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EFFECTS OF LIVESTOCK GRAZING ON WILDLIFE, WATERSHED, RECREATION AND OTHER RESOURCE VALUES IN NEVADA

APRIL, 1974

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

Geren

IN REPLY REFER TO:

1241
(N-930)

To : Resources Staff

Date: OCT 1 - 1974

FROM : Chief, Division of Resources

SUBJECT : Draft Report - "Effects of Livestock Grazing on Wildlife, Watershed, Recreation, and Other Resource Values in Nevada"

Several staff members asked for a position statement on the subject draft report. For background information, I refer you to the draft report itself and the Director's news release of September 3, 1974.

The original team will return to Nevada for two weeks beginning October 15. Their purpose will be to finalize the report.

A response to the draft report (copy attached w/o District comments) has been prepared. Should you desire to review the District comments, they are available from the files.

Our position is that, when this report is reviewed in its entirety, we recognize that we do have problems in range management. These problems have been identified through the years and are not something that generated over night. Correction of the situation will take time; with redirection, policy change, funding and manpower. We also recognize that there may be a need for livestock adjustments when considering areas that are unsuitable for grazing (closed stands of pinyon-juniper, topography, etc.) and the reservation of forage for wild horses and burros. Attention will be needed to seasons of use. We understand that specific instructions are forthcoming from Washington.

As an initial step in improving the Nevada BLM range management program, we have been allocated an increase of $290,000 which will provide for four (4) new Range Conservationist positions and projects for the management of the vegetative resources.

Should any staff member have additional questions on our position, do not hesitate to discuss the situation with me.

Robert L. Pickett
Acting

Enclosure:1
Memo to Director (120) dtd 9/27/74

P-1541-1
April 1973

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UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

IN REPLY REFER TO:
1241
(N-930)

TO : Director (120)

Date:

FROM : State Director, Nevada

SUBJECT : Draft Report - "Effects of Livestock Grazing on Wildlife, Watershed, Recreation, and Other Resource Values in Nevada" - April 1974

Your memorandum of September 13, 1974 asked for comments on the subject report and the recommendations contained therein. The stated philosophy and opinions, together with the lack of factual information and the general complexity of problems, do not lend to an easy analysis within the time frame of September 30, 1974. In keeping with your memorandum of September 6, 1974 (I.M. 74-136), which dictates open discussions with our personnel, we feel that District comments should be submitted as written.

The report tends to be too general in nature and somewhat opinionated. This is not to say that problems have not been identified, but rather the range management situation has not been placed in the proper perspective. The report in itself does not distinguish between the past and the present, and the progress the Bureau has made within the past 40 years.

To examine the history of livestock operations and Federal management, one needs to explore in depth the laws, regulations, policies, economics, social-politics, and public attitudes which influenced judgements and decisions through four decades. We will not attempt to expound on these matters at this time. Many problems as identified in the report do exist. However, the issue can be debated as to the magnitude of the situation. Problems, their causes and solutions, can be identified in a report that BLM is preparing for the Senate Appropriations Committee (I.M. 74-327).

I consider it unfair to reflect adversely on the integrity of professional BLM range managers over the years without knowledge of the situations under which they were forced to operate. Fund and manpower shortages, varying policies, social and political pressures and many other forces have molded the existing conditions. The solutions are not simple; problems are complex; and laws, regulations and policies are sometimes conflicting.

I request that the multi-functional evaluation team, following their October field review of the evaluation, arrange to discuss their findings with me in detail.

Following are our comments on the 11 recommendations contained in the draft report:

1.a. A new vegetative inventory -

A new vegetative survey would require several years to accomplish. Extensive training efforts would be required to train Chiefs of Party and survey crews, develop data for FAR's, survey compilations and adjustments. The time and effort could be better utilized in the following areas:

A. Where necessary, update the range surveys with actual use and utilization studies supplemented with spot rechecks of relatively recent surveys. Ephemeral ranges and Section 15 lease lands can be adjusted by methods other than range surveys since there is no longer firm adjudicated qualifications.

B. Initiate Range Condition Studies as proposed in WO I.M.'s 74-220 and 74-324, which integrates range, watershed and wildlife on AMP and non-AMP areas.

C. Develop and initiate integrated study procedures for utilization and trend on AMP and non-AMP areas which will compliment the above condition study.

D. Evaluate these studies after each AMP grazing cycle and each 3 to 4 year period on non-AMP areas with immediate followup use adjustments.

E. Assure proper use of the rangeland resource. This use should not exceed 60% of the current annual growth to assure watershed protection and maintenance of forage plant vigor for reproduction and increase density.

F. Evaluate present wildlife habitat for additional allowances. Delineate wildlife crucial areas and implement immediate management practices for wildlife habitat improvement.

G. If necessary, further temporary or permanent adjustments be made in livestock numbers.

H. If not presently accomplished, determine the proper grazing capacity and season of use for livestock in each District, Unit and/or allotment.

I. Assure full use is being made of the base property requirement and livestock are of the Federal range during this period. No attempts will be made at this time to re-determine commensurability.

J. Complete URA's-MFP's and develop coordinated activity plans.

K. Implement resource facilitating projects.

1.b. Establish new Class I qualifications -

Our recommendation is the same as the comments of the Assistant Director, Resources in his memorandum to the Director of September 3, 1974.

2. Proper allowances of wild horse and burro AUM's -

As this recommendation is accomplished there will be other associated impacts. Determination of proper allowance must follow a decision on how many horses are to be managed on each area.

3. Total resource plan -

Procedures are needed for development of a total resource plan. Assure equal balance of funding for accomplishment. In the meantime it is believed coordinated activity plans can be developed and updated from MFP's with specific multiple-use constraints.

4. A system be developed to aggregate and store all resource data -

We concur in this recommendation.

5. Present District organization be revamped -

It is recommended that we continue the present Area Manager concept with adequate staffing levels as originally anticipated. It is requested that any revised organization structure be thoroughly tested prior to implementation.

6. Policy on granting of temporary non-renewable license -

A review will be made of the present situation with additional guidance as necessary to assure that consideration is given to other resource uses prior to issuance of temporary non-renewable license.

7. Rest-rotation training include grazing system design that will benefit wildlife and insure adequate soil protection and enrichment -

Future training should include stronger emphasis on other resource values and uses.

8. AMP's be reviewed and updated -

We concur in this recommendation and is in accordance with the current AWP.

9. MFP's be more specific in their recommendations -

There should be specific goals and objectives identified for all activities. The Winnemucca MFP should be completely updated.

We concur in this recommendation. The Winnemucca District is in the process of updating the MFP. Updates of MFP's will be a continuing process as new resource inventories and needs are identified and to meet new MFP procedures for an ever-increasing quality product.

10. A total workload analysis be made of the District and State Offices to determine if procedures can be shortened, modified, or eliminated to allow additional field time -

We concur in this recommendation. The Nevada District Organization Study is scheduled this FY.

11. The WO make a concerted effort to increase the District staff level to insure proper land use management -

We concur in this recommendation.

Enclosures:12
Six District reports (2 cys ea.)

RSchultz/EIRowland/GWLong:mc 9/27/74

DRAFT

Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

1241
(N-930.1)

Director (120)

State Director, Nevada

Draft Report - "Effects of Livestock Grazing on Wildlife, Watershed, Recreation, and Other Resource Values in Nevada" - April 1974

The general and specific items on the activity reports are as submitted by each District.

The following are comments on the report recommendations:

1.a. A new vegetative inventory -

A new vegetative survey would require several years to accomplish. Extensive training efforts would be required to train Chiefs of Party and survey crews, develop data for FAR's, survey compilations and adjustments. The time and effort could be better utilized in the following areas:

A. Where necessary, update the range surveys with actual use information and rechecks. Ephemeral ranges and Section 15 lease lands can be adjusted by methods other than range surveys.

B. Initiate Range Condition Studies as provided for range, watershed and wildlife on AMP and non-AMP areas.

C. Develop and initiate integrated study procedures for utilization and trend on AMP and non-AMP areas.

D. Evaluate these studies after each AMP grazing cycle and each 3 to 4 year period on non-AMP areas with immediate followup use adjustments.

E. Assure proper use of the rangeland resource. This use should not exceed 60% of the current annual growth to assure watershed protection and maintenance of forage plant vigor for reproduction and increase density.

F. Evaluate present wildlife habitat for additional allowances. Delineate wildlife crucial areas and implement immediate management practices for wildlife habitat improvement.

G. Set aside AUM's for wild horses and burros considering the present total inventory. Determine where wild horses and burros are to be managed and numbers to be maintained. Accomplish any adjustments in numbers of wild horses and burros.

H. If necessary, further temporary or permanent adjustments be made in livestock numbers.

I. If not presently accomplished, determine the proper season of use and designate the proper class of livestock for each District, Unit and/or allotment.

J. Assure full use is being made of the base property requirement and off the Federal range during this period. No attempts will be made at this time to re-determine commensurability.

K. Complete URA's-MFP's and develop coordinated activity plans.

L. Implement resource facilitating projects.

1.b. Establish new Class I qualifications -

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4. A system be developed to aggregate and store all resource data -

We concur in this recommendation.

5. Present District organization be revamped -

Continue the present Area Manager concept with adequate staffing levels as originally anticipated. It is requested that any revised organization structure be thoroughly tested prior to implementation.

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We concur in this recommendation. The Nevada District Organization Study is scheduled this FY.

11. The WO make a concerted efffot to increase the District staff level to insure proper land use management -

We concur in this recommendation.

IN REPLY REFER TO:

1241(120)

9/23

9/23

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

SEP 13 1974

Memorandum

To: State Director, Nevada

From: Director

Subject: Draft Report - "Effects of Livestock Grazing on Wildlife, Watershed, Recreation and Other Resource Values in Nevada" - April 1974

Please analyze and submit your comments on the subject draft report and recommendations by September 30, 1974.

The evaluation team members, as directed, will make a second follow-through visit to Nevada later this fall. If, after the team's fall review, any substantial changes are made in the basic report, you will again be asked to review and comment.

Curt Berklund

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

Bureau of Land Management
Santa Fe, New Mexico 87501
Kline - 988-6316
September 4, 1974

For Immediate Release

9/10
9/11
9/13
9/14

BLM TO INTENSIFY RANGE MANAGEMENT

The Bureau of Land Management today announced a six-point program to intensify range management throughout the West as a conservation measure.

Curt Berklund, the Bureau's director, said the program is backed by Interior Secretary Rogers Morton and is to go into effect immediately. He said it was prompted by an evaluation by the Bureau of its Nevada operations, but also to respond to similar standing problems on rangelands in nine other western states. Alaska is not affected.

"I am ordering immediate actions to intensify management efforts on a broad scale for all grazing lands," Berklund said. "The orders will include increased supervision of range use, including compliance with grazing systems developed under allotment management plans and livestock trespass control; the readjustment of grazing privileges to balance authorized grazing use with the capacity of the range to produce forage; apportionment of the forage requirements of wildlife and wild horses and burros on a realistic basis; adjustment and enforcement of seasonal livestock grazing use according to the needs of the vegetation, classifying ranges for use by types of domestic livestock; and considering fully the environmental impacts of competing land uses.

MORE

Berklund said the Department of the Interior will present a comprehensive report on the Bureau's range management program and on range conditions to the Senate Interior Appropriations Sub-committee on January 1. This report will reflect the existing situation and define what needs to be done on public domain lands.

"Unfortunately," Berklund continued, "the attention given to the management of the Western public domain lands, in terms of money and manpower needed to reverse . . . declining trends, has taken a back seat to every other national priority. Now, hopefully, with the increased impact of increased competition for public land uses and implementation of the National Environmental Policy Act, we will get the resources needed to provide adequate management and rehabilitation for public rangelands, watersheds totalling more than 160 million acres with their inherent wildlife habitat, and recreational and cultural values."

In announcing the new program, Berklund released the field evaluation report on Nevada. He said similar evaluations on other states have indicated that Nevada's situation is not unique, despite "progress in cooperation with the livestock industry over the past 40 years under the Taylor Grazing Act."

Berklund said, "Shortly after my appointment as Director last year, I saw various reports made by the Department and the Bureau that caused me to order this evaluation so that I could determine exactly where we stood, and what needed to be done to improve the management of range, wildlife habitat, and watersheds on the National Resource Lands. This report documents significant resource management problems related to livestock grazing in Nevada. The report also offers specific recommendations to help us do a better job in the future."

MORE

The Nevada evaluation report was prepared by a team of BLM resource managers with expertise in range, watersheds, wildlife, and recreation. It identifies 11 principal problems arising from present grazing administration practices. These are: (1) livestock grazing systems in allotment management plans have not adequately considered other multiple uses (wildlife, recreation, etc.) in the planning stages; (2) land-use planning should be completed on critical areas as soon as possible so that action plans can be implemented on the ground; (3) significant increases in livestock grazing use have been authorized that cannot be supported by documented studies showing existing forage resources; (4) forage was allotted for livestock use without due consideration for wildlife, wild horses, and wild burro needs; (5) there was excessive livestock grazing in some areas; (6) reservation of grazing privileges in excess of any reasonable forage production potentials was carried on the books for future livestock use; (7) the Bureau's intensive livestock grazing management program (Allotment Management Plans) is not being effectively implemented. This has resulted in adverse impacts on the range resource; (8) range improvement projects, such as seedings and other vegetative conversions, have not been followed by proper grazing management techniques; (9) the increasing density of pinon-juniper stands has caused a loss of understory forage for all grazing animals including wildlife; (10) protection and enhancement of historical and archeological values have been diminished for the benefit of the range program; (11) BLM District Offices have inadequate staffs to correct deficiencies in the grazing program. It is not usual for a single employee to be responsible for the administration of multiple-use programs on a million acres or more of public land.

Bureau of Land Management officials have presented status reports on range conditions and potential for improvements to Congressional committees on several recent occasions. In addition, at the 1974 Western Governors Conference, BLM focused its attention on the public land situation and the program resources needed to reverse deteriorating range trends when it met in Salt Lake City, Utah. At that time, it was conceded that rehabilitation was essential. Senate and House hearings on the National Resource Lands Management Act have focused on this important subject. In addition, BLM's draft environmental impact statement on livestock grazing on National Resource Lands analyzed the present grazing program and discussed alternatives.

"As Director, I am proceeding immediately to take action to ready this situation. I have been assured of the support of Secretary Morton. Much of what can be accomplished will depend upon the cooperation of Congress, the livestock industry, and concerned citizens and private groups. I am optimistic about future prospects for improving use and management of this land resource," Berklund said.

The Nevada report is available for public inspection at the Office of PUblic Affairs, Room 5625, Department of the Interior Building, Washington, D. C. and later this week in all BLM State offices except Alaska. The report also will be on file shortly in BLM District offices in Battle Mountain, Carson City, Elko, Las Vegas, and Winnemucca, Nevada.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D. C. 20240

OFFICE OF THE DIRECTOR

SEP 3 1974

Memorandum

To: State Director, Nevada
District Manager: Carson City
Battle Mountain
Las Vegas
Elko
Ely
Winnemucca

From: Director

Subject: Nevada Resources Study

On Tuesday, September 3, 1974, I released the enclosed statement to the news media and made the Nevada Resources Study available to the public. The availability of the report comes under the Freedom on Information Act. I have also sent copies to Members of Congress and others in response to their requests. The matter will be reviewed with the staff of the Nevada Congressional Delegation on September 3. Attempts will be made to contact Governor Mike O'Callaghan also.

In some cases, the information in the report is critical of our management of the rangelands in Nevada. The "findings" in the report are not new and I appreciate the integrity necessary to surface these problems in a self-analysis. Similar situations exist in other western states. It is your professional and honest expression of opinions to the evaluators which are reflected in the report.

I am sure you are equal to the task ahead in initiating corrective actions and will meet the challenge with determination.

I have the highest regard for the professionalism and integrity of all Bureau employees in Nevada.

Curt Berklund

Enclosure

IN REPLY REFER TO:

United States Department of the Interior

1241 (330)

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

SEP 3 1974

Memorandum

To: Director

From: Assistant Director, Resources

Subject: Report - "Effects of Livestock Grazing on Wildlife, Watershed, Recreation and Other Resource Values in Nevada," April 1974

My staff review of the subject report with regard to policy and procedural matters raises further issues on the complexities of the livestock grazing program in Nevada.

The report highlights 11 resource problem areas relating directly or indirectly to the livestock grazing program--impact on cultural values, ecological changes in vegetation, vegetative manipulation, overobligation of grazing capacity, suspended nonuse, lack of coordinated planning, specific resource problem areas, apportionment of forage to wild horses and burros and wildlife, issuance of temporary nonrenewable licenses, ineffective AMP's, and manpower shortages.

The report recommendations do not tie directly to the problems highlighted but do touch on most of them in a general way. The report does not relate to how the livestock grazing program is carried out in response to policy, guidance and Manual instructions. The report is problem oriented, thus making it difficult to determine adequacy and soundness of policy and procedure or if problems are a result of laxity in implementing Bureau policies and procedures in Nevada or both.

Recommendation #1 has two significant parts. It proposes reinventory of the vegetative resource which considers all resource uses by location. To implement this recommendation would require a substantial commitment of manpower and funds to Nevada. A reinventory may not be needed in all cases. The inventory serves as a starting point in implementing management programs. Where critical wildlife habitat and watershed values are involved, partial inventories may be appropriate. After programs are under way other resource evaluation studies such as resource condition, utilization, and trend are used to monitor changes in relation to management goals. These study techniques certainly must stress a coordinated resource approach.

The second aspect of the recommendation, the establishment of a new class I grazing qualification without consideration of suspended nonuse, would require regulation and adjudication procedure change. It could be done simply by eliminating the suspended nonuse figure and apportioning only current grazing capacity to the qualified base properties.

No useful purpose would be served by further effort to reestablish class I qualification at this late date. An attempt to reconstruct each operator's history of grazing use from 1929-1934 and reevaluating his base property production and ownership control just to arrive at a new class I qualification figure would be very time consuming and nonproductive.

