	P	RR4	U	G	DF	D	P	RR2	U	G	EX	U	E
VAN HORN CR	6020	0.52	3.72	F	RR3	S	F	SS	D	P	RR3	S	F	EX	U	G
VAN HORN CR	6020	1.90	5.67	G	RR3	S	G	SS	S	G	RR3	S	G	EX	S	G
WHISKEY CR	6010	1.00	7.00	P	SS	D	P	SS	D	P	SS	D	P	SS	D	P
*WILDHORSE CR	6013	0.15	0.64	P	RR2	U	F	RR2	D	P	RR2	D	P	EX	U	G
*WILDHORSE CR	6013	0.64	8.60	F	RR2	U	G	RR2	S	F	RR2	S	F	EX	U	G
*WILDHORSE CR	6013	0.65	2.76	P	RR2	U	F	RR2	S	P	RR2	S	P	EX	U	G
*WILDHORSE CR	6013	1.80	21.80	G	RR2	S	G	RR2	S	G	RR2	S	G	EX	S	G
*WILDHORSE CR	6013	2.90	14.80	P	RR2	U	F	RR2	D	P	RR2	D	P	EX	U	G
WILDHORSE CR	6019	0.60	0.70	P	SS	D	P	SS	D	P	SS	D	P	SS	D	P
WILLIAMS CR	6013	0.70	0.80	?	RR1	?	?	RR1	?	?	RR1	?	?	RR1	?	?
WILLIAMS CR	6020	1.00	1.20	?	RR3	?	?	SS	?	?	RR3	?	?	EX	U	G
WILLOW CR	6012	0.50	0.70	?	RR1	?	?	RR1	?	?	RR1	?	?	EX	?	?
WILLOW CR	6012	4.25	0.50	?	IN	?	?	IN	?	?	IN	?	?	IN	?	?
WILLOW CR	6020	5.50	6.60	?	RR3	D	?	SS	D	?	RR3	D	?	EX	U	G
TOTALS		299.74	1,914.43													

Key: **Grazing System**
SS - Spring/Summer
EX - Exclusion
DF - Deferred
TR - Trail Use

FFR - Fenced Federal Range
TEX - Temporary Exclusion
IN - Inaccessible to Livestock
W - Winter

Rest Rotation (RR)
RR1 - 1year SS/ 1 year DF / 1 year rest
RR2 - 1 yearSS 1 year rest
RR3 - 2 years SS/1 year rest
RR4 - 1 or 2 year SS/2 years rest

Trend
U - Up
D - Down
S - Static
? - Unknown

Condition
E - Excellent
G - Good
F - Fair
P - Poor

* Riparian areas which would be managed in the proposed action to improve stream channel stability, water quality and fish habitat.

APPENDIX G, TABLE G-2 WETLAND HABITAT-PREDICTED TREND AND CONDITION

				PROPOSED ACTION			ALTERNATIVE 1 NO ACTION			ALTERNATIVE 2 EMPHASIZE LIVESTOCK			ALTERNATIVE 3 EMPHASIZE NON-LIVESTOCK		
ALLOT	WETLAND	ACRES	EXIST-ING COND.	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION	GRAZ-ING SYSTEM	TREND	CONDI-TION
6001	ROCK CR RES	20	?	DR	S	?	SS	S	?	DR	S	?	EX	U	?
6001	GUANO RES	1	?	DR	S	?	SS	S	?	DR	S	?	DR	S	?
6008	KERN RES	2	?	RR2	S	?	RR2	S	?	RR2	S	?	RR2	S	?
6011	JUNIPER RES	2	P	EX	U	?	EX	U	?	EX	U	?	EX	U	?
6011	JUNIPER RES	2	P	RR1	S	?	SS	S	?	RR1	S	?	RR1	S	?
6013	WILDHORSE LAKE	1	?	RR2	U	?	RR2	S	?	RR2	S	?	EX	U	?
6016	LOWER BORAX RES	10	?	W	S	?	W	S	?	W	S	?	W	S	?
6026	MANN LAKE	15	G	EX	U	G	EX	U	G	EX	U	G	EX	U	G
6018	ALVORD SLOUGH	1	?	EX	U	?	EX	U	?	EX	U	?	EX	U	?
6020	PUEBLO SLOUGH FPR	15	?	FPR	S	?	FPR	S	?	FPR	S	?	FPR	S	?
6020	PUEBLO SLOUGH MIDDLE	20	?	RR3	S	?	SS	D	?	RR3	S	?	EX	U	?
6020	PUEBLO SLOUGH NORTH	10	P	EX	U	F	EX	U	F	EX	U	F	EX	U	F
6020	PUEBLO SLOUGH SOUTH	65	E	EX	U	E	EX	U	E	EX	U	E	EX	U	E
6025	LILY LAKE	1	?	EX	U	?	SS	S	?	EX	U	?	EX	U	?