Recommendation #2. No comment.

Recommendation #3 may require a significant change in our multiple-use planning system and budget process. Studies currently underway (MAP/MYP concept) will assist in developing new methods for coordinating activities as they relate to planning and budgeting.

Recommendation #4. No comment.

Recommendation #5. We do not agree with this reorganization recommendation. In our view, the area manager concept is good and should not be discarded. There may be better organization structures whereby more efficient use of the limited manpower would bring more favorable on-the-ground results. We would not be opposed to in-depth analyses to make this determination.

Recommendation #6. The Bureau policy and procedures for considering temporary nonrenewable license seem adequate. Apparently a more strict application of these policies may be needed in Nevada.

Recommendation #7. Wildlife habitat and watershed protection have always been important aspects of grazing system design training courses. This recommendation should be followed by a review of our current training efforts.

Recommendation #8. The recommended review and updating of plans should be assigned a high priority.

Recommendation #9 pertaining to updating the Winnemucca MFP should be compared with the previous reviews by WO Planning Division and specific guidance the District received for work with the Districtwide MFP.

Recommendation #10. No comment

Recommendation #11. No comment

In the body of the report discussions presented on grazing qualification, nonuse, suspended nonuse, and active use are very confusing. The report attempts to compare current use trends with range survey carrying capacities that may be 10 to 20 years old without considering changes that may have occurred in the interim. The references made are generally Statewide. They may be more significant on an area by area basis. The terminology used in these comparisons is confusing and not consistent. The liberal use of extreme descriptive terms and subjective judgments certainly will be challenged, i.e., page 16, third line from the bottom; page 17, sentence beginning on line 16; page 32, sentence beginning on line 18. These expressions add nothing to the report.

In addition to the deficiencies noted above, the report is grammatically weak. It would also be much easier to understand if the separate activity sections were consolidated into one, this would provide a better balance than exists and also eliminate duplication.

While the team was not charged with reporting on the condition of the intermingled private lands as they relate to adjoining Federal lands, the existing land pattern is often the key to better range condition as these lands usually involve livestock water location, riparian habitat, and other resource values. In the checkerboard area the extent in acreage alone is a significant factor.

The team was not charged with reporting on what has been accomplished through the years in Nevada as far as range management is concerned. It would be appropriate, however, to mention in the report aspects of the range management program where significant progress has been made.

The report certainly raises important issues in regard to the Nevada range management program. The State and District Office should be given an opportunity to review and comment on the various problems identified before a firm course of action is initiated.

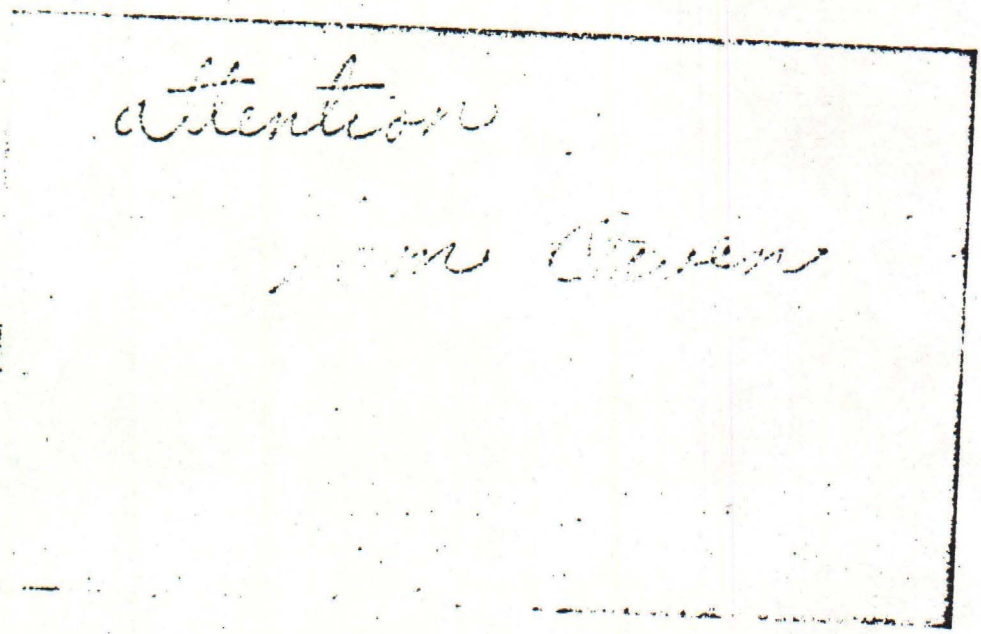
Even with its shortcomings the report is good and is more than adequate for its purpose. It certainly focuses on the range program and the inter-relationships with other resource programs in Nevada. Most important, it provides a framework for developing a different use of priorities, in terms of national goals, manpower and dollar allocations, and monitoring of resource management efforts, than now prevails in the Bureau..

Also, we should not that this report is one important result of a scheduled multi-functional evaluation. It is encouraging to see that the system can work by providing positive direction for good land management.

In summary, the evaluation report points to a critical resource condition on BLM lands. Indications are that the Secretary and Director are committed to correcting this serious situation. It must be emphasized that total Bureau priorities in terms of funds and manpower will have to undergo substantial changes from WO to the field if those commitments are to be realized.

We will be happy to furnish our recommendations to achieve these critical program adjustments.

Ronan H Koenings



DEPARTMENT of the INTERIOR

news release

BUREAU OF LAND MANAGEMENT

For Release September 3, 1974 Herndon (202) 343-5717

BLM REPORTS ON CONDITIONS OF WESTERN RANGELANDS

A field evaluation report that highlights serious conditions on Western rangelands was released today by the Department of the Interior's Bureau of Land Management. The special report is based on findings and recommendations for the State of Nevada.

BLM Director Curt Berklund added that information from similar evaluation reports from other States indicate that findings in the Nevada report are not unique to that State. Other investigations being made by the Bureau point to similar or more serious conditions in other Western States, despite the progress the Bureau has made in cooperation with the livestock industry over the past 40 years under the Taylor Grazing Act.

In releasing the report, Berklund said, "Shortly after my appointment as Director last year, I saw various reports made by the Department and the Bureau that caused me to order this evaluation so that I could determine exactly where we stood, and what needed to be done to improve the management of range, wildlife habitat, and watersheds on the National Resource Lands. This report documents significant resource management problems related to livestock grazing in Nevada. The report also offers specific recommendations to help us do a better job in the future."

The Nevada evaluation report was prepared by a team of BLM resource managers with expertise in range, watersheds, wildlife, and recreation. It identifies 11 principal problems arising from present grazing administration practices. These are: (1) livestock grazing systems in allotment management plans have not adequately considered other multiple uses (wildlife, recreation, etc.) in the planning stages; (2) land-use planning should be completed on critical areas as soon as possible, so that action plans can be implemented on the ground; (3) significant increases in livestock grazing use have been authorized that cannot be supported by documented studies showing existing forage resources; (4) forage was allotted for livestock use without due consideration for wildlife, wild horses, and wild burro needs; (5) there was excessive livestock grazing in some areas; (6) reservation of grazing privileges in excess of any reasonable forage production potentials was carried on the books for future livestock use; (7) the Bureau's intensive livestock grazing management program (Allotment Management Plans) is not being effectively implemented. This has resulted in

(more)

adverse impacts on the range resource; (8) range improvement projects, such as seedings and other vegetative conversions, have not been followed by proper grazing management techniques; (9) the increasing density of pinyon-juniper stands has caused a loss of understory forage for all grazing animals including wildlife; (10) protection and enhancement of historical and archeological values have been diminished for the benefit of the range program; (11) BLM District Offices have inadequate staffs to correct deficiencies in the grazing program. It is not unusual for a single employee to be responsible for the administration of multiple-use programs on a million acres or more of public land.

Berklund also said, "I am ordering immediate actions to intensify management efforts on a broad scale for all grazing lands." His orders will include: (1) increased supervision of range use, including compliance with grazing systems developed under allotment management plans and livestock trespass control; (2) the readjustment of grazing privileges to balance authorized grazing use with the capacity of the range to produce forage; (3) apportionment of the forage requirements of wildlife and wild horses and burros on a realistic basis; (4) adjustment and enforcement of seasonal livestock grazing use according to the needs of the vegetation; (5) classifying ranges for use by types of domestic livestock; (6) Bureau employees will be required to fully consider the environmental impacts of competing land uses.

"Unfortunately," Berklund continued, "the attention given to the management of the Western public domain lands, in terms of money and manpower needed to reverse century-old declining trends, has taken a back seat to every other national priority. Now, hopefully, with the increased impact of increased competition for public land uses and implementation of the National Environmental Policy Act, we will get the resources needed to provide adequate management and rehabilitation for public rangelands, watersheds totalling more than 160 million acres with their inherent wildlife habitat, and recreational and cultural values."

Bureau of Land Management officials have presented status reports on range conditions and potential for improvements to Congressional committees on several recent occasions. In addition, at the 1974 Western Governors Conference, BLM focused its attention on the public land situation and the program resources needed to reverse deteriorating range trends when it met in Salt Lake City, Utah. At that time, it was conceded that rehabilitation was essential. Senate and House hearings on the National Resource Lands Management Act have focused on this important subject. In addition, BLM's draft environmental impact statement on livestock grazing on National Resource Lands analyzed the present grazing program and discussed alternatives.

According to Berklund, the Department of the Interior will present a comprehensive report on the Bureau's range management program and on range conditions to the Senate Interior Appropriations Sub-committee on January 1. This report, Berklund said, will reflect the existing situation and define what needs to be done on public domain lands.

"As Director, I am proceeding immediately to take action to remedy this situation. I have been assured of the support of Secretary Morton. Much of what can be accomplished will depend upon the cooperation of Congress, the livestock industry, and concerned citizens and private groups. I am optimistic about future prospects for improving use and management of this land resource," Berklund said.

The Nevada report is available for public inspection at the Office of Public Affairs, Room 5625, Department of the Interior Building, Washington, D. C., and later this week in all BLM State offices except Alaska. The report also will be on file shortly in BLM District offices in Battle Mountain, Carson City, Elko, Las Vegas, and Winnemucca, Nevada.

x x x

W. O. News Release 9/3/74

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BLM Director Curt Berklund added that information from similar evaluation reports from other States indicate that findings in the Nevada report are not unique to that State. Other investigations being made by the Bureau point to similar or more serious conditions in other Western States, despite the progress the Bureau has made in cooperation with the livestock industry over the past 40 years under the Taylor Grazing Act.

In releasing the report, Berklund said, "Shortly after my appointment as Director last year, I saw various reports made by the Department and the Bureau that caused me to order this evaluation so that I could determine exactly where we stood, and what needed to be done to improve the management of range, wildlife habitat, and watersheds on the National Resource Lands. This report documents significant resource management problems related to livestock grazing in Nevada. The report also offers specific recommendations to help us do a better job in the future."

The Nevada evaluation report was prepared by a team of BLM resource managers with expertise in range, watersheds, wildlife, and recreation. It identifies 11 principal problems arising from present grazing administration practices. These are: (1) livestock grazing systems in allotment management plans have not adequately considered other multiple uses (wildlife, recreation, etc.) in the planning stages; (2) land-use planning should be completed on critical areas as soon as possible, so that action plans can be implemented on the ground; (3) significant increases in livestock grazing use have been authorized that cannot be supported by documented studies showing existing forage resources; (4) forage was allotted for livestock use without due consideration for wildlife, wild horses, and wild burro needs; (5) there was excessive livestock grazing in some areas; (6) reservation of grazing privileges in excess of any reasonable forage production potentials was carried on the books for future livestock use; (7) the Bureau's intensive livestock grazing management program (Allotment Management Plans) is not being effectively implemented. This has resulted in adverse impacts on the range resource; (8) range improvement projects, such as seedings and other vegetative conversions, have not been followed by proper grazing management techniques; (9) the increasing density of pinyon-juniper stands has caused a loss of understory forage for all grazing animals including wildlife; (1) protection and enhancement of historical and archeological values have been diminished for the benefit of the range program; (11) BLM District Offices have inadequate staffs to correct deficiencies in the grazing program. It is not unusual for a single employee to be responsible for the administration of multiple-use programs on a million acres or more of public land.

Berklund also said, "I am ordering immediate actions to intensify management efforts on a broad scale for all grazing lands." His orders will include: (1) increased supervision of range use, including compliance with grazing systems developed under allotment management plans and livestock trespass control; (2) the readjustment of grazing privileges to balance authorized grazing use with the capacity of the range to produce forage; (3) apportionment of the forage requirements of wildlife and wild horses and burros on a realistic basis; (4) adjustment and enforcement of seasonal livestock grazing use according to the needs of the vegetation; (5) classifying ranges for use by types of domestic livestock; (6) Bureau employees will be required to fully consider the environmental impacts of competing land uses.

"Unfortunately," Berklund continued, "the attention given to the management of the Western public domain lands, in terms of money and manpower needed to reverse century-old declining trends, has taken a back seat to every other national priority. Now, hopefully, with the increased impact of increased competition for public land uses and implementation of the National Environmental Policy Act, we will get the resources needed to provide adequate management and rehabilitation for public rangelands, watersheds totalling more than 160 million acres with their inherent wildlife habitat, and recreational and cultural values."

Bureau of Land Management officials have presented status reports on range conditions and potential for improvements to Congressional committees on several recent occasions. In addition, at the 1974 Western Governors Conference, BLM focused its attention on the public land situation and the program resources needed to reverse deteriorating range trends when it met in Salt Lake City, Utah. At that time, it was conceded that rehabilitation was essential. Senate and House hearings on the National Resource Lands Management Act have focused on this important subject. In addition, BLM's draft environmental impact statement on livestock grazing on National Resource Lands analyzed the present grazing program and discussed alternatives.

According to Berklund, the Department of the Interior will present a comprehensive report on the Bureau's range management program and on range conditions to the Senate Interior Appropriations Sub-committee on January 1. This report, Berklund said, will reflect the existing situation and define what needs to be done on public domain lands.

"As Director, I am proceeding immediately to take action to remedy this situation. I have been assured of the support of Secretary Morton. Much of what can be accomplished will depend upon the cooperation of Congress, the livestock industry, and concerned citizens and private groups. I am optimistic about future prospects for improving use and management of this land resource," Berklund said.

The Nevada report is available for public inspection at the Office of Public Affairs, Room 5625, Department of the Interior Building, Washington, D.C., and later this week in all BLM State offices except Alaska. The report also will be on file shortly in BLM District offices in Battle Mountain, Carson City, Elko, Ely, Las Vegas, and Winnemucca, Nevada.

EFFECTS OF LIVESTOCK GRAZING ON WILDLIFE, WATERSHED, RECREATION AND OTHER RESOURCE VALUES IN NEVADA

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II. REPORT SUMMARY

Following the Nevada Interdisciplinary Resource Management Evaluation, April 2-13, 1973, a team was designated to conduct an in-depth analysis of the range management program and its conflicts with other resource programs in Nevada. The full cooperation of the Nevada State Office and Districts aided us materially in our work.

We concur in the findings of Work Sheet #1 of the WO Multi-Functional Evaluation of April 2-13, 1973.

This report consists of individual activity reports, with illustrations and appendices, a series of 200 colored slides with brief narration, and responses to questionnaires.

While recommendations are included as part of this report, they are not all-inclusive, but may be of assistance to Districts and States.

A resume of principal identified problems follows:

1. The protection and enhancement of cultural values have not had sufficient attention in the past. Although improvements and awareness are indicated, greater emphasis needs to be applied to this subject.

2. Prevalent Juniper-Pinon stands have been allowed to thicken. Through the effects of this thickening and continued use by livestock and/or big game and horses, a continuing loss of carrying capacity is occurring. Vegetative manipulation projects have resulted in a lessening of these impacts in isolated instances; however, projects generally have not reduced pressure on the forage under the stands of trees nor increased the carrying capacity within untreated tree stands.

3. Vegetative manipulation projects have been tried in many areas. While often successful, they lack proper management after completion of the project. Frequent reinvasion of removed vegetation has occurred. We now have an index of where we can expect success, but employees are aware that the public is watching how we manage investments. Considerable time is spent checking these widely spaced improvements to prevent further deterioration.

4. Various degrees of effort have been expended on adjudications. Where areas were not reduced to the indicated carrying capacity, over-licensing problems still exist. In some areas reductions were made to survey carrying capacities, but time has proven surveys overly optimistic. The longer over-use continues, the greater the reductions needed to turn the ranges toward improvement.

5. The carrying of suspended nonuse following reduction has been excessive. This is particularly evident where active licensing is below the range survey carrying capacity. It is highly improbable that the large volume of regular and suspended nonuse can ever be satisfied if sufficient litter is left for watershed improvement. Better habitat conditions are needed for wildlife, forage is needed for horses and burros, and certain restraints from a recreation standpoint are needed.

6. We are hopeful that soon we can arrive at some multiple-use planning. Individual planning is being conducted by Range, Wildlife, Watershed, and Recreation; however, individual plans are not being pulled together because of a lack of coordination and cooperation between activities.

7. In Nevada, as elsewhere, there is a need to complete MFPs so action can be implemented on the ground. The Duckwater area is an example where immediate action needs to be taken.

8. Horse and burro feed requirements were not considered in range surveys. The same is often true for wildlife. This alone requires an entirely new analysis of forage needs for the habitat community.

9. Issuance of temporary nonrenewable licenses by Nevada Districts should be analyzed by the State Office. In our

opinion the reasoning for granting such licenses has not been carefully analysed. Additional feed is produced on areas that have been subjected to considerable vegetative manipulation. The granting of livestock permits have not fully considered litter needs for watershed and food and cover needs for wildlife.

10. We find that many AMPs are ineffective. Often AMPs were poorly designed with too few pastures, pastures grossly unequal in carrying capacity, and overall initial carrying capacity considerably lower than the amount of stocking to be applied to the area. This necessitated the breaking of grazing systems, especially in years of subnormal moisture. Many AMPs did not have sufficient studies established on them. Studies that were established have not been routinely continued. Actual use records are maintained in most instances. Allotments containing live streams gave no consideration for the riparian habitat.