Key

Grazing System
SS - Spring Summer
EX - Exclusion
DF - Deferred
FPR - Fenced
W - Winter
Rest Rotation (RR)
RR1 - 1year SS 1 year DF 1 year rest
RR2 - 1 year SS 1 year rest
RR3 - 2 years SS 1 year rest

Trend
U - Up
D - Down
S - Static
? - Unknown

Condition
E - Excellent
G - Good
F - Fair
P - Poor

Text Changes :

Page 1-1, second column, third paragraph, last sentence. Change Table B-4 to Table B-2.

Page 3-5, add following sentence at the end of the fourth paragraph under Range Improvements, "Vigor of existing bitterbrush would improve if present in the treated areas."

Page 3-8, Last paragraph, first sentence, page 3-8. Change to read: Overall, erosion would decrease slightly under the proposed action and Alternatives 2 and 3, and would increase slightly under Alternative 1.

Page 3-9, Table 3-3 - Change Decreasing to Increasing, change Increasing to Decreasing.

Page 3-10, Last paragraph under Water Quality, first sentence. Change to: In conclusion there would be no significant changes in runoff water quantity from the proposed action or any alternative. Changes in ground water availability are unknown.

Last paragraph under Water Quantity, change to: The amount of ground water withdrawal from the proposed livestock watering wells under any alternative would not significantly impact the resource. It is not known whether the amount of ground water withdrawn from the proposed irrigation wells under any alternative would have a significant affect on the resource.

Appendix G, Replace Table G-1 with the following Table G-1 and add the following Table G-2.