It is very important that BLM have good, well designed, plans that work. We have informed the public that we can improve the lands through livestock management. It is important that we prove we have done so. Actual and factual information on areas under management may be useful in applying proper use on adjacent areas.

11. All Districts visited have a severe scarcity of personnel. Area Managers have 2 to 3 million acres under

their administration, and have only two to three other employees to assist them. These Districts have been severely hampered in their planning efforts by a lack of Recreation, Wildlife, or Minerals Specialists. Frequent changes of District personnel led to constant orientation problems.

III. RECOMMENDATIONS

We recommend that:

1. A new vegetative inventory be initiated which takes into consideration vegetative needs, by location, for all resource uses. Commencing with high priority areas a new Class I qualification be established, without consideration of suspended nonuse, and that this inventory be kept current and timely adjustment be made as needed.

2. Proper allowance of wild horse and burro AUMs be allocated with appropriate reductions in livestock grazing AUMs. This item should be given immediate attention.

3. Individual activity planning for geographical areas be replaced by a total resource plan with mutually acceptable objectives and methods for reaching these objectives within the constraints identified by the MFP, and that funding of implementation be for total plan needs and not activities.

4. A system be designed to aggregate and store all resource data by planning unit, resource area, District, State, and Bureau levels.

5. Present District organization be revamped, the resource Area Manager concept be eliminated, and a dual staff be established - one for technical input and another for administration.

6. The State Director should, after careful consideration of other resource needs, issue a policy on the granting of temporary nonrenewable licenses.

7. Rest-rotation training include, as an integral part of its presentation, grazing systems design that will benefit wildlife and insure adequate soil protection and enrichment.

8. AMPs be reviewed and updated, especially those developed prior to 1969 in accordance with recommendation #3.

9. MFPs be more specific in their recommendations and get away from motherhood statements. There should be specific goals and objectives identified for all activities managing specific areas on a multiple-use basis. The Winnemucca MFP should be completely updated to coincide with present Manual requirements and standards.

10. A total workload analysis be made of District and State Offices to determine if procedures can be shortened, modified, or eliminated to allow additional field time.

11. The WO make a concerted effort to increase the District staff level to insure proper land use management.

IV. EFFECTS OF THE LIVESTOCK GRAZING PROGRAM ON WILDLIFE HABITAT IN NEVADA

I. Adjudication Problems

A. Suspended Nonuse

(See Section III. AMPs)

B. Wild Horse and Burro Use

Wild horses and burros in the State of Nevada are creating a major problem by perpetuating wildlife habitat destruction. There have been no AUMs* allocated for wild horses within the Districts visited. Each District is issuing licenses and leases for livestock grazing at the level issued prior to the Wild and Free-Roaming Horse and Burro Act. As of this report the State had taken no action to correct overuse by livestock, wild horses, and/or burros where wildlife habitat is being destroyed. There is an estimated population of 7,630 wild horses using Bureau administered lands in the three Districts visited. This equates to an over utilization of 91,560 AUMs; because there have been no reductions in domestic livestock grazing to compensate for the use of this forage.

C. Temporary Nonrenewable Licenses

Livestock operators compose 90 percent of District advisory boards and 50 percent of State advisory boards. These advisory boards direct their attention almost entirely to livestock oriented items at called meetings. In all of the Districts

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*Animal Unit Months is normally expressed as one cow's use of forage resources for one month.

advisory board minutes reviewed, the question of allowing additional AUMs to specific operators was discussed. In the cases where additional AUMs were allowed, District advisory boards were the instigators of additional use. In the Winnemucca District during FY 73, there were 48,728 livestock AUMs allocated in addition to the regular licenses. These additional AUMs have directly attributed to the further destruction of riparian vegetation, meadows, and bank cover around reservoirs.

D. Wildlife Use

Within the State of Nevada there are 97,376 AUMs set aside for wildlife use; however, during the time spent at the field offices Bureau employees could not specifically identify where these AUMs are geographically located. Of the allotments reviewed many were grazed in excess of their annual active use, or were excessively utilized by wild horses and burros. Therefore, it is apparent that wildlife habitat is being destroyed. Field observations verified this finding.

E. Dominant Objectives of Class I Restoration

(See Section III. AMPs)

F. Class of Livestock and/or Season Use

(See Section II. B.)

G. Range Survey

Most of the State's range surveyed carrying capacity was based on AUMs which were usable only for the purpose of livestock

production. Wildlife AUMs were allocated on a simple percentage basis of the total acreage in the geographic area. In effect, there was no consideration given to critical wildlife areas such as winter browse areas; riparian habitat; deer fawning ground; sage grouse booming grounds; mountain meadow areas; escape cover around reservoirs, etc. The AUMs allocated for wildlife included areas identified as unusable by domestic livestock. This topographic restriction for livestock was the only criteria used in limiting areas usable by domestic livestock (see Illustration 1). (In other words, if it was too steep and rocky for a cow or sheep to utilize, it was unusable.) The apparent effect can be seen in a memorandum from the State Director to the Elko District Manager dated February 27, 1974. (Appendix 1, pertaining to the Jackpot AMP.) The meadows are being denuded, the stream-bank vegetation is being destroyed, and reservoir bank cover is non-existent.

In the Pony Springs Resource Area of the Ely District, there is a community allotment of approximately one million acres in size called Wilson Creek Community Allotment. Within this allotment over 50 percent of the vegetative type was pinon-juniper, ranging in density from a closed canopy to 50-50 percent browse-tree type. This entire allotment was grazed with little or no grass species available where the juniper

stands exist. Therefore, the browse species were severely grazed by domestic livestock, wild horses and wildlife. No reproduction of the browse could be found. Existing browse was either dead or in a very severe decadent condition.

II. Custodial Management Areas (Non AMP Areas)

A. Uncontrolled, Unregulated or Unplanned Use

Uncontrolled, unregulated or unplanned livestock use is occurring in approximately 85 percent of the State and damage to wildlife habitat can be expressed only as extreme destruction. Examples can be cited in numerous allotments, one of which is the Wilson Creek Allotment, Pony Springs Resource Area, Ely District. This area encompasses approximately 1,000,000 acres with four operators. As previously pointed out over 50 percent of this area is covered by pinon-juniper most of which has a closed canopy. Vegetation other than the tree type is cliffrose, bitterbrush, and mountain mahogany. Annual licenses are issued to the operators to use the area with very little management direction. In this allotment the water table on previous meadow areas has been lowered and rabbitbrush has invaded; the browse has no visible reproduction and is so severely hedged and plant vigor so reduced that decadence is prevalent and the deer population is in a downward trend.

Additional supportive information pertaining to the uncontrolled, unregulated, and unplanned use and abuse being

made can be found in a report prepared by Dr. Floyd Kinsinger, Range Staff, DSC, on the Kane Springs and Tule Grazing Units, Las Vegas, DO (Appendix 2).

Stream riparian habitat where livestock grazing is occurring has been grazed out of existence or is in a severely deteriorated condition. Within the State, 883 miles of streams were identified as having deteriorated and declining riparian habitat. Riparian habitat is a critical habitat component of numerous wildlife and fish species. Large populations of non-game birds and mammals are dependent upon riparian habitat to supply a major component in their life cycle. Streams presently having fish populations are exposed to thermal radiation. This causes increases in water temperature to the point that fish life is extremely limited. Water pollution from excessive soil movement from bank and overland flow erosion is caused by the reduction of stream-bank vegetation. Fishery reproduction potential is being extremely limited by the siltation of spawning areas. An example of this type of adverse impact can be found in the Ely District White Rock AMP draft. Water Canyon is located within the confines of the White Rock AMP and a review of the AMP discloses that there is no mention of any perennial streams. In Water Canyon there is a stream the Nevada State Fish and Game Department has identified in an approved

Bureau EAR (Environmental Analysis Record) as a potential transplant site and has planted the endangered Utah cutthroat trout.

Another example of riparian depletion and destruction by livestock grazing is in the Winnemucca District. The Sonoma URA identified the following streams as having severely deteriorated riparian habitat due to livestock grazing: Pole Creek; Rock Creek; Clear Creek (this stream had the most severe abuse); Sonoma Creek; Thomas Creek; Star Creek; Coyote Creek; and Indian Creek.

Another abused highly significant fishery stream is Mohogany Creek in the Winnemucca District. Mohogany Creek is one of the last two streams supporting a population of the endangered Lahonton cutthroat trout. Annually the U.S. Fish and Wildlife Service collects the eggs of this species on the national resource lands to be transferred to their hatchery on the headwaters of Summit Lake. Overgrazing by domestic livestock has deteriorated streambank vegetation to the extent that large amounts of silt and pollutants are being deposited in an alluvial fan in Summit Lake. This alluvial fan, built-up at the entrance to Summit Lake, blocks upstream migration at the point where Mohogany Creek enters Summit Lake. Each year the U.S. Fish and Wildlife Service has to contract for the digging

spring-summer-fall use by cattle. This type of conversion placed the cattle use in direct conflict with historical antelope use for spring forbs and fall browse. Uncontrolled grazing of these areas has reduced the amount of forage available to wildlife species during critical spring greenup time. It also reduces the forage available in the fall to assist in the nutritional requirements of wildlife necessary to carry them through the winter months. This reduction in available nutrients in the fall period causes malnutrition to occur in the female during her reproduction cycle and therefore a reduction in population. The EARs reviewed did not address themselves to the problems created nor were there any mitigating measures offered.

A typical example can be found in the EAR for the Tippett Pass Allotment, Ely District. The livestock operator requested a change in class of livestock from sheep winter use to cattle spring-summer use. The basis of the recommended action (allow the change) was to afford the operator management flexibility. Impacts were listed as: 1. Decision may not be compatible with MFP or AMP objectives; 2. Cattle will have a tendency to drift onto adjacent allotments; 3. Late spring grazing by cattle every year may be detrimental to the forage resource; 4. The change in class of livestock will require additional waters being developed; and 5. The carrying capacity may differ from sheep to cattle. There was no mention of the effect competition between spring use

by cattle would have on antelope in the area. This flexibility to accommodate livestock interests to the detriment of wildlife habitat is typical of livestock grazing dominance.

C. Lack of Management Following Improvements

In many non-AMP areas there have been seedings of crested wheat-grass established. The seedings have been inadequately watered causing concentration of livestock and overuse in proximity to the watered areas. There is little or no use being made of areas where there is a lack of water. Also the seedings did not reduce the number of AUMs being consumed on the native range, but rather added further pressure on the native range by reducing available acres. The Cattle Camp Allotment and the White Horse Allotment seedings have been established without adequate control or management options being exercised. In both areas the wildlife habitat is being severely grazed. This includes meadows, stream-bank vegetation and browse species. There have been, and are continuing reductions in wildlife numbers within these areas because of the additional AUM allowance and lack of management.

D. Supplemental Feeding in Lieu of Removal of Grazing

III. AMPs

A. Inadequate Multiple-Use Data to Develop AMPs

In the State of Nevada there are presently some 1,953,238* domestic livestock AUMs being actively utilized each year. An additional 658,938 livestock AUMs are in regular nonuse with 426,536 livestock AUMs in suspended nonuse. All of these figures plus temporary nonrenewable AUMs comprise Class I qualifications. If all of the Class I livestock qualifications were licensed, there would be no wildlife, watershed, recreation or other resource values left to consider.

Within the sage hen AMP pastures of the William A. Stock allotment there was a 2,4-D sprayed area which previously was excellent sage grouse habitat. The area sprayed left no leave strips to provide cover for sage grouse or other wildlife. The area also has some deer use. The allotment has a four-pasture rest-rotation grazing system and the key species managed for is bluebunch wheatgrass. The phenology of this grass species is not compatible with forb or browse production or maintenance. When on-the-ground inspections were made of the allotment, no pasture could be found which had not been grazed. Therefore, the rest-rotation system was inoperative. During the field observations, meadow areas were being damaged severely and encroachment of sagebrush had destroyed over 50 percent of them. This decrease in meadow areas along with the spraying

*figure includes active use, Class II and temporary non-renewal AUMs licensed during FY 72.

of the sagebrush without any consideration for wildlife requirements caused reduction of sage grouse within the allotment. There were watering troughs without any form of bird ladders being used.

B. Establishment of Objectives

There was no effort to tie all resource values in one geographical area to any one set of objectives, management practices or goals.

The majority of activity planning accomplished in the Districts visited was either allotment management plans or habitat management plans. The objectives established within each of these single oriented plans did not take into consideration total resource values.

For example, all of the 23 allotment management plans reviewed specifically stated that one of their objectives was to meet Class I qualifications of the livestock operator. Wheat about HMPs

C. Design of Grazing Plan and Choice of Key Species

Within the allotment management plans reviewed, the predominant species used to evaluate progress and to design the rest-rotation grazing system was grass. In many instances the phenology of the grass species chosen was in direct conflict with any forb or browse production potential. Also, it has been well established by many studies of bitterbrush that a two-year cycle of rest is necessary for reproduction. This is because seeds are formed on previous year's leader growth. In a two-year deferred system, a

three-pasture rest-rotation system and a majority of the four-pasture systems, the only objective which can even be considered is only production for livestock. Overuse of wildlife habitat occurs when uneven carrying capacity pastures are devised as was noted on many of the AMPs reviewed. A prime example of poor pasture design, even though not visited by this team, could be found in the Antelope Mountain Allotment Management Plan in the Carson City District. This plan has a four-pasture system with one of the pastures containing critical winter deer range for the Lassen-Washoe interstate deer herd. During the time the particular pasture is grazed the entire winter habitat for deer is consumed by livestock. This leaves nothing for the wintering deer. This problem was pointed out by "Mr. Rest-Rotation", Gus Hormay, prior to the implementation of the AMP but no consideration was given to this most critical matter. This AMP was developed in 1969. In 1968 the Habitat Management Plan was written and approved for the area. Within the HMP the problems and conflicts between livestock and wildlife on this critical wildlife area were identified. Again there was no consideration given to the information available in the HMP when the AMP was developed.

Another problem arises in the design of grazing systems when excessive fencing is required in areas of antelope migration. There was no evidence in any of the AMPs reviewed that any consideration was given to antelope migration needs.

D. Flexibility Allowed

Problems which existed in at least 50 percent of the AMPs reviewed was the allowance of flexibility on use pastures at the discretion of the operator. Allowing an operator to shift in the established grazing system at his discretion and to graze cattle in excess of his active use was contained in the flexibility statement. Under thie type of uncontrolled management there can be no improvement of wildlife habitat but only a further decline in meadows, streambank vegetation, reservoir bank cover and over utilization of declining and decadent browse species which are mainstays for big game.

E. Inadequate Data for Proper Evaluation

(Addressed throughout Section III.)

F. Proper Supervision

Under the present table of organization for resource areas in the Las Vegas, Ely, and Winnemucca Districts (see Illustration 6) and the amount of time spent in the field there is no supervisory technique which would adequately allow for the supervision of AMPs, HMPs or any other plans. When four people are charged with the administration of 4,500,000 acres of BLM land including 11 AMPs and with 50 percent of the entire resource area time spent in the office, no significant supervision can be realized. This is one of the reasons wildlife habitat within the State of Nevada is in a deteriorating condition. Within the State 9,529,000 acres of

big game habitat; 5,717,500 acres of small game habitat; 42,200 acres of waterfowl habitat; 1,875 impoundment acres, and 883 miles of streams are in a declining or unsatisfactory condition. With proper livestock control, reduction, and supervision, these figures could be drastically reduced.

When supervision is afforded, it is superficial. This is documented by the long distances which must be traveled to reach many of the areas, restrictive speed limitations and restricted per diem allowances. Most critical during FY 74 is the reduction in the number of miles which can be traveled with GSA vehicles. Use supervision is grossly inadequate and multiple-use management will never be achieved with these constraints and lack of personnel. These constraints apply not only to AMPs but to all national resource lands.

In the Goldbanks AMP, Winnemucca District, there were no wildlife values considered. This AMPs first objective was to meet Class I qualifications. The range survey of the allotted area shows 2,074 AUMs available for use. The Class I qualification is 2,711. The actual use during FY 73 was 2,192 AUMs. This is a typical example of the over obligation of vegetative resources in Nevada. As documented in the case file of the operator, Woolfolk, on January 28, 1972, cattle were found in the wrong pasture; on August 4, 1972, cattle were again in the wrong pastures; on April 18, 1973, cattle were again found in the

wrong pastures; and on April 26, 1969, cattle from another allotment were found trailing through the pastures. Improper use, with the exception of the last notation, was allowed without trespass of any kind being noted. In the EAR for the Goldbank Allotment Management Plan, the following quote was found, "Elimination of livestock from the range would result in loss of aesthetic values associated with the western life style." But there was no mention of the loss of wildlife which was there long before the livestock became a life style.

G. Construction of Improvements to Meet Objectives

The location of management facilities to accomplish AMP objectives was not adequate. The design of pastures and subsequent placement of fences results, in many instances, in unequal pasture carrying capacity and necessitate trailing of livestock through pastures scheduled for no grazing. There are inadequate funds to supply enough water facilities within pastures to realize the full potential of this total area.

Another problem was reservoirs constructed but no fenced, resulting in bank cover being destroyed even though the objectives of the AMPs were to improve wildlife habitat. These listed deficiencies can be pointed to as causes of the deterioration of meadows, streambank vegetation, escape cover and reduction of browse species for wildlife.

IV. Miscellaneous

A. Invading Species

Overgrazing by livestock has caused invasion of sagebrush and rabbitbrush on meadows. This has decreased the amount of meadow habitat available for wildlife survival by at least 50 percent. Lowering the water table through erosion increases susceptibility of meadow areas to encroachment by invader species and decline of water sources necessary to produce succulent vegetation. There has been little or no effort made to correct or reverse this trend of meadow deterioration. The reduced meadow area has caused a decline in non-game as well as game populations.

Juniper invasion, if allowed to continue, will eliminate much of the scarce wildlife habitat. Juniper acreage is still included as a part of the usable acreage for livestock grazing. Much of the juniper stands, in forests in Nevada, is considered closed stands where little if any other vegetative species exist. Other existing vegetative species are being decimated by livestock use.

B. Construction of Improvements

The majority of existing improvements constructed in the State of Nevada was directed primarily for the purpose of livestock production with little or no consideration for other resource needs or values. Fences are over-constructed (standard type D fences) for the actual needs of livestock control. This type of fence is one of the contributing factors in the high cost of

fencing. There was little, if any, regard given to bighorn sheep movement when allotment boundaries were fenced. An example is the Highland Range Area where an AMP was developed on ephemeral range. This area could have quite effectively used water as a controlling agent but a fence with post spacings of 16 feet and four wires was constructed. Thie type of construction also can be found in antelope use areas which causes migration problems.

The construction of reservoirs has been directed toward rancher support and no consideration has been given to wildlife habitat needs. There are no irregular edges, no fencing to provide for bank cover for waterfowl or any other species, and no islands established. Therefore, it is concluded that at present most reservoirs in Nevada do not benefit wildlife habitat or support a multiple-use theory. Spring developments, pipelines, and water troughs are developed only when livestock production needs arise. Spring production flow is reduced with a head box and piped (without occasional water outlets for wildlife) to troughs which have no bird or small mammal ladders or floating devices. The reduction of water at its source reduces succulent vegetation and the amount of free water available to wildlife. Those identified single purpose structures ignore wildlife habitat needs. In many instances the habitat is altered to the extent that previous wildlife species in the area can no longer exist. The livestock allotment boundaries on all allotments are located specifically

to benefit a private rancher's needs and do not consider any other resource value. Control of livestock through 17,984 miles of existing and proposed fences for the benefit of a private ranching operation promotes the attitude that livestock production is BLM's prime concern. This is further documented when AMPs are developed with no coordination to eliminate pastures adjoining each other from being the heavy use pasture during any one grazing season on two adjoining AMPs. This could and does, in many cases, involve the total use of many critical wintering wildlife ranges leaving little or no forage for wildlife.

C. District and Area Staffing

District and area staffing can be looked upon as tokens rather than a real effort to manage the public lands on a multiple-use basis. There is only one wildlife biologist assigned the duties of wildlife habitat management per District. An example of the tremendous workload placed on these few individuals is the wildlife habitat responsibilities for 365 different species of mammals; birds; fish; amphibians and reptiles identified in the Ely District, including 10 listed as endangered species. It is impossible for a single individual to adequately provide protectional measures against wildlife habitat destruction in an area used almost entirely by uncontrolled and unregulated livestock. In many instances the District wildlife biologist also has the responsibility of the entire District recreation program. The

average District in Nevada has approximately 9 million acres and with one individual having two very important resources to consider, such as wildlife habitat and recreation, equates to very little consideration being given to the wildlife and recreation program in the District.

D. Areas of Livestock Removal

Since there are 883 miles of streams with deteriorating and declining habitat it is apparent that grazing systems do not protect and enhance the wildlife values. It will take a minimum of five years of total protection for the riparian vegetation in Nevada to recover and start providing needed wildlife habitat. Problems associated with declining riparian habitat have been well identified in field reviews, special studies, and unit resource analysis. Yet the Bureau continues to neglect the needed management of these most critical desert habitats and ecosystems. Failure to recognize and deal realistically with problems such as these has caused justified criticism against the Bureau, such as the NRDC suit. There are specific geographic areas within the fragile desert environment that do not lend themselves to grazing by domestic livestock on a continuous basis if they are to survive and provide needed components for the ecological balance. Riparian vegetation, meadowed areas, and reservoirs fall within this category. Adequate protection and enhancement of these critical components of the desert must be an integral part of decisions that guide future management needs of the national resource lands.

E. Scattered Patterns of AMPs

Review of the majority of AMPs in the office and on-the-ground indicates only those receiving cooperation of the operator were developed or implemented. The most difficult ones or those having the most conflicts failed to be addressed or considered for development. Therefore, this type of AMP development has caused a wide scattering of livestock management plans within the Districts, causing hardships on the area personnel in providing adequate supervision, and creates problems in attempting to correct the more critical issues of livestock grazing. The scattered pattern of AMPs creates major problems for wildlife habitat management.

F. Personnel Tenure and Experience

In the Districts visited the tenure and experience of area personnel averaged approximately two years. This creates a very unstable and untenable situation. It is felt that proper resource management of all resources cannot be adequately addressed or recognized within this short period of time.

G. Allotment Allocation

Many allotments as established now create problems when total resource management is attempted. Allotment boundary lines often cut across critical wildlife habitat and often are too small to devise any grazing system. The wide variations in vegetative types, lack of consideration for other resource values when the allotments were established, coupled with limited funding make it impossible to establish any intensive management of livestock and not be harmful to other resources.

H. Funding Imbalance

Historically, funding of resource activities has caused some activities to dominate others. A good example is where watershed and range improvement funds are allocated to implement AMPs. Within the AMP area if there are wildlife or recreation values which need protection or improvements, then those activities are requested to finance that aspect even though they are not creating the problem. A specific example of this type of imbalance can be found in the Elko District Comb Springs AMP. A crested wheatgrass seeding will be placed around some low production springs where livestock grazing will have adverse impacts on the springs. Sage grouse, antelope, and non-game habitats exist within the area of the seedings. The springs supply critical habitat requirements for this wildlife. The seedings and fences for implementation of the AMP will be funded by the (1220) range and (8100) range improvement activity, but the protection of the springs has been determined to be a 1285 or wildlife activity responsibility. Wildlife does not have project money available to provide the needed fencing for these critical springs. The fact that wildlife does not have the project funds available has not altered the AMP being implemented, as scheduled, even though there is a very good possibility the springs will be adversely affected.

Within the Ely District for the FY 75 program there were no funds requested for wildlife projects. Although there were some

$91,000 requested for projects in the range program and $65,000 requested for the watershed program. Listed projects for the above two programs were fences; cattleguards; pipelines; chainings, and seedings. All of these projects were requested for the purpose of livestock management. Within the Winnemucca District there was a total of $3,499 requested for maintenance of wildlife funded projects, tree planting, Leonard Lake development, and one fence on the north fork of the Little Humbolt; again the range program project request amounted to $73,500 and the watershed program request was $107,006. All of the projects for both the range and watershed programs were for the purpose of increasing livestock usability of vegetative resources. Listed projects for these two programs were pipelines; fences; cattleguards; water barring; spring development, and charcos. It is apparent that imbalanced funding requests of $336,506 being spent in the two districts toward livestock oriented projects and only $3,499 for wildlife projects will cause continued adverse impacts on wildlife and wildlife habitat. The majority of these projects were approved by the Nevada State Director. These projects for range and watershed are not funded at a level to include protection of streambank vegetation, reservoir bank cover, or meadow restorations through fencing. Seedings for livestock production are normally monocultures of crested wheatgrass and do not include browse and forb species necessary for good

wildlife habitat diversity. This example of imbalanced funding between activities causes many problems and conflicts between wildlife and livestock grazing.

I. Field Personnel Attitudes

(Covered throughout Wildlife Section.)

V. EFFECTS OF THE LIVESTOCK GRAZING PROGRAM ON WATERSHED IN NEVADA

I. Adjudication Problems

A. Suspended Nonuse

At the present time the 426,530 suspended nonuse AUMs carried within the State (see Illustration 1) are not affecting the watershed program. However, were this use reactivated (based only on availability of feed), the watershed aspect of much of the rangelands would be affected. As long as this use, plus the 658,938 licensed nonuse AUMs is carried on the books, there remains a possibility of a 58 percent increase in demand for the land.

B. Wild Horse and Burro Use

Wild horse and burro use within some Districts is adding to the problem of carrying capacity demand of many areas. From the statistics furnished us, only one District has reserved forage for these animals. This use may easily account for the regular licensed nonuse in at least some areas; however, the threat of activating regular nonuse is a real possibility.

C. Temporary Non-renewable Licenses

The issuance of temporary non-renewable licenses must be looked at very closely. If insufficient litter remains for soil surface protection after the additional use, the watershed aspect of the rangeland would be adversely affected by an increase in overland flow, sediment production, and the lowering of soil fertility and infiltration rates.

D. Wildlife Use (N.A.)

E. Dominant Objective of Class I Restoration

Most AMPs reviewed seem to have as one of their objectives the restoration of use to original Class I qualifications. This in itself does not affect the watershed resource providing sufficient litter remains after the grazing period is over. However, most AMPs reviewed seem to contradict this, stemming from a philosophy from some unknown source, as evidenced from the following quotes from some of the AMPs.

1. Pasture closing dates -- "Livestock can remain in open pastures after seedripe date as long as there is feed left."
2. "These pastures will be utilized to the fullest extent possible. The limiting factor will be the condition of the livestock as determined by the range user."
3. "Under this plan, grazing use during treatment A & B (three treatment plan) should be as heavy as possible."
4. "Under this plan, grazing during treatment A, B, D and E (five treatment plan) should be as heavy as possible."

As a result of this philosophy little, if any, litter is left for soil protection and enrichment. In all Districts visited we were assured that this philosophy was not in the new AMPs. Three newly written plans reviewed did not contain these kinds of statements.

Illustration 1 indicates that the Ely District has no acres classed as unusable by livestock. Yet, within one AMP 62,958 acres are shown as unusable by livestock (1967 range survey). This compares to only 6,667 areas classified as unusable by livestock as shown on a

1961 range survey for the same area. This is a step in the right direction but leads one to wonder if areas such as closed pinon-juniper stands should not be classified as unsuitable for livestock grazing since many of these areas have virtually no grass understory remaining.

F. Class of livestock and season of use (N.A.)

G. Range Survey (N.A.)

II. Custodial Management Areas (Non AMP Areas)

A. Uncontrolled, Unregulated, or Unplanned Use

The uncontrolled or unregulated use of rangelands results in animals remaining in certain areas until the scarcity of food forces them to move. This results in severely overused areas adjacent to waterings, etc., while other portions of the area may receive little use. As a result, these historic use areas (around permanent waters such as streambanks, reservoirs and springs) are in a critical to severe erosion classification while steeper slopes are classified as slight to moderate (Paradise URA, Rock Creek AMP). This often results in the removal of riparian vegetation and other streambank cover. When high water comes banks cave in, resulting in a high suspended-sediment load and water quality degradation.

Within these areas, livestock are not rotated, resulting in the same spots being abused each grazing season. As can be seen on Illustration 3 the predicated erosion classification (FOSSF) generally shifts from less stable classed acres to more acres within the severe class. Illustration 4 shows this shift in a different manner and

indicates we will lose 926,419 equivalent stable acres if there is no change in management while we would gain 932,602 eauivalent stable acres over a 15 year period if a positive management change were initiated. This is based on a 19,713,479 acre sample of updated Phase I, WC&D rating system within Nevada.

There appears to be a case in point in the Duckwater area. Data furnished indicates a carrying capacity of 33,652 AUMs within the allotment, yet only 15,695 AUMs were licensed in 1972. This is less than half of the capacity shown by the range survey. At the same time the only cattle observed in the area were immediately north of the reservation in an area which has virtually nothing but halogeton growing on badly abused flats. Even though only 50 percent use is being made it is in the area which is in the most critical watershed state.

B. Conversion of Class of Livestock and/or Season of Use

The conversion of class of livestock and/or season of use has had some adverse impacts on the watershed protection qualities of some areas. Areas, which were winter sheep use areas that depended on snow for moisture, have been changed to cattle use areas with the addition of permanent water facilities. Sheep use of vegetation resulted in the majority of grazing pressure being placed on shrubs while cow use results in the majority of the grazing pressure being put on grass plants. With the addition of permanent waters the grazing period in many cases has been extended. Although the grazing

period may look the same on paper, animals had to leave the area when there was no snow, now they can remain until the grazing season is over.

> "In general for these units, use is made until late spring, which is detrimental to good plant growth and range readiness. This is often the result of the private lands of the operator being unable to take the livestock when it should be removed from the Federal range." (Cherry Creek URA)

> "Both Steptoe and Newark units border the forest with coordination of moving directly from BLM into the forest. This will often cause the operator to stay on BLM lands as long as possible and cause overuse in the spring."

C. Lack of Management Following Improvements

Within Nevada there have been many acres of rangeland converted to crested wheatgrass seedings. Districts visited have made an effort to initiate at least a grazing treatment based on plant requirements within a majority of these seedings. However, many of them are on a voluntary basis for opening dates only and do not have definite numbers of animal set (Wilson Creek URA).

> "These seedings were originally established to provide spring and fall use for livestock as they travelled back and forth between the mountains and dry lake valley. However, over the years the use on these seedings has changed to where they are now used from 5/1 through 10/31 each year." (Wilson Creek URA)

Within the majority of the used crested wheatgrass fields there is little or no litter remaining at the end of the fall grazing season. This results in very little soil protection for spring snow melt periods as well as other problems such as grass tetany.

> "In certain years grass tetany is a problem when cattle are first put into crested wheatgrass seedings. Experience has shown that losses can be greatly reduced if some dry grass is left standing for spring when cattle come into the green seedings." (Wilson Creek URA)

Watershed protection is derived from two major sources, that of plant density and that of plant litter, while soil fertility stems from decadent plants materials. Within many of the seedings visited the plant density is good, sometimes better than ungrazed seedings, but virtually no litter is left within the grazed fields. This results in only cover and soil enhancement in one of three years within a three pasture system.

The Copper Flats Seedings can best serve to illustrate the point made previously. Seeding was completed in 1952 and increased production from 70 to 260 AUMs. By 1962 sagebrush invasion was so bad that the area had to be retreated with 2,4-D. In 1971 2,000 additional acres were chained and 2,700 acres were plowed which resulted in 866 added AUMs from the plowing and 1,191 AUMs from the chaining.

With additional grazing pressure on grass plants a reinvasion of brush species is bound to happen without proper management or grazing based on plant phenology.

D. Supplemental Feeding in Lieu of Removal of Grazing

Within one AMP reviewed in the office the following statement is made regarding the creosote type.

> "Although this vegetative type consists mostly of unpalatable species, desert cattle use the area in emergency conditions. At such times supplemental feeding must accompany this use, which is primarily in the winter."

Most creosote areas viewed on the ground have an excellent "erosion pavement" ground cover which, when uninterrupted, provides excellent soil protection from overland flow resulting in very little sediment production. The swale bottoms have a fairly good grass cover which

provides the majority of the grazing capacity within these types. Supplemental feeding to force cattle to consume this vegetation may not be bad in winter and if enough regrowth occurs the following spring to regain the watershed protection necessary for the drainage bottoms; however, a problem can easily arise if insufficient ground protection is present during an overland flow event. Soils within these bottoms are easily eroded without sufficient protection from vegetation and litter because the erosion pavement is missing in the bottoms. The full impact of this use cannot be ascertained until the amount of wind erosion during the spring windy season is evaluated. It may be that the impact of bare ground in the spring windy season is greater than the impact of overland flow.

III. AMPs

A. Inadequate Multiple-Use Data to Develop AMPs

The present activity planning system of the Bureau if based mostly on the needs of a single activity. This results in the objectives being oriented toward that activity's goals and in many instances leads to conflicting objectives. This in all likelihood results from inadequate data and understanding of the needs of other resources within the area. In some of the latest AMPs reviewed, watershed data has been used to establish the present situation and solid objectives.

B. Establishment of Objectives

Following are examples considered to be conflicting objectives within AMPs reviewed.

Geyser Ranch:

> Obj. 1: Increase usable cattle and wildlife forage production to the maximum through livestock manipulation and management.
>
> Obj. 2: Reduce erosion and increase wildlife and livestock production by converting unproductive sites to a desirable mixture of grasses, shrubs, forbs and browse.
>
> Obj. 3: Develop a grazing system that will allow the rancher to adjust livestock on the allotment according to weather, forage and water conditions.
>
> Obj. 4: Minimize livestock movement.
>
> Obj. 5: Increase soil stability by increasing vegetative cover and litter from 11.5 percent to 25 percent

These may well be legitimate objectives to have within an AMP; however, a little later in the AMP is the following:

> Pastures closing dates: "Livestock can remain in open pastures after the seedripe date as long as there is feed left."

It is impossible to see how the increased litter objective can be reached if the total responsibility of when to move the cattle remain with the permittee.

Sand Springs AMP:

> "These pastures will be utilized to the fullest extent possible. The limiting factor will be the condition of the livestock as determined by the range user."
>
> "Under this plan grazing use during treatment A & B (3 treatment plan) should be as heavy as possible."

Mustang AMP:

> Objective: "Improvement of the water and vegetative resource through improved plant composition density and vigor, increased soil fertility and minimize erosion."

Following the description of the grazing schedule is this statement which is incompatible with the above objective.

> "Under this plan, grazing during treatment ABDE (5 treatment total) should be as heavy as possible."

C. Design of Grazing Plan and Choise of Key Species

Management methods listed in III B do not provide for adequate soil protection. Heavy use, or full use treatment, is necessary to change the vegetative composition. However, the three treatment system based on (A) turn in a greenup of key species; (b) graze after seedripe of key species; and (C) full year rest, will result in very little damage to unpalatable plants such as sagebrush, pinon or juniper, greasewood, etc. Therefore, these plants will be in the community indefinately. No purpose is served by the full use treatment of these types. To provide adequate watershed protection the amount of litter remaining should be approximated by zero percent treatment A, 30-40 percent remaining after treatment B and 90+ percent remaining following treatment C.

The design of the grazing system and carrying capacity of the range should be such that during average and above average years of vegetative growth a sufficient amount of litter is left for soil protection and enhancement. This insures maximum microbial activity within the soils and helps minimize soil compaction resulting from grazing animals.

D. Flexibility Allowed

The amount of flexibility allowed within the AMPs results in uncertain if not inadequate watershed protection within some of the

AMPs. Following are some examples of flexibility allowed which appear to have adverse effects on the amount of litter left on the land.