APPENDIX G, TABLE G-1 Riparian Habitat - Predicted Trend & Condition

					PROPOSED ACTION			ALTERNATIVE 1 NO ACTION			ALTERNATIVE 2 EMPHASIZE LIVESTOCK			ALTERNATIVE 3 EMPHASIZE NON-LIVESTOCK		
STREAM NAMES	ALLOT	MILES	ACRES	EXISTING CONDITION	GRAZING SYSTEM	TREND	CONDITION	GRAZING SYSTEM	TREND	CONDITION	GRAZING SYSTEM	TREND	CONDITION	GRAZING SYSTEM	TREND	CONDITION
ANDREAS CR	6001	0.10	0.40	F	SS	F	F	SS	F	F	SS	F	F	SS		
ANGLE CR	6002	1.10	11.00	F	SS	D	F	SS	D	F	SS	D	F	SS	D	F
ANGLE CR	6002	1.20	4.40	F	SS	D	F	SS	D	F	SS	D	F	SS	D	F
ARIZONA CR	6006	1.04	2.11	F	RR2	D	F	SS	D	F	RR3	D	F	EX	U	G
ARIZONA CR	6006	1.00	2.00	F	RR3	S	F	SS	D		RR3	S	F	RR	U	G
BIG TRUT CR	6015	0.67	1.79	G	RR4	S	G	DF	S	G	DF	S	G	EX	U	G
BIG TROUT CR	6015	0.76	14.70	F	RR4	U	G	DF	D	F	DF	D	F	EX	U	G
BIG TROUT CR	6015	6.21	14.70	F	RR4	U	G	DF	D	F	DF	D	F	EX	U	G
BIG ALVORD CR	6012	1.00	2.00	F	RR1	S	F	RR1	S	F	RR1	F	F	EX	F	F
BIG HOLLOW CR	6006	1.60	1.40	F	RR2	D	F	RR2	D	F	RR2	D	F	RR2	D	F
BIG INDIAN CR	6002	3.15	4.00	F	EX	U	G	DF	S	F	DF	S	F	EX	U	G
BIG INDIAN CR	6002	4.20	8.00	F	EX	U	G	DF	D	F	DF	D	F	EX	U	G
BIG INDIAN CR	6002	1.20	2.00	F	EX	U	G	DF	S	F	DF	S	F	EX	U	G
BIG SPRING CANYON	6003	0.5	1.00	F	RR2	U	G	RR2	U	G	RR2	U	G	RR2	U	G
BITTER CR (HAMILTON)	6006	0.10	1.00	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
BITTERN CR	6002	0.60	1.00	F	IN	S	E	IN	S	E	IN	S	E	IN	S	E
BITTERN CR	6003	1.50	1.00	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
BITTERN CR	6003	1.50	2.00	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
BITTERN CR	6007	0.7	30.00	F	IN	S	G	IN	S	G	IN	S	G	IN	S	G
BITTER CR	6006	1.2	1.20	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
BITTER CR	6006	1.00	1.00	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
BLACK CANYON	6003	0.60	1.00	F	RR3	U	G	SS	S	F	RR3	U	G	SS	S	F
BLACK CREEK (TWIN CR)	6011	1.00	1.00	F	RR2	U	G	SS	S	F	RR2	U	G	SS	S	F
BLACK CR	6006	1.00	1.00		RR2			SS			RR2			EX	U	G
BLACK CR	6015	1.00	3.00		RR1			RR1			RR1			RR1		
BLACK CR	6017	2.00	2.00		RR2			SS			RR2			RR2		
BRIDGE CR	6006	0.50	1.00	G	RR2	S	G	RR	S	G	RR2	S	G	RR2	S	G
BRIDGE CR	6006	1.00	2.00	G	RR1	S	G	RR1	S	G	RR1	S	G	RR1	S	G
BRIDGE CR	6006	0.70	2.00	G	RR2	S	G	RR2	S	G	RR2	S	G	RR2	S	G
BRUSH CR	6007	1.0	1.00	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
BUCKS CR	6006	1.5	12.00	G	EX	U	E	EX	U	E	EX	U	E	EX	U	E
BUCKS CREEK CR	6007	1.00	1.00		RR1			RR1			RR1			RR1		
BURNT CR	6006	0.50	1.00		EX	U		EX	U	G	EX	U	G	EX	U	G
BURNT CR	6010	0.50	1.00		RR1			RR1			RR1			RR1		
BURNT CR	6010	1.00	2.00		RR1			RR1			RR1			RR1		
BUTTE CR	6010	0.50	1.00		SS			SS			SS			SS		
CANYON CR	6010	1.17	2.00		SS			SS			SS			SS		
CANYON HOLE CR	6007	1.00	2.00		RR1			SS			RR1			RR		
CARDOZO CR	6006	1.00	.00		RR2			SS			RR2			EX	U	G
CHAPPEL CR	6006	1.50	3.00	F	SS	D	F	SS	D	F	SS	D	F	RR	U	G
COLORADO (HAG)	6005	0.40	2.00	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
COLONEL CR	6012	1.0	1.00	G	RR1	S	G	SS	S	G	RR1	S	G	EX	U	G
COLONY CR	6006	1.00	2.00	G	RR1	S	G	SS	S	G	RR1	S	G	EX	U	E
CORTHANDOOR CR	6012	2.00	2.00		RR1			RR1			RR1			EX		