Murray Creek Allotment:

> "Flexibility will be allowed the operator in the White Cloud Wash Area, to move his livestock between pastures when weather conditions make holding livestock impractical. This flexibility will be at the discretion of the operator and he will determine when weather conditions warrant livestock movement."

This gives the operator total authority to do as he pleases, based on livestock needs, not plant or rangeland needs.

Within a grazing plan for a group of seedings in one District the following portion of a letter sent out to the seven operators involved states:

> "Because of the extremely good forage conditions that we have this year, I have decided to let you put additional cattle in the White Rock and Meadow Valley Wash seedings. Effective August 1 you may put the following numbers of cattle in these two seedings until October." (Total of 485 cattle where the normal for the seven operators is 219 cattle.)

If these cattle were taken from areas of critical watershed conditions to allow for protective covering to occur there, additional usage may be justified. However, if these were additional animals coming from some other source, the extra litter would be better utilized by the soil.

E. Inadequate Data for Proper Evaluation

In viewing the trend studies there was no way to adequately determine what was happening to the watershed conditions within the entire allotment. It appeared there were insufficient studies to quantify

the changes within the AMP. Each vegetative subtype was not represented by the study sites shown and in many cases there were incomplete sets of photos. In some areas there were no pregrazing system photos to use as a base to measure changes.

Although this report deals primarily with adverse grazing impacts on watershed protection quality of an area, it is to emphasize that planned sequential grazing systems are the first prerequisite to watershed management of the Bureau's semi-arid type ranges. Illustrations 4 and 7 indicate that the individuals who did the soil erosion condition predictions are in full agreement with this statement. Illustration 4 indicates a highly significant shift in erosion condition class acreage into the stable, slight and moderate classes from the severe and critical classes with proper grazing management. Illustration 7 indicates that grazing management would prevent the loss of 925,419 stable acres as well as gaining 932,602 additional stable acres over the present acreage. This is based on only a 41 percent sample of the BLM lands.

F. Proper Supervision

The figures found in Illustration 7 are based on AMPs receiving sufficient supervision to insure the workability of the system and meeting good solid objectives for watershed protection as well as range objectives.

G. Construction of Improvement to Meet Objective (N.A.)

Analysis of Illustrations 4 and 7 indicate that on many areas, grazing management alone is going to take more than 15 years to meet

watershed needs, or that additional treatments will be needed to provide adequate watershed protection. Illustration 4 shows this by the predicted erosion condition class acreage listed as FPSSF. Illustration 7 indicates that for the 41 percent sample, 1,626,229 stable acres would result with proper management and treatments.

IV. Miscellaneous

Illustration 3 indicates the acreage within each vegetative subtype as of August 1973. The majority of critical and severe acreages occur within those types where brush encroachment is present e.g., sagebrush types (04-), pinon-juniper types (091), creosote (111), saltbrush type (131) and greasewood type (141).

A. Invading Species

Within the Ely Springs Allotment, comparing 1954 AMS aerial photos with recent photos indicates the pinon-juniper type has moved three miles in the 20-year time frame (Caliente URA). With this rate of spread, at least in the more susceptible areas, we will be hardpressed to keep from losing additional watershed protective cover, forage for wild and domestic animals.

The successional changes which occur are as follows:

> "Grass cover is weakened through some cause, natural or man-made, and sagebrush invades into the former grassland as a frontal or spot invasion. The sagebrush then adds more competition to the already weakened grasslands resulting in additional losses of grass density. As sagebrush becomes dominant barren niches are left within the stand, juniper takes advantage of these and becomes established. As the juniper enlarges, it overtops and shades out sagebrush growing in close proximity and pinon pine becomes established here. The final step is for the pinon to crowd out through moisture competition, and other factors, and becomes a closed canopy of pinon with very little ground cover understory remaining and only an occasional juniper. (Caliente URA)

The successional vegetative changes which occur indicate the weakest link in the succession is the first frontal invasion of juniper.

This process is going on today particularly where the pinon-juniper has become a closed canopy on the shallow ridge tops and sagebrush occupies the swales between the pinon-juniper stands. If the swales were treated today to restore a good competitive grassland the change of the area to closed pinon stands may not occur.

B. Construction of Improvements

Almost all fence observed on our entire trip are typical "type D" fence, four strand barbed wire with post spacings of 16.5 feet. One district stated they had used suspension fences around their crested wheatgrass seedings but they didn't work. It appears that interior pasture fences on many cattle ranges could be constructed as "type B, special fences" and do an adequate job required for grazing management. The "type B, special fence" is a three strand barbed wire with a post spacing of 22 feet. Further study by a more qualified engineer should be done on this item. Estimating a 10 percent saving in labor for construction, four spools of wire and 80 steel posts per mile, the savings would amount to $207 per mile based on October 1973 GSA prices.

C. District and Area Staffing

Districts visited are grossly understaffed to do an adequate planning job by today's standards and requirements. They are for the most part lacking in qualified personnel to interpret soil data, if it were available, and in several instances lack hydrologic studies before a plan is put into action.

D. Areas of Livestock Removal

There are areas where public opinion may demand the removal of livestock grazing. One such area is the Murray Canyon watershed project. At the present time the only operator does not utilize the area and hasn't for several years. From talking to District personnel it appears the area could be closed to grazing except to accomplish a certain treatment, such as restoring vigor. However, what would happen if the present operator sold that grazing right or died today?

Another such area is the badly abused flat in the Duckwater area. Even if an AMP were started the halogeton flat would be extremely slow in responding. The area could be fenced to exclude livestock use until something in the way of perennial vegetation becomes started, then that pasture could be added into the grazing system.

Streambanks which are capable of supporting willows, etc., are another example. At the present time the temperature of those streams is higher than if they were shaded, therefore thermal pollution is occurring. It is questionable if riparian vegetation such as willows etc. could be started and survive along many of the streams unless livestock are fenced away from the shaded areas. This would in all likelihood be less than a 200 foot wide area and would require some watering facilities or openings left across the stream for access. The Crowley Creek Allotment is good evidence that we can get steam-bank protection from grazing systems in the form of perennial grasses and sedges. However, there are no shaded areas to draw livestock onto the streambank.

E. Scatter Patterns of AMPs (N.A.)

F. Personnel Tenure and Experience (N.A.)

G. Allotment Allocation (N.A.)

H. Funding Imbalance (N.A.)

I. Field Personnel Attitude (N.A.)

VI. EFFECTS OF THE LIVESTOCK GRAZING PROGRAM ON RECREATION RESOURCES IN NEVADA

I. Adjudication Problems

A. Suspended Nonuse (N.A.)

B. Wild Horse and Burro Use

The Wild and Free-Roaming Horse and Burro Act gave legal status to wild and free-roaming horses and burros on national resource lands. Through this legislation the Bureau was given the mandate to preserve and manage these animals for public interest values. It is a function of the recreation program to preserve and protect public interest values. In this sense, any action which has an impact on the preservation and protection of wild horses has an impact on the recreation program.

In most areas where there are substantial concentrations of wild horses there are poor and declining range conditions resulting from the severe competition between cattle, sheep, other wildlife, etc... Poor range condition contributes to poor physical condition of animals which often results in loss of life due to disease, adverse climatic conditions, etc., and a poor colt crop.

C. Temporary Non-renewable Licenses (N.A.)

D. Wildlife Use (N.A.)

E. Dominant Objective of Class I Restoration (N.A.)

F. Class of Livestock and Season of Use (N.A.)

G. Range Survey (N.A.)

II. Custodial Management Areas

A. Uncontrolled, Unregulated, or Unplanned Use

Overgrazing and uncontrolled use has impacted the recreation program as follows:

1. Scenic Values. Overgrazing around water sources, along valley or stream corridors has seriously denuded the vegetation creating ugly erosion scars, exposing the bare soil and destroying the riparian vegetation which gives color, contrast, texture, and vertical dimension to the landscape. This is a universal problem observed in every area visited by the team. The seriousness is compounded by the fact that water is the single greatest magnet for attracting recreationists. Therefore, visual pollution tends to occur where the greatest visitor-use potential exists.

2. Cultural Resources. Prehistoric and historic people who occupied the desert areas of Nevada tended to settle around or near water sources. The heavy trampling and accelerated erosion associated with uncontrolled livestock use around these water sources is unquestionably having a serious impact on the cultural resource values, particularly archeological values. The extent of this damage is difficult to measure since probably less than 1% of the State has been intensively inventoried for archeological values.

Head cutting and deep gully erosion resulting from overgrazed watersheds has likewise had a substantial destructive effect on streamside archeological sites.

3. Primitive and Natural Area Values. Change of plant composition, denuding of vegetation, destruction of meadowland, and accelerated erosion has had a substantial effect on natural and primitive area values throughout the State (see section IV.B.1, for additional details).

B. Conversion of Class of Livestock and/or Season of Use (N.A.)

C. Lack of Management Following Improvements (N.A.)

D. Supplemental Feeding in Lieu of Removal of Grazing (N.A.)

III. AMPs (N.A.)

IV. Miscellaneous

A. Invading Species

The change in plant composition (attributed to overgrazing of desirable grass species) from a variety of species to monocultures of sagebrush or pinon-juniper creates vast expanses of monotony where there is little variety in color, texture, form, etc., which are the important ingredients of a visually pleasing landscape.

B. Construction of Improvements

The construction of range and associated improvements has resulted in the following impacts on the recreation resources:

1. Cultural Values. Probably the most severe impact to the recreation program has been the destruction of archeological and historical values resulting from range improvement work. The exact magnitude of the impact is difficult to assess but there are indicators which would lead one to believe that the impacts may have been substantial. Some of the indicators of impacts are as follows:

a. The JDR reports 1,236 spring developments. Prior to 1970 little or no effort was made to survey spring sites for archeological values before development. It is the general concensus among archeologists that there are archeological values at all spring locations. The magnitude of the damage incurred at each site will vary with the amount of excavation completed during development. Where collector systems were installed the damage is likely great.

b. Re-vegetation projects tend to occur in areas where there are favorable climatic and soil conditions. Historically these have been productive areas for herbs, edible plants, nuts, game animals, etc. Therefore there is a high probability of prehistoric habitation. The Bureau has plowed or chained 3,975,850 acres of such land in Nevada. These practices are most destructive to archeological or historical values sine the plowing, uprooting of trees, and the furrowing effect of the "Ely Chain" substantially alters the stratigraphy of the land which in turn destroys the evidence needed by archeologists to extract scientific data from a site.

c. There are hundreds of internal basins in Nevada which prehistorically were dotted with many lakes. Many of these ancient lakeshores were inhabited by early man. Information about these early inhabitants is extremely limited, therefore any sites associated with them are important. Today these

shorelines are crisscrossed by fences, pipelines, road, etc., that were constructed to control and manage livestock. Again, prior to 1970 little or no effort was put forth to identify archeological values prior to construction.

Historically, the best protection afforded cultural values has been the lack of access. Aerial reconnaissance trips taken in the three Districts revealed a honeycomb of roads, most of which were built by range or mining interests and maintained principally for range access. This has afforded access to vandals, pot robbers, etc., who have desecrated the more obvious historic and archeological sites.

2. Scenic Value. The pinon-juniper chainings have had a catastrophic effect on the surrounding visual environment. These projects probably affect less than two or three percent of the visual environment in the State but unfortunately they occur in some of the more scenic areas. The practice ofleaving the uprooted trees in place and having straight lines or unnatural boundaries creates a visual eyesore which will take decades to restore.

Most of the plowed and reseeded sagebrush areas have enhanced the aesthetic values by providing a harmonious contrast in color and texture. This is not so in seedings which are overgrazed (i.e., when no mature yellow stocks remain). Straight lines along the boundaries of these projects are visually distracting and should not be allowed on future projects.

Other project work such as road, fence, well, pipeline, and spring developments has had a lesser but widespread effect on the visual environment. Especially the long straight lines visible in the landscape created by fences, pipelines, and roads. The practice of "dropping the blade" to clear the route for fences and pipelines has been a major contributor to visual pollution.

3. Natural and Primitive Values. Range improvement work has had a devastating and widespread effect on the natural and primitive area values. Were it not for range improvements and the maintenance of old mining roads, etc., for range program purposes approximately 90 percent of BLM lands in Nevada would probably be in a near natural condition. Illustration 3 shows the impact of the range or range associated improvements within the State. For example, almost 800,000 acres have been re-vegetated (mostly to a monoculture--crested wheatgrass).

4. Access. The development and maintenance of roads and trails for range purposes have provided the means for many thousands of people to use the many resources on the national resource lands for recreational purposes. This is probably one of the major positive impacts that has resulted from the range program. Unlike in many other States, fences, blocked access, etc., does not seem to be a problem in Nevada.

5. Collecting Values. There has been some loss of pine nut collecting opportunities due to pinon-juniper chaining. This loss is fairly insignificant compared to the total available.

There are more than 4.5 million acres (see Illustration 5, item 019) of pinon-juniper in Nevada. Only 47,000[1/] or a little more than one percent has been removed by chaining or other practices.

As far as the team could ascertain the impact of range improvements on rock, mineral, and other collectable species has probably been more beneficial than detrimental.

6. Water for Human Consumption. None of the spring or well developments visited by the team was designed to provide water for human use. The reason given for not doing this was the liability incurred by the government (i.e., if the Bureau provides water for human consumption it has the responsibility to insure that the water quality meets minimum public health standards for such use). The Districts claim they just do not have the man-power available to test the water monthly as required by Instruction Memo 73-454.

The fact remains that many water sources which were once available for human use are no longer readily available, because of the above circumstances.

C. District and Area Staffing

Of the three Districts visited only the Las Vegas District has had a full-time recreation planner for any length of time. Winnemucca District has a new recreation planner who has not been in the District long enough to have any substantial impact of District programs. The lack of recreation expertise shows up vividly in AMP objectives and

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1/ May 16, Special JDR file printout.

design. Little or no consideration is given to such things as preserving and protecting aesthetic, natural, primitive, or cultural values.

Recreation values are not depicted adequately in existing URA's although recent additions show great improvement. Consequently MFP's will not have the quality input from recreation and therefore the constraints generated by the MFP will not be adequate to insure that recreation values will be given proper consideration in AMP's, etc.

At least one competent recreation planner is needed in each District to insure adequate inputs into various management, plans, programs, etc.

D. Areas of Livestock Removal (N.A.)

E. Scattered Pattern of AMP's (N.A.)

F. Personnel Tenure and Experience

It became apparent as the team visited the various Districts that the rapid turnover of personnel at the area level is having a devastating effect on the whole resource management program. The rotation of area managers and area staff personnel is frequently occurring on cycles of one to two years. This means that by the time the personnel are becoming acquainted with their area they are moved.

In spite of what we would like to believe--resource management is still more of an art than a science. There is not now and probably never will be a scientific method developed which tells the manager just how he should handle a particular tract of land. Every area has different --

plant composition and characteristics

climatic conditions

socio-economic conditions

user pressures

problems

It takes time to assimilate this information and plot a course for a resource management program. The availability of reliable URA-MFP data will help but in the past and probably for some time to come the individual who is transferred out of an area takes much more information with him than he leaves behind for the next guy. This is probably one of the major contributors to the disjointed resource management programs occurring at the area level in the Bureau.

G. Allotment Allocations (N.A.)

H. Funding Imbalance (N.A.)

I. Field Personnel Attitudes (N.A.)

A concerted effort was made to measure the attitudes of key District personnel (i.e., District Managers, Area Managers, Resource Chiefs, Operations Chiefs, etc.) toward incorporating recreation considerations into their action programs with particular emphasis on the Range Programs.

There seems to be a comprehensive awareness concerning such items as preservation and protection of aesthetic, natural, primitive, cultural, and other recreational values. Great progress is being made as evidenced by the fact that all three Districts visited are completing an archeological survey at most range improvement sites

prior to development, although the adequacy of these surveys is suspect because they are generally performed by untrained District personnel, and in most instances the individual sponsoring the project is doing the survey which sets up a situation where a strong bias could be introduced. Another encouraging sign is that new contracts include the stipulation which discourages "dropping the blade" when building fence, pipeline projects, etc.

However, there still seems to be a superficial commitment to protection of recreational values when recreation gets in the way of implementing desirable range improvement projects. For example, in one District, only one principal staffman felt it was necessary to have a landscape architect assist in the design of re-vegetation projects. The remainder of the key staff interviewed varied in opinions from "it is desirable" to "they (the landscape architects) are just another obstacle that would hold up the implementation of the project." Protection of archeological values still remains more lip service than real. Evidence of this is substantiated by the fact that the range program is unwilling to budget money specifically to cover survey and protection of cultural values impacted by range improvements.

In summary--awareness has arrived but commitment is lacking.

VII. EFFECTS OF THE LIVESTOCK GRAZING PROGRAM ON RANGE MANAGEMENT IN NEVADA

Introduction

In Nevada, the Bureau of Land Management administers 47,329,363 acres. (See Illustration 1.) Of this amount slightly over 44 million acres have been determined to be usable by livestock and nearly three million acres unusable by livestock. This latter category is comprised mainly of dry lake beds and steep, rocky, and inaccessible areas. Slightly over 97,000 AUMs have been reserved for wildlife, much of which has been designated as unusable by livestock.

I. Adjudication Problems

A. Suspended Nonuse

Carrying capacity as determined by range surveys amounts to 1,836,912 AUMs for cattle and sheep. (See Illustration 1.) Class I livestock grazing privilege qualifications statewide total 2,938,621 AUMs, an amount in excess of the carrying capacity by 1,101,709 AUMs. That is to say, Class I grazing privileges exceed the established carrying capacity of the range by 37.5 percent.

In comparison to surveyed carrying capacity of 1,836,912, licensed active use in 1972 was 1,869,304 AUMs--32,392 AUMs over carrying capacity. Another 6,528 AUMs of forage were permitted under Class II licenses and 77,406 AUMs were permitted under temporary non-renewable licenses. Total use permitted in 1972 was 116,326 AUMs over surveyed carrying capacity.

When adjudication of the range was accomplished and livestock use reductions were made, those AUMs above the surveyed carrying capacity of the range were placed in the category of suspended nonuse. Suspended nonuse AUMs statewide totaled 426,536 AUMs in 1972.

The difference in AUMs between Class I qualified use and suspended nonuse is recognized as licensed active use. At the option of the livestock operator, he may elect to use all, none, or any portion of his licensed active use. The portion not used is carried as licensed nonuse. In 1972, licensed nonuse amounted to 658,938 AUMs or about 26 percent of the licensed active use.

Examination of licensing records reveals there is a consistently abnormal amount of licensed nonuse. This can be interpreted as meaning the recognized licensed active use grazing privileges exceed the carrying capacity of the range--the degree of which may be in the magnitude of the 26 percent as shown by the 1972 records. Licensed nonuse may be activated at any time upon application by the operator. If the premise that failure to make full use of licensed active use qualifications is caused by lack of available forage, activation of nonuse by the operators would cause serious degradation of the existing total range resource. In some cases, licensed nonuse is 3.4 times greater than licensed active use, as in Coal Valley of Pony Springs Resource Area, Ely District, where the licensed active use of 193 AUMs would represent 131 acres of allotment area per AUM used. (See Illustration 2.)

Another example of great disparity occurs in the Delamar grazing unit. The surveyed range carrying capacity is 33,542 AUMs. The Class I qualifications are 54,043 AUMs; licensed active use, 17,731 AUMs; licensed nonuse, 16,903 AUMs; and 13,513 suspended nonuse AUMs. (See Illustration 2.) Activation of the nonuse AUMs would represent nearly a 100 percent increase in present use and the operator has a qualified demand in any increased amount of forage in the recognized grazing privilege demand identified as 13,513 AUMs of suspended nonuse. These problems are further discussed in the section on allotment management plans where restoration of all Class I grazing privileges is nearly always the number one objective of the AMPs.

There are disparities in the figures submitted by the Districts: licensed actual use, 1,869,304 AUMs; plus licensed nonuse, 658,938 AUMs; plus suspended nonuse, 426,536 AUMs; add to 2,954,778 AUMs which is 16,157 AUMs in excess of the total Class I qualifications of 2,938,621 AUMs. The categorized licensed use, and nonuse AUMs exceed the established carrying capacity by 1,117,866 AUMs. In other words, licensed actual use, nonuse, and suspended nonuse exceed established carrying capacity by 60.8 percent.

B. Wild Horse and Burro Use

Up to this time only the Carson City District has recognized the need for allocation of forage necessary to support wild horses and burros. They have allocated 1,819 AUMs--enough to support about 150 horses, yearlong. There has been no reduction in

licensed AUMs of livestock grazing in the three Districts visited though they jointly estimated a total of 7,630 horses, requiring an annual forage requirement of 91,560 AUMs. Equine populations may be increasing at an annual rate of 12 to 30 percent.

C. Temporary Non-Renewable Licenses

In 1972, 77,406 AUMs of livestock grazing were allowed under this category of licensing; another 6,528 AUMs of Class II grazing is issued to cover increased livestock numbers and/or extended season of use in excess of the licensed active use. Much of this use is provided for under "flexibility" in the grazing management plan.

D. Wildlife Use

Allocation of forage for wildlife shows a statewide total of 97,376 AUMs. Location of this forage is not identified within specific areas. It is assumed only big game animals were recognized. Public Land Statistics, 1971, reports 2,200 antelope, 740 bighorn sheep, 109,400 deer and 230 elk utilized Nevada national resource lands. Assuming the possibility of these being yearlong residents of national resource lands, approximately 271,440 AUMs of forage* would be required. Additional critical wildlife habitat requirements such as mating, nesting, birthing, rearing, or escape areas, need for cover, succulent vegetation, wet areas, etc., have not been recognized in allocation of forage or vegetative resources. Increasing

*Converted to cattle AUMs on the basis of five antelope or four bighorn sheep or five deer or two elk consuming forage equal to that of a cow.

numbers of wild horses and burros are adding to the demand on vegetative production.

E. Dominant Objective of Class I Grazing Privileges Restoration

(This is discussed under III B - AMPs, Establishment of Objectives.)

F. Class of Livestock and Season of Use

In Nevada, as in many western states, there has been a continuing trend to convert class of livestock from sheep to cattle. In doing so in Nevada, the season of use also has been changed in most cases. Areas formerly utilized as winter sheep areas are now predominantly spring, summer, and fall and sometimes winter, cattle ranges.

Vegetatively, many of the ranges are more suitable for sheep than cattle grazing. Initial reaction is that conversion from sheep to cattle is beneficial to browsing big game animals since the change removes a competing browser from the range. We did not find this true; actually the total utilization of all vegetative species, and particularly with continual year after year grazing during the vegetative growing season, has had severe adverse effects on the rangelands. Many of the class of livestock conversions were made at an arbitrary 5:1 ratio without regard for vegetative types.

G. Range Surveys

Based on the prevalence and magnitude of licensed nonuse and based on our observations of range conditions, the range surveys that have been made are grossly non-applicable to present range conditions.

Range surveys completed to establish Class I actual use, show great disparity between Class I demand and surveyed carrying capacity. Presently there is a great disparity between surveyed carrying capacity and actual use. It is believed there is also a great disparity between the former carrying capacity and present carrying capacity on the majority of national resource lands visited. Some of this has been because of invasion by pinon-juniper and brush types, but other vegetative types in many places have also deteriorated drastically.

II. Custodial Management Areas

A. Uncontrolled, Unregulated or Unplanned Livestock Use

The term "custodial management area" has been used to identify those allotments where neither a grazing management plan nor an allotment management plan has been initiated. In this situation, grazing licenses are issued with specification of number of animals and length of grazing season. The allotment is used as one pasture on a continuous year after year basis with no planned consideration for the physiological requirements of vegetation.

Under such use, due to varying palatability of the plants, selective grazing by livestock, location of water, variation in terrain and accessibility, and poor distribution of livestock, plant cover is thinned, undesirable vegetation increases and soil erosion occurs. This phenomena is widespread in the Districts visited in Nevada; many areas have suffered drastically and abuse is continuing.

We did not identify the acreage of national resource lands on which custodial grazing management is occurring. However, it is in the majority. There are 871 livestock grazing allotments on Nevada national resource lands. Only 76 allotments have had allotment management plans initiated on them. Some of these AMPs are not fully implemented for lack of fencing and/or needed water development.

B. Conversion of Class of Livestock and/or Season of Use

In custodial management areas, there has been a more obvious demise of grass and forb species and a greater increase in shrub species than in areas being administered under a grazing management plan. In many of the areas herbaceous understory is nearly non-existent.

C. Lack of Management Following Improvements

Improvements in the form of chemical treatment of shrubs, chaining, and plowing and seeding accomplished under regular programming have been used as a substitute for proper range management. Following treatment, management has not been applied, and anticipated goals have not been achieved. Seedings have not had a chance to become established, or if established, have not had the management necessary to maintain them. Brush is invading or has already become dominant in many crested

wheatgrass seedings. In some areas, chemical treatment of sagebrush has resulted in rabbit brush becoming the dominant vegetative species at the expense of a remnant herbaceous understory.

D. Supplemental Feeding

Supplemental feeding to provide minerals, vitamins, or even proteins that are deficient in range forage is compatible with sound range and animal husbandry practices. However, supplemental feeding to provide sufficient energy to keep livestock alive causes degradation of vegetative and other range resource values. We observed areas where hay has been fed to animals on the national resource lands and many areas where protein supplement is provided regularly. The value of shrubs such as cliff rose, bitterbrush, winterfat and four-wing saltbush, all palatable high protein plants common in Nevada, has not been given recognition in the management of rangelands. These plants, if management recognized their physiological requirements, could provide much of the nutritional requirements of livestock and add immeasurably to big game habitat values.

III. Allotment Management Plans

A. Inadequate Multiple-Use Data to Develop AMPs

Bureau Manual 4112.15B3, Correlation states: "although the AMP is basically a grazing management plan, the livestock use

made of an area is influenced by the use and development of other resources. Needs of watersheds, wildlife habitat, frail lands, recreation and forested areas will be considered on the basis of existing information. The needs of other resource uses may impose constraints upon livestock use and influence the grazing system developed. Grazing use may be modified as additional data on resources becomes available. (Refer to 1608)." Interpreted, this means: 'If other resource information is available, include it in the AMP; if not available, go ahead with the AMP and we will modify it as information needed for proper management of other resource values become available.'

Under present Bureau operating conditions where land, energy and separate resource activity planning are dominating personnel workload activities, the allotment management plan is about the only instrument guiding the management of national resource lands. Under the guidelines provided by the above Manual section, the majority of AMPs have been formulated without input concerning other resource values on the allotment. This is particularly true for those AMPs developed prior to about 1970. Those AMPs developed in 1970 and subsequent to 1970 generally are more multiple-use oriented and are more likely to enhance and maintain the public values expected of management of the national resource lands.

B. Establishment of Objectives

The majority of AMPs reviewed in Nevada had as the number one objective, restoration of all Class I grazing privileges. Usually rather specific objectives relating to increased livestock forage production are stated, such as: "Provide additional 5,718 AUMs by intensive management and completing 55,000 acres of revegetation" (Emery Conaway Ranch, Caliente whose recognized demand is 19,323 AUMs, present licensed use and nonuse is 9,342 AUMs).

In this same allotment write-up, it is stated:

> "The Conaway Allotment is a critical yearlong deer range that provides hunting to southern Nevadans as well as local Lincoln County people.
>
> Deer numbers are down at present, but some consideration should be given to providing additional forage. During the adjudication process sufficient forage for existing numbers of deer was provided for."

Indian rice grass with seedripe date of July 15 was selected as the key species. Cliffrose, the critical browse species for the deer was not considered as a key species. Seedripe times of four-wing saltbush, black sage, winterfat and ephedra, important big game browse species, likewise were not considered. Need for management to correct existing watershed problems was mentioned, but no specific provisions were made for solving the problem.

Overall, objectives of the AMPs reviewed were poorly attuned to present-day Bureau objectives of multiple-use resource management and the public's expected output of sustained high level yields of varied resource values.

Generally, the objectives were dominated by, and oriented toward, satisfying the wishes, even dreams, of the livestock operators.

C. Design of Grazing Plan and Choice of Key Species

In numerous instances designed grazing plans reveal a lack of full knowledge of the principles of rest-rotation grazing management, or lack of ability to interpret and/or apply the principles, or a lack of faith in achieving objectives by the total application of the principles of rest-rotation grazing management.

The following errors were noted in the design of grazing management plans.

1. Failure to provide a sufficient number of treatments to meet the physiological requirement of mixed vegetative species. With seedripe of desired vegetative species varying from May 15 to October 15 and the key species, Indian rice grass with seedripe time of September 1, only one seed trampling time was designed into the plan. Where there is wide disparity in seed ripening time of desirable vegetative species, two seed trampling treatments must be designed into the plans; in one year at an early date and in the succeeding year the seed trampling treatment can be established to accommodate the later maturing species.

2. Greater attention needs to be directed toward selection of key species. Many of the range areas examined are also

used during the fall, winter, and early spring months when the plants are dormant. Nutritional values of grasses are inadequate to sustain animals during these periods of dormancy and forbs are almost non-existent. During these periods, the nutritional requirements of animals, both wild and domestic, are sustained by shrubs, whose protein levels are three to four times greater than the dry grasses that may be available.

Shrubs such as four-wing saltbush, bitterbrush, cliffrose, black sage, winter fat, and ephedra are some of the common shrubs in Nevada and their growth and reproductive requirements must be recognized in the design of a grazing plan. Because their food reserves are stored primarily in the twigs and stems, they require a full year of rest periodically.

For the important role that shrubs perform in sustaining livestock grazing in Nevada, they are not receiving the consideration they merit. In addition, the well-being of big game population is almost totally dependent on an abundance of palatable, nutritious, and vigorous shrub species.

In the Ely Springs Allotment, on the actual use records submitted by the rancher, he wrote that he had fed 34,000 pounds of supplement blocks from January 1 to February 28, 1973. Much of this protein could be provided by management which provides for the needs of shrub species.

3. Plant phenological data is frequently missing or quite incomplete in the AMPs. In such cases, it is impossible to design the proper grazing management plan for the area of land involved.

4. In the formulation of the grazing plans the sequential arrangements of various treatments are often wrong. This will prevent success in achieving the objectives established for vegetation. For clarity in discussion, a poorly designed grazing plan is presented below:

Barclay Unit
Summer Use Area
(June 16-Sept. 30)

Treatment	6/16	7/15	9/30	
A	GRAZE			Graze for livestock production
B	REST			Rest to restore plant vigor
C	TRAMPLE			Rest until seedripe time, then graze

Key Species: Orhy & Ager
seedripe time: July 15

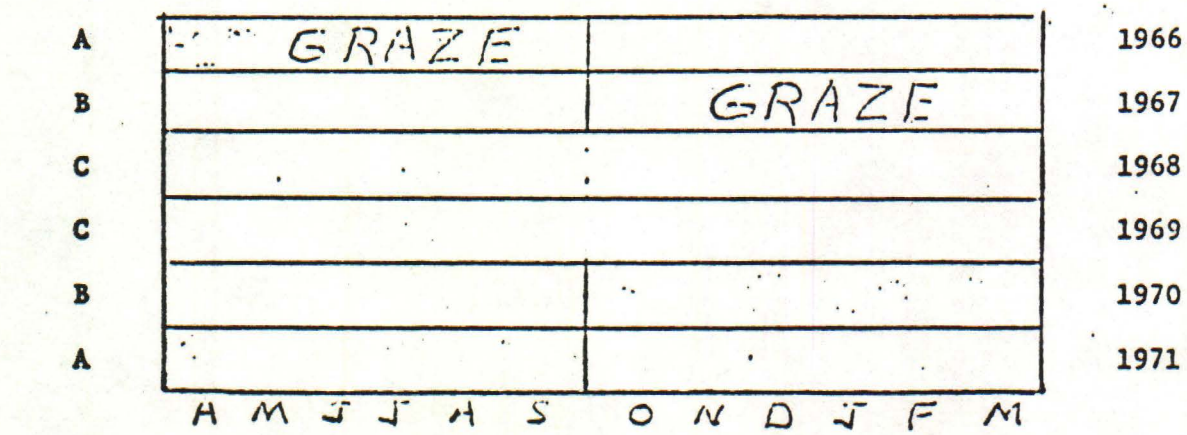
In the above grazing plan Treatments B and C should be reversed. Two undesirable aspects will result from the formula as written:

(1) no seedlings will become established following Treatment C because the seedlings will not be established firmly enough to withstand the grazing that will occur the following year when Treatment A is called for. (2) Treatment A calls for grazing during the vegetative growing period. Treatment C, occurring during the previous year, will have removed the previous year's growth. Previous year's growth is desirable to have in spring grazing periods as it protects the new growth and is particularly desirable for protection of new seedlings.

Also where crested wheatgrass is involved, as it is in this grazing unit, the presence of previous year's growth is helpful in reducing the incidence of grass tetany. Tetany is frequently a problem in crested wheatgrass seedings.

In the Sand Springs Allotment an illogical grazing plan has been formulated thusly:

Sand Springs Allotment
Season of Use: Yearlong



Key Species: Grass
Seedripe Time: August 1

For unexplained reasons, after one cycle of grazing treatments, the formula is then reversed. Even in the basic formula, seedripe time of the key species is not recognized. Cattle go in for the seed trampling treatment two months after seedripe time. Where the formula is reversed, this would actually result in yearlong grazing in one pasture. For clarity, dates have been placed to the right of the formula; the yearlong grazing would occur with B A treatments in 1970 and 1971. Then in accordance with the plan, the pasture would again be grazed in 1972 during the same growing period as in the previous year.

There are numerous other examples of grazing management plans that do not conform to the principles of rest-rotation grazing management.

The AMP prepared for the Moorman Ranch is so complicated and poorly described no one in the Ely District was able to understand or explain it. The need for revision is recognized.

The AMP for the Heckethorn Allotment is another example of an illogical grazing management plan and no phenological data is presented to support the four treatments that are to be applied to a seven-pasture allotment.

5. Another problem of frequent occurrence is the division of an allotment into pastures of unequal carrying capacity. In rest-rotation grazing the pastures must be of almost equal carrying

D. Flexibility

Many AMPs permit too much flexibility right from the start in regard to amount of livestock use, season of use, and numbers of livestock. The Mustang Allotment was adjudicated to 2,514 AUMs in 1966.

The range survey shows 884 AUMs available. When the AMP was initiated in 1968, the user was permitted to utilize 1,200 AUMs, activating about 320 suspended AUMs to be carried on a temporary non-renewable basis. (These figures do not tally out, but they are what the records show.)

With initiation of an AMP on the Rye Patch Ranch Allotment, the plan proposed to increase cattle numbers from 240 to 300 head. In the Melody Allotment where actual use had been 754 AUMs with 716 AUMs in suspended nonuse, actual use increased to 1170 AUMs in 1971 after initation of the plan in 1970. Additional notes in this file include: "Broke system last of April, 1970, the first year of the plan. Broke system in 1971 by putting cattle into the rest field at turnout time." In a letter to the file on August 11, 1971, the last sentence says, "Revision of this plan is eminent (sic) to free more forage area for spring grazing, a critical time for the Aitken Ranch."

Under the flexibility section of numerous AMPs, the operators are granted great discretion in establishing their own seasons of

capacity or else the grazing plan will either have to be broken or livestock numbers must be reduced to the carrying capacity of the pasture with the lowest carrying capacity.

6. There are examples where in the dividing of an allotment into pastures, altitudinal changes in elevation were not treated correctly. Where significant changes in altitude occur the variations in plant phenology must be accommodated. This is accomplished by dividing the pastures so there is about the same amount of elevational characteristics in each pasture, i.e., some low, medium, and high elevations in each pasture as compared to having all the low area in one pasture, all the medium elevation area in another pasture, and all the high elevation area in another pasture.