CORTHANDOOR CR	6012	0.10	0.20		RR2			SS			RR2			RR2		
CORTHANDOOR CR	6012	0.20	0.20		RR1			RR1			RR1			RR1		
CORTHANDOOR CR	6006	1.00	4.00	F	RR2	D	F	SS	D	F	RR2	D	F	EX		F
CORTHANDOOR CR	6006	1.00	1.00	F	EX	U	G	SS	D	F	RR2	D	F	RR	U	G
CORTHANDOOR CR	6014	3.00	1.00	F	RR2	D	F	RR2	D	F	RR2	D	F	RR2	D	F
CORTHANDOOR CR	6011	1.10	2.00	F	RR2	D	F	RR2	D	F	RR2	D	F	RR2	D	F
COYOTE CR	6007	1.0	2.00		RR1			DF			RR2	U		EX	U	G
CRAB CR	6012	2.21	17.10	F	DF	D	F	DF	D	F	DF	D	F	DF	D	F
CRAWFORD CR	6011	0.10	10.00	F	RR4	S	F	SS	D	F	RR3	S	F	RR	U	G
CRAWFORD CR	6010	0.20	1.00		SS			SS			SS			SS		
CRAWFORD CR	6010	0.60	1.00		SS			SS			SS			EX	U	G
DEER CR	6006	1.70	2.00	G	SS	S	G	SS	S	G	SS	S	G	SS	S	G
DEER CR	6002	1.75	14.00	F	RR2	U	G	SS	D	F	RR2	U	G	SS	D	F
DRING CR	6001	0.00	0.00		IN	S	G	IN	S	G	IN	S	G	IN	S	G
DRING CR	6001	1.00	7.00	F	SS	D	F	SS	D	F	SS	D	F	EX	U	G
DRING CR	6001	2.00	25.00	F	SS	D	F	SS	D	F	SS	D	F	EX	U	G
DRINGLE CR	6010	0.11	1.00	G	TEX	S	G	DF	D	F	DF	D	F	EX	U	G
DRINGLE CR	6010	0.10	1.00	F	TEX	U	F	DF	D	F	DF	D	F	EX	U	G
DRINGLE CR	6010	1.70	15.00	F	TEX	U	G	DF	S	F	DF	S	F	RR	U	G
DRY CR	6015	2.00	2.00	F	RR2			SS			RR3			RR3		
EAST CR (TIM)	6002	0.35	0.25	G	IN	S	G	IN	S	G	IN	S	G	IN	S	G
EAST FORK TROUT CR	6015	0.00	2.00	F	RR4	U	G	DF	D	F	DF	D	F	EX	U	G
EAST FORK TROUT CR	6015	0.80	11.00	F	RR4	U	G	DF	D	F	DF	D	F	EX	U	E
EAST FORK TROUT CR	6015	0.40	7.00	F	RR4	U	G	DF	D	F	DF	D	F	EX	U	E
EAST CR	6009	4.00	4.00		RR1			SS			RR3			EX	U	G
FISH CR	6002	0.50	1.00	F	RR2	S	F	RR2	S	F	RR2	S	F	RR2	S	F
FISH CR	6002	0.24	10.00	F	EX	U	E	SS	D	F	SS	D	F	EX	U	E
FISH CR	6002	3.00	20.00	F	IN	S	E	IN	S	E	IN	S	E	IN	S	E
FIVE DRAWL CR	6009	2.00	2.00		RR3			SS			RR3			EX	U	G
GLITT CR	6010	0.30	1.00		EX	U	G	EX	U	G	EX	U	G	EX	U	G
GRANDAD RES	6006	0.10	0.10		EX	U	G	EX	U	G	EX	U	G	EX	U	G
HELLS CR	6006	2.00	2.00		RR3			SS			RR3			EX	U	G
HOME CR	6002	0.30	2.00	G	RR	S	G	RR	S	G	RR	S	G	EX	U	E
HOME CR	6002	0.40	1.00	F	RR2	U	F	SS	D	F	RR2	U	F	EX	U	G
HOME CR	6002	1.00	7.00		RR2			SS			RR2			EX	U	G
HOME CR	6002	1.50	3.00	F	RR1	U	F	SS	D	F	RR2	U	F	EX	U	G
HOME CR	6002	2.00	10.00	E	IN	S	E	IN	S	E	IN	S	E	IN	S	E
HOME CR	6002	3.00	5.00		RR2			SS			RR2			RR2		
HORTON CR	6010	0.10	0.00	F	SS	S	F	SS	S	F	SS	S	F	SS	S	F
HORTON CR	6010	0.10	10.00	F	SS	D	F	SS	D	F	SS	D	F	SS	D	F
HOUSE CR	6002	0.50	0.00		RR1			SS			RR1			EX		
INDIAN CR	6003	0.09	1.71	F	SS	D	F	SS	D	F	SS	D	F	SS	D	F
INDIAN CR	6003	0.41	2.75	F	SS	S	F	SS	S	F	SS	S	F	SS	S	F
INDIAN CR	6012	1.00	3.00		RR1			RR1			RR1			EX		
JUNIPER CR	6010	0.75	0.00		SS			SS			SS			SS		
KIGER CR	6010	1.10	1.30		TEX	U		DF			DF			EX	U	G
KIGER CR	6010	1.10	11.00	F	SS	D	F	SS	D	F	SS	D	F	EX	U	G
KIGER CR	6010	1.90	15.00	F	TEX	U	G	SS	D	F	SS	D	F	EX	U	E
KIGER CR	6010	3.40	47.00	F	TEX	U	G	SS	D	F	SS	D	F	EX	U	E
KINGS R	6002	3.06	24.78	F	SS	D	F	SS	D	F	SS	D	F	EX	U	G
KRUMBO CR	6008	1.0	21.00	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
KRUMBO CR	6008	1.40	21.00	F	EX	U	G	EX	U	G	EX	U	G	EX	U	G
KRUMBO CR	6008	1.85	22.00	F	RR2	U	F	RR2	U	F	RR2	U	F	RR2	U	F
KRUMBO CR	6008	3.70	32.70	F	TR	U	F	TR	U	F	TR	U	F	EX	U	G
LITTLE ALVORD CR	6012	2.75	3.30		RR1			RR1			RR1			EX		