7. Production and accumulation of vegetative material as litter is important to soil fertility and is highly important in reducing soil erosion. This factor is seldom mentioned in the AMPs and receives practically no consideration in the design of the grazing formula. Erosion is of serious consequences in all of the Nevada areas visited; improvement and protection of watershed values should be of the highest priority in livestock grazing management.

use and degree of utilization of forage, for example, "Livestock can remain in open pastures after the seedripe time as long as there is feed left." "The pastures will be utilized to the fullest extent possible." "The limiting factor will be the condition of the livestock as determined by the user." "Under this plan grazing use treatments A & B should be as heavy as possible."

BLM Manual 4112.15C3b, Flexibility states: "Do not consider flexibility unless the user has demonstrated that he is a good range manager." Our field observations indicate there is little evidence to support granting of as much flexibility as has been assigned to the livestock operators.

Many base properties are in vegetatively poor condition characterized by dense stands of rabbitbrush, head cuts, and deep gullies. Some operators operate on a water base situation; others on a land base situation. With a two-month base property and a 10-month public land requirement, it appears some of the base properties are in a condition of being incapable of supporting livestock the required period of time.

E. Data for Evaluation of the Grazing Management Plan

Inadequate data is being gathered for proper evaluation of the grazing plan. Studies initiated at inception of the grazing plan are not always being updated in accordance with established schedules. Vegetative types other than grass are not given consideration.

F. Supervision

Supervision of AMPs is significantly inadequate and cooperation on the part of the ranchers is very poor. Some references were made to this in (D) above. Notes in the Ely Springs AMP file state: "(2/29/73) There was continued trespass into all closed fields during the summer and fall months." "(10/25/72) The pasture was to receive complete rest this season. However, cattle have been in continual trespass all season long. Some trespass was due to the fact that the allotment had changed ownership; early spring use was authorized due to inadequate livestock water in Pasture No. 4. Cooperator was putting in a new cement water trough; gates reportedly were repeatedly left open by recreationists travelling through the area, and it appears to me some were intentional; and floods reportedly washed out some of the fences."

In the same folder, the following is written in the actual use record: "This actual record does not show the six or seven head of horses that made use of the hospital pasture and Pasture No. 1 all year. Also, it does not show the use made of calves over six months of age--about 285 for two months."

The following notations were made pertaining to examination of the Mustang Allotment: "On March 9-11, 1971, cattle were in all pastures except the south pasture. Cattle were weak and forage heavily utilized." The writer recommended change in the grazing system and closer supervision.

In the Sand Springs Allotment, information in the file identifies problems of cattle being in the wrong pastures and not being moved in accordance with scheduled moves. A note of April 5, 1972, says "Cattle have not been moved into Pasture No. 1." The user had been advised on February 26 and again on March 17, to move them. In the same allotment a large number of cattle were in the northwest pasture on March 9-11, when they should have been out by February 1, as the pasture was slated for rest that season.

In summary, inadequate supervision of allotments is evident. In approximately 20 allotments viewed on the ground, only one pasture of those scheduled for rest during 1973 had actually been rested.

G. Construction of Improvements to Meet Objectives

Fencing, water development, chaining, herbicide treatment, plowing and seeding are the primary facilities installed or work accomplished in the allotments examined. Little attention or consideration beyond that of facilitating livestock grazing use was observed in association with these activities. All resource values that can be corrected should be compiled and corrective actions taken as funds and manpower permit. Other evaluation team members describe many of the deficiencies in their reports.

IV. Miscellaneous

A. Invading Species

Notable among invading species are sagebrush, rabbitbrush, greasewood, and pinyon-juniper. There are probably only a few areas where management will be successful in converting these vegetative types to productive areas of mixed vegetative species because desirable vegetative species are frequently absent. Better grazing management is needed on most of the areas that have been treated; present management should be designed to give every possible advantage to desirable vegetative species still existing; it should be recognized extentive cultural treatment is going to be needed on some areas.

B. Construction of Improvements - Reservoirs

Only one reservoir was observed which was fenced with livestock water piped to a trough outside of the fenced area. This was the only reservoir having acceptable esthetic, wildlife habitat, water quality, and good public image standards.

C. District and Area Staffing

There are insufficient personnel to administer the resources, particularly the vegetative resources. The present number of people cannot be expected to properly administer areas of the magnitude for which they are now responsible.

D. Areas of Livestock Removal

Two areas were observed where obviously livestock grazing should be terminated — the Murray Canyon Watershed and the Duckwater area. Reasons for such actions are discussed by the

wildlife representative of the study team.

Big game winter ranges are in poor shape. However, rather than fencing them at this time, it is recommended that management in accordance with the physiological needs of vegetation, particularly forbs and shrubs, be initiated.

E. Scattered Pattern of AMPs

Apparently AMPs were designed for and implemented in those areas where a cooperative livestock operator was involved. This has resulted in managed allotments being very scattered and at great distances from other managed allotment. Too much travel and time must be expended to provide efficient and effective supervision.

F. Personnel Tenure and Experience

A significant problem is tenure of personnel, particularly that of experienced and effective area managers. Few remain in one area longer than three years because there is much competition for their talents and the opportunities for advancement elsewhere are numerous. With only a relatively short time in the area, a few of the simple problems are solved, but lack of familiarity and shortness of time prevents solving the complex problems. More incentive is needed to extend tenure of the resource managers; many of the resource areas have sufficient complexities and responsibilities to warrant a grade of GS-12.

G. Allotment Allocations

(No comment because inadequate information available.)

H. Funding Imbalance

Improvement in range management will not occur until funding and manpower allocations are increased instead of decreased as has occurred for the last six to seven years.

I. Field Personnel Attitudes

Behavior of the operators in abiding by the grazing management plan in regard to moving their cattle at the scheduled times, respecting established rest periods, and conforming to numbers prevents satisfactory and successful rest-rotation management. Cooperation by the rancher is highly important to achieving objectives. One wonders if the ranchers have understanding of the whys and wherefores of the operation of rest-rotation grazing management. However, it is believed part of the problem may stem from the flamboyant granting of flexibility. Many of the BLM personnel express in their written and spoken thoughts the great hazard of having any wolf plants on the rangeland, on native ranges as well as on ranges with introduced herbaceous species. Much emphasis is placed on not letting wolf plants take over the range. The attitudes of both Bureau personnel and the rancher must change if grazing management is going to achieve the standards now expected on public lands.

With public attitudes and actions as they are today, it should be noted we are not doing the livestock operator a favor by granting them grazing use privileges which result in adverse impacts to the varied resources of the national resource lands. Some

short-term benefits may be realized by delaying the difficult decisions and actions. However, on a long-term basis livestock grazing on public lands is being jeopardized by the present inadequate management.

It is difficult to identify any one cause of the extensive range problems in Nevada. An obvious contributor to the cursory management is the Bureau manpower and financial resources formerly available for range management being rather drastically reduced during recent years and additional responsibilities having been assigned to those remaining in this aspect of resource management.

ILLUSTRATIONS

Illustration #1

SUMMARY TOTALS NEVADA MULTIPURPOSE TASK FORCE

TO EVALUATE RANGE PROBLEM 1974 (APRIL)

INFORMATION FROM DISTRICT QUESTIONNAIRES BY RESOURCE AREA

DISTRICT			Elko	Winnemucca	Carson City	Ely	Las Vegas	Battle Mtn.	STATE TOTAL
A. RANGE									
A/C	1	Total AC in R.A.	10,849,050	10,149,454	6,694,636	8,415,379	14,516,140	8,561,878	59,186,537
A/C		Total BLM	7,259,781	8,533,308	5,404,169	8,097,744	9,919,202	8,115,159	47,329,363
A/C	2a	Usable by Livestock	7,134,656	6,926,384	4,546,865	8,097,744	9,756,258	7,879,403	44,331,310
A/C	2b	Unusable by Livestock	125,125	1,605,924	857,304	-0-	172,944	235,756	2,998,053
AUM	2c	Reserved for Wild/horses & burros	-0-	-0-	1,819	-0-	-0-	-0-	1,819
AUM	2d	Reserved for W/L or fish	39,799	12,307	15,425	20,543	9,302	-0-	97,375
AUM	2e	Reserved for other	-0-	1,140	2,586	-0-	28,418	-0-	32,141
	4	What is the Survey CC, by stock							
		Cattle & Sheep, Wildlife	328,141	-0-	31,802	233,824	-0-	-0-	593,767
		Sheep	7,780	39,822	79,578	65,048	16,499	59,552	268,379
		Cattle	442,180	302,603	160,702	163,300	97,017	403,156	1,568,958
		Wildlife	39,599	12,307	53,204	50,802	9,302	33,110	198,324
		Wild horses & Burros	-0-	-0-	1,819	-0-	-0-	-0-	1,819
	6	How many allots are:						Total AUM's	2,632,247
		a. Seasonal use	227	58	135	122	84	25	651
		b. Year long use	1	48	18	24	68	50	209
1972	7a	What were total Class I qualifications in R.A.	894,351	521,972	232,342	557,237	182,484	550,235	2,938,621
	7b	What was Lic. Active Use	677,044	304,193	160,830	259,744	117,892	349,601	1,869,304
	7c	What was Lic. Non-use	112,685	76,715	68,286	232,264	33,046	135,942	658,938
	7d	What was suspended Non-use	101,896	92,731	3,303	71,482	59,159	97,970	426,536
	7e	How many Class II AUM's lic.	997	4,299	-0-	-0-	400	832	6,528
	7f	How many Temp. Non-renewable AUM's were lic.	19,746	35,583	2,031	10,236	187	9,623	77,406
	7g	How many AUM's were all. for W/L	39,799	12,307	53,060	50,802	9,032	20,386	185,386
	7h	How many AUM's were allocated for wild horses & burros	-0-	-0-	1,819	-0-	-0-	-0-	1,819
	8a1	Reductions in Class I Qualif.	8,888	5,442	320	12,253	-0-	-0-	26,903
	8b1	Restorations in Class I, Qualif.	1,300	-0-	-0-	8,903	-0-	510	10,713
	8c1	Increases in Class II Lic.	-0-	-0-	556	-0-	-0-	-0-	556
	8d1	Decreases in Class II Lic.	-0-	-0-	-0-	-0-	-0-	-0-	-0-

DISTRICT		Elko	Winnemucca	Carson City	Ely	Las Vegas	Battle Mtn.	STATE TOTAL
B.	ALLOTMENTS & LIVESTOCK GRAZING							
1	Total Allotments	232	106	153	153	152	75	871
2	How many individual allotments	173	64	127	117	98	51	630
3	How many community allotments	57	42	26	29	54	24	232
4	How many AMP's developed	24	44	12	16	7	7	110
	Implemented	21	34	9	7	7	5	76
	Not Implemented	3	10	3	9	0	2	27
5	How many AMP's w/grazing system that require cross fencing and have a live stream in boundary	10	20	4	9	0	6	49
6	How many allotments have adequate fencing or control	175	42	105	56	32	13	423
6a	No. of miles of allot. fence	3,193	958	697	1,003	2,242	1,403	9,496
6b	No. of miles of natural barrier	179	157	246	443	453	102	1,580
7	No. of allot. still needing bndy fences	52	42	49	97	96	62	398
7a	No. of mi. of allot. bndy fence needed	430	800	397	1,598	2,652	1,412	7,289
8	No. of allot. w/adequate cross fencing to operate grazing system	25	46	4	11	5	5	96
9	Miles of fence needed to implement presently planned system	120	526	78	51	106	318	1,199
10	No. of allot. with adequate water for wildlife & livestock	59	26	62	19	5	1	172
11	How many allot. inadequately watered	173	80	91	134	128	74	680
12	Trespass issued for:							
	1972	13	4	0	26	11	1	55
	1971	16	8	3	9	9	2	47
	1970	15	2	1	13	14	3	48
	1969	9	8	2	4	0	3	26
	1968	12	0	0	8	4	3	27
12a	How were the trespasses resolved							
	1. Removal of livestock	65	22	2	37	3	12	141
	2. Issuance of Lease, Lic. & Permit	0	0	4	21	36	0	61
	3. Show cause	0	0	0	1	0	0	1

DISTRICT		Elko	Winnemucca	Carson City	Ely	Las Vegas	Battle Mtn.	STATE TOTAL
13a	AMP's with primary obj. W/L	12	44	0	6	0	0	62
13b	AMP's with other than graz. obj.	24	44	12	15	7	7	109
13c	No. of AMP's containing browse (crucial) where grass is key spcs.	5	19	3	7	1	4	39
14a	AMP's developed prior to MFP	24	38	12	16	7	7	104
14b	AMP's developed after MFP	0	6	0	0	0	0	6
14c	AMP's updated after MFP	0	39	0	0	0	1	40
C.	RECREATION							
1	No. of Form 6230-2 completed	41	9	18	51	122	31	272
D.	WILDLIFE							
1	Total HMP's	5	5	8	6	5	3	32
2	No. of allot. w/crucial W/L areas	158	6	30	59	41	60	354
3	No. of HMP's unimplemented because of lack of livestock control	1	4	5	3	0	1	14
4	No. of crucial areas w/declining habitat	7	2	10	52	0	22	93
5	No. of areas withdrawn or specially designated for wildlife	1	1	1	1	0	3	7
6	No. of HMP's w/livestock objectives							
	a. as initially designed	0	3	7	1	1	1	13
	b. as modified	0	0	0	0	0	0	0
7	Mi. of stream grazed by livestock w/declining Riparian Habitat	460	229	14	53	0	127	883

Illustration #2

Domestic Livestock Carrying Capacity by Allotment (AUM's)

DISTRICT Las Vegas RESOURCE AREA Caliente-Virgin Valley PLANNING UNIT Virgin Valley

Grazing or Adm. Unit	(1) BLM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Production	Present Class I Cual.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Gold Butte	191,191	1969 1/	-	-	-	-	1604	-	-
Key West - Virgin Mtn.	211,670	1969 1/	-	-	-	-	1917 2/3/	-	-
Moapa	650,949	1969 1/	-	-	-	-	1335	-	-
Toquop	50,655	1969 1/	-	-	-	-	1170	-	-

1/ Ephemeral Range Classification
2/ Incl. 150 trespass
3/ Plus 3 range users license by St. George District

(1) By livestock only
(2) For livestock only

DISTRICT Las Vegas RESOURCE AREA Caliente-Virgin Valley PLANNING UNIT Caliente

Grazing Unit (Allotment)	(1) BLM acres (Feasible)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction 2/	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Clover Mountain	309,435	1967	7,023	1,032	59	17,712	6,259	1,214	9,330
Delamar	691,577	1967	33,542	1,471	38	54,043	17,731	16,903	13,513
Tare Spring	185,000	--	(3,317) 3/	--	--	--	7,675	--	--
Pahranagat	226,305	1960 1/	6,368	--	10	6,368	2,551	3,726	--
Panaca	395,286	1967	17,906	4,031	62	47,230	6,363	10,749	23,455
Sand Spring	605,932	1966	10,547	--	52	19,508	10,004	4,059	4,824
Tule	761,657	--	(10,211) 3/	--	--	32,893	20,084	11,874	--
	3,175,192		85,597			177,754	70,677	48,525	51,152
								167,354	
Total Administrative Area	43,500	1967	1,120	--	38	1,823	604	516	703
BLM Administered	(10,000)	1966	34		80	163	34	0	129
Total, Administered by BLM	--								

1/ Class I determined
2/ Feasible, only to allocate by allotment
3/ Unproductive 1962 [illegible] survey

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely Nevada RESOURCE AREA Stateline-Tonopah PLANNING UNIT Stateline

Grazing or Adm. Unit	(1) BLM acres (Tenable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Charleston	263,979	1969 1/	-	-	-	-	240	-	-
Pahrump	137,080	1969 1/	-	-	-	-	1,647	-	-
Sandstone	518,760	1969 1/	-	-	-	-	293	-	-
Searchlight	852,316	1969 1/	-	-	-	-	11,293	-	-

1/ Ephemeral Range Classification

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

Illustration #2

Domestic Livestock Carrying Capacity by Allotment (AUM'S)

Ill. #2

DISTRICT Ely   RESOURCE AREA [illegible]   PLANNING UNIT [illegible]

Grazing or Adm. Unit	(1) BLM acres (Usable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
	From [illegible] I. [illegible]		From Adm. Unit [illegible]						
[illegible] P.U. [illegible] Admin. Unit	486,387	1965	12,182	2220	47	35,373 ~~[illegible]~~	13,698	5,714	15,226
[illegible] Admin. Unit 1)	72,913	1959	4241	402	0	4071	2285	1768	0
E[illegible] P.U. [illegible] Admin. Unit	511,796	?	24,283	2400	0	22,176	26,718	2258	0
[illegible] P.U. [illegible] Admin. Unit	269,900	1965	57,253	?	0	66,889	18,454	48,135	150 3)
[illegible] Admin. Unit	93,690	1960	6,651	344	0	12,758	7479	5279	0

1) Does not include Cooper [illegible] Co. [illegible] [illegible]

2) [illegible]

3) The two [illegible] [illegible] [illegible] feeling and did not [illegible] attachment.

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely RESOURCE AREA Mineral PLANNING UNIT Mineral

Grazing or Adj. Unit	From USFS Data (1) Total acres (Grazable)	Year Adjudicated	(2) Carry Capacity by Range Survey (From Adm Unit)	AUM's Reserved for Wildlife (From Adm Unit)	(3) Percent Reduction	Present Class I Qual.	1972 (4) Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Antelope Adm U.	737,447	1947	36,240	No Record	10	62905	26910	35,997	0
Spring Valley Adm U.	143,631	1958	12,297	226	1) 30	13372	6987	6385	0
Baker Adm Unit	123,926	1958	2) 9,836	501	17	9178	5141	4037	0
Snake Adm Unit	89,445	1955	3) 6698	134	7.5	7332	5489	1843	308
Shoshone Adm Unit	369,384	1958	2) 26,214	1325	1) 20	29554	13,790	15,764	0
Hamilton Adm Unit	137,333	1958	3) 14,26	248	0	11868	6918	1887	0

1) Reduction was not taken on Antelope pending
2) A 20% reduction ... Taken on ...
3) Due to wildlife use ... Adm Unit.
4) Inf. Limestone ... Potential ... 4/71

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely RESOURCE AREA Current PLANNING UNIT Buckwater

Grazing or Adm. Unit	(1) PLM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cat'l.	1972 Licensed Active Use	1972 Approved Use	1972 Suspended Use
Buckwater	851,094	Jan 29, 1967 Appealed Forest Service from Interior Feb 4, 1969	37,652	3,056	40%	56,074	15,695	17,107	22,922 / = 40,379 AUM's

WATER is a pre... for use...

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely RESOURCE AREA Current PLANNING UNIT Preston-Lund

Grazing or Adm. Unit	(1) BLM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Preston-Lund	316,818	1966	44 A/AUM 6165	no until [illegible]	71%	12.5 23191	25 A/AUM [illegible] Plus [illegible] ①	[illegible]	8795 (11,455 AUM's)
Jakes Unit	251,588		11.7 A/AUM *21460	[illegible]	none	21,460	21.7 A/AUM 11556	9871	none

* 1945 range Survey

[illegible] maps

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT *Ely* RESOURCE AREA *Currant* PLANNING UNIT *Horse & Cattle Camp*

Grazing or Alm. Unit	(1) BLM acres (Grazable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Cove Valley	383,769	1965	11,138	1,192	15	23,289	13,610 [illegible]	2279	7500
Horse & Cattle Camp	72,233	1958	2661	290	none	3916	3503	413	none
So. Steptoe	*167762	1961	9526	553	1946	9092	7356 [illegible]	1736	

* Represents the portion of So. Steptoe in the Currant Res Area. The remaining part of the Unit is in the [illegible] RA & district. Exact Carry Cap for the portion in Currant RA [illegible]

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

[illegible] C.C.

DISTRICT Ely RESOURCE AREA Lory Springs PLANNING UNIT White River

Grazing or Lic. Unit	(1) BLM acres (Mapable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cert.	1972-73 Licensed Active Use	1972-73 Approved Nonactive Use	1972-73 Suspended Nonactive Use
Hardy Springs	42,231	1946	5746 [2]	0	15%	5762	[2] 1791	3971	16
Sunnyside	813,422	1946	9414	[3]	15%	9414	[1] 2196	6424	0
Ford Area	105,491	1946	3170 [4]	[3]	15%	4037	[4] 3791	0	47
Ely Farm	17,250	1946	713	[3]	0%	713	0	713	0
Cattlemen Select	32,762	1946	2643	[3]	0%	2643			
Washington Allo	97,107	[5] 1946	6297 [6]	[3]	0%	6297	[6] 6707	4534	0
Steptoe Spring	23,460 [6]	1946	1619	[3]	0%	1619			
Mt Timber Allo	22,720	1946	735	0	0%	735			
Steptoe	93,288 [6]	1946	3617 [6]	[3]	0%	3617	[6] 5332	1334	0
Mt Wheeler	43,184	1946	3044	[3]	0%	3044			
Mt Wheeler Exp	8,407	1946	[1] 460	0	15%	466	0	466	0
Pine Creek	32,937	1946	2267	[3]	0%	2267	[1] 1836	231	0
Cleveland	43,646	1946	3016	[3]	0%	3016	[1] 2354	662	0
Mt Wheeler Allo	31,333	1946	837	[3]	0	837	[1] 567	270	0
Hole	2,120	1946	51	0	15%	51	0	51	0
Cypsum Springs	5,470	1946	185	[3]	0	185	0	185	0
Lehman	6,935	1946	513	[3]	0	513	0	513	0
Wade Place	4,946	1946	405	[3]	0	405	[1] 201	204	0
Mt Wheeler Allo	17,265	1946	443	[3]	0	443	[1] 209	234	0
Bird Spring	21,600	1946	422	0	15%	422	0	[3] 421	[3]

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely RESOURCE AREA Egan Springs PLANNING UNIT White River

Grazing or Adm. Unit	(1) ELM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cap.	1972-73 Licensed Active Use	1972-73 Approved Use	1972-73 Suspended Use
Trail Mountain	54,111	1946	2915	0	15%	2915	933	2582	0
Coal Valley	25,243	1946	848	0	0	848	193	655	0
Little Coal Valley	31,470	1946	1138	0	0	1138	976	162	0
East Tule Cap	24,434	1946	1209	0	0	1209	1206	3	0
Egan Springs	76,231	1946	3443	0	0	3443	1171	2343	0
Unused	6,685	1946	535	0	0	535			
East Tule Mts.	17,425	1946	965	0	15%	965	5681	2299	0
Fox Mountain	72,764	1946	4680	0	15%	4680			

1/ The use of [illegible] was reduced [illegible] Although [illegible] were not located [illegible] the Meadow Valley [illegible] but have not been used [illegible] 2/ Includes [illegible] 3/ Includes [illegible] 4/ Includes [illegible] 5/ Includes [illegible]

2/ Use of Service Only
3/ For Livestock only
4/ If several reductions took place spread ; are given, explain by footnote

DISTRICT Ely RESOURCE AREA Egan Springs PLANNING UNIT Wilson Creek

Grazing or Adm. Unit	(1) BLM acres (Treable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cattle	1972-73 Licensed Active Use	1972-73 Approved Use	1972-73 Suspended Use
Wilson Creek	1,017,249	1945-1970 1/	51,710 2/	25,474	22.5 4/	67,513 4/	24,527 5/	27,180 5/	12,174 5/
1/ Three mix allotments	re acreage	ode exclude	in 1945.	In 1970	the re	on adjust	ment in	k exclusion	ls
2/ This exclu	s 1226	n the h	Upon re	ent and	AUMs	n the Ce	dar City	ment in	hose leased
and adjus	cluded by	the Ely Dist							
3/ 15% in 19	5, 5% i	12% and	2% in 1911						
4/ Includes	cultural	ssessment	the Ely,	Cedar	and 22%	in the	Cedar City	Cedar	that are
leased and	d elsewh	ased in the	Ely Distri						
5/ Include	those pa	d that ha	ing and	the Ely	Unit	leased and	adjudica	ted by	Ely

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Ely RESOURCE AREA Egan Springs PLANNING UNIT Lake Valley

Grazing or Mgt. Unit	(1) BLM acres (Feasible)	Year Adjudicated //	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Grzl.	1972-73 Licensed Active Use	1972-73 Approved Use/Use	1972-73 Suspended Use/Use
Grass Mountain	4,120	1948	[illegible]	0	5%	[illegible]	[illegible]	[illegible]	10
Cedar Basin	230,611	1948	[illegible]	0	5%	[illegible]	[illegible]	0	0
1) The adjudicated use established in 1955 was [illegible]	An area established in 1955 was [illegible]	established at a 5% reduction	not available	Reduction 5% was [illegible]	was established	Established by yearly	yearly	Intended	
2) A variety of [illegible] A Class I inventory [illegible] A Type 2 [illegible]	A variety of [illegible] was inventoried [illegible]	Use of the area [illegible]	Cedar Basin [illegible]	Allotment [illegible]	1967 when the [illegible]	from the Cedar Basin [illegible]	Cedar Basin [illegible]	not used [illegible]	water [illegible]

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

Illustration #2

Domestic Livestock Carrying Capacity by Allotment (AUM's)

DISTRICT Winnemucca RESOURCE AREA Paradise-Denio PLANNING UNIT Denio

Grazing or Lvstk. Unit	(1) BLM acres (Feasible)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Humboldt wkg	168,614	1966	4266	0	0	0785	6573	0	0
Jackson mts (Comm)	496,830	"	13443	0	25.40				
Jackson mt. (Deer Cr.)	29322	"	753	0	54.16				
Jackson mt. (Jule Colony)	64,633	"	2159	0	31.10				
Jackson mts (Sol Comm)	20,891	"	352	0	38.59				
totals	810,476		17237	0	average	23604	14,392	2917	6795
Kings River (Comm)	226,948	1966	13632	225	26.0	17769	13620	752	3007
Kings River (Sol Comm)	45537	"	4779	75	22.0	4456	4456	—	—

(1) By livestock only
(2) For livestock only
(3) If several reductions took place spaced years apart, explain by footnote

DISTRICT Winnemucca RESOURCE AREA Paradise - Denio PLANNING UNIT Denio

2

Grazing or Mgt. Unit	(1) BLM acres (Taxable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Paiute Meadow	180,970	1966	8914	0	21.20	11,261	7114	--	2447
Fire Forest Unit	36,124	"	27,600	1125	13.69	30668	27367	461	2513
Sand Dunes	131,929	"	8266	0	0	8330	5578	2533	0
Wilder-Bilk	246,762	1966	21,455 (Includes Coyote Hills, Does not include)	1815	0	23145	23444	0	0
Coyote Hills (Long Lost Allotment)			1937	—	0	2397	1645	752	0

(1) By livestock only
(2) For livestock only
(3) If reduction took place record years here, explain by footnote

DISTRICT Winnemucca RESOURCE AREA Paradise - Denio PLANNING UNIT Paradise - 01

Grazing or Adm. Unit	(1) BLM acres (Feasible)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cond.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Bloody Run Allot	143,977	1956	[17] 7144	0	23.0	12223	[15] 9560	0	2266
Disaster Peak	258,139	"	[16] 15603	0	54.8	34523	14141	454	4377
Disaster Peak (Quinn area)	44,987	"	[15] 1131	0	0	1180	[15] 1180	1	—
Denytown	124,526	"	[14] 6069	220	0	5823	[11] 3750	1581	276
Hot Springs Peak (Kilgore)	2350	"	110	0	76.0	1770	1770	—	—
Hot Springs (Bellanca)	19060	"	781	0	5.37	—	Could not use	1 data	
Iron Point Allot	—	—	—	—	—	596	596	—	—
Fish Creek (Jackson)	45,468	1957	[15] 3410	0	13.9	3960	[13] 1774	—	2243

(1) To livestock only

DISTRICT Winnemucca RESOURCE AREA Paradise-Denio PLANNING UNIT Paradise

4

Grazing or Adm. Unit	(1) BLM acres (Tillable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Red House Unit (Calder Allot.)	42,114	1967	4062	0	51.	12,060	4746	312	4315
Tail Corral Allot.	9516	1967	623	0	0	by Elko			
Elmore Allotment	40261	1967	2532	0	33.3	by Elko			
Jacks Cr. Allot.	30564	"	1560	0	30.1	by Elko			
Little Onion (Jo Mountain)	7607	"	906	14	0	by use			
Little Onion (Pumice Valley)	3176	"	454	7	0				
Little Onion (Total)	211437	"	16317	578	13.39	97463	58535	6347	2521

(1) By livestock only

5

DISTRICT Winnemucca RESOURCE AREA Paradise - Denio PLANNING UNIT paradise

Grazing or Adm. Unit	(1) AUM acres - (Tonable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Lower Quinn Riv.	41,761	1962	2048	0	6.0	2646	2217	—	—
Upper Quinn River (west of)	10261	—	436	0	80.4	(included above)	—		
Darlington Cow House	124526	—	6039	—	0	5807	3450	1521	276
Rebel Cr. Unit (Ft meadow)	10602	1963	632 ?	0	71.2	3457	2478	0	0
U.C. Allot. (Rebel Cr.)	48211	"	2817 ?	0	75.6	11523	12,341 T.N.R.	—	7736
McDermitt-Rebel (Fish Creek)	25,880	"	2121	0	53.4	4550	3300 ? T.N.R.	0	1867
McDermitt-Rebel (Willow Cr.)	4359	"	796 ?	0	37.5	1276	2418 ?	0	30
Paradise (South)	6544	"	626	0	69.0				
Paradise-South Cr.	42655	"	4114	0	31.0				

(1) For livestock only

DISTRICT Winnemucca RESOURCE AREA Paradise - Denio PLANNING UNIT Paradise. 6

Grazing or Adm. Unit	(1) Tot. acres (Treable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Use/Use	1972 Suspended Use/Use
Paradise - East (Sheep)	71,723	1976	6240	0	41.0				
Paradise (Singus)	5093	"	367	0	73.0				
Paradise (Cattle)	2370	"	193	0	52.0				
Paradise (Summit)	30767	"	2190	0	45.0				
Paradise (Cattle)	64952	"	3714	0	41.0				
total			17,484			22,808	16,915		
Paradise Hill (Jack Creek)	25530	"	3386	0	12.0	3448	4553	—	18

(1) By livestock only
(2) For livestock only
(3) If more reductions took place spaced years apart, explain by footnote

DISTRICT Winnemucca RESOURCE AREA Sonoma-Gerlach PLANNING UNIT Sonoma

7

Grazing or Ltr. Unit	(1) AUM acres (Treated)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cond.	1972 Licensed Active Use	1972 Approved Non-Use	1972 Suspended Non-Use
Buena Vista	235,049	1956	7334	250	31.5	14115	4237	1812	3612
Buffalo Valley	290,329	"	14,822	150	31.5	17663	7457	—	5534
Buffalo Valley (N.)	55,271	"	3820	0	0	3447			
Gabbs Valley	163,548	"	9723	0	23.20	13239	7554	0	1729
Humboldt Sink	38,930	"	1411	46	0	1427	1424	3	0
Pleasant Valley	183,622	"	11042	0	21.20	13,325	10553	2629	2212
Pumpernickle	147,063	"	11482	0	13.0	13174	7691	132	528
Rochester (N.)	12249	"	691	20	0	6122	6288	0	0
Rochester (S.)	208,223	"	6434	168	0				
Tule Peak	191,577	"	8324	0	0	2102	3207	553	07
Winnemucca	241,552	1973	20414	"	1%				

(1) By livestock only

DISTRICT Winnemucca RESOURCE AREA Sonoma-Gerlach PLANNING UNIT Sonoma

8

Grazing or Ec. Unit	(1) BLM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Use/Use	1972 Suspended Use/Use
Winnemucca (5)	19037	1933	1203	0	46.0	>467	2274	427	1325

(1) By livestock only

DISTRICT Winnemucca RESOURCE AREA Sonoma-Gerlach PLANNING UNIT Buffalo Hills 9

Grazing or Adm. Unit	(1) BLM acres (Grazable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Cont.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Buffalo Hills	510,922	1966	34,047	480	47.3	17,374	18054	7461	6390
Fox Mountain	172,574	"	7578	0	38.5	12319	6707	2066	5208
Solitaire Mesa			13,654			12,654	18354	—	—

(1) By livestock only

DISTRICT Winnemucca RESOURCE AREA Sonoma-Gerlach PLANNING UNIT Blue Wing

10

Grazing or Adm. Unit	(1) BLM acres (Useable)	Year Adjudicated	(2) Carry Capacity by Range Survey	AUM's Reserved for Wildlife	(3) Percent Reduction	Present Class I Qual.	1972 Licensed Active Use	1972 Approved Nonuse	1972 Suspended Nonuse
Blue Wing	251,050	1966	30,774	430	0	37,569	20,271	3458	1195 ?
Desert Queen	16836	"	3356	0	0	4223	1762	1509	946
Raggedtop	57136	"	1307	0	0	155	420	0	0
Seven Troughs Unspecified	304,313	"	12,218	0	0	8777 4571	5120	2911	0

Illustration # 3

Watershed Erosion Condition Printout by Code Number and Subtype

State: Nevada

Code No.	Subtype	PRESENT					FUTURE				
		Stable	Slight	Moderate	Critical	Severe	Stable	Slight	Moderate	Critical	Severe
011	Short Grass		8387	760	1020		1170	5270			
012	Mid-Grass (Bunch)	241795	321979	61836	5752	1004	138388	67481	970		
013	Mid-Grass (Sod)		14580	640			940				
021	Wet Meadow	1040					940				
022	Dry Meadow	15462	2520				17982				
031	Perennial Forbs	775	2095				775	2095			
041	Big Sagebrush	872735	3547946	2266911	282052	707	1079804	1380585	71840	9405	
042	Low Sagebrush	120971	570496	570031	196156		77300	270094	35251		
043	Black Sagebrush	33975	1120029	805082	99788	2232	214042	1143422	137159	1204	
044	Other Sagebrush	16402	137762	133975	10098		26353	103338	6471		
045	Rabbitbrush	60762	297657	46143	4708		157504	219040	5378		
052	Manzanita	12053	65734	24529	3400		6224	66560	7402		
053	Ceanothus	2872	28023	10868	7493		1710	6502	1448		
056	Mountain Mahogany		46102	781				46883			
057	Bitterbrush	1320		15060	6020		1320				
058	Oakbrush			6904					1404		
059	Other Mountain Shrub		13942	11367			6171	19138			
062	Ponderosa Pine		21055	7196							
064	Spruce-Fir		16343	1310				16343	1310		
065	Other Conifer		210					210			
073	Steep		2640								
074	Rocky		110								
075	Steep and Rocky	5142	8400	3428							
076	Steep & Dense Veg.		7808								
081	Dry Lake Bed										
082	Saline Flat										
083	Sand Dune										
084	Rock Outcrop										
087	Other										
091	Pinon-Juniper	142006	2069019	2101358	235719	4220	396703	2124821	429098	46300	
101	Aspen	780	701				1481				
102	Oak			4920							
111	Creosote Bush	15643	557113	691019	202479	13008	21243	694632	339722	66570	
121	Mesquite	2210	881	5432			2210	881	5432		

State: Nevada

Code No.	Subtype	PRESENT					FUTURE				
		Stable	Slight	Moderate	Critical	Severe	Stable	Slight	Moderate	Critical	Severe
131	Shadscale	180950	1331496	1025190	103614	18090	143065	695406	138758		
132	Nuttall Saltbush	240	843	823			240	1120	546		
133	Mat Saltbush	5710	1712	428			5710	1712	428		
134	Fourwing Saltbush		5059	20457	1401			3137	1922	6492	
135	Other Saltbushes		17046	6101	2551			17046	3192		
141	Black Greasewood	141524	465943	538865	191914	7670	112932	307883	147739	24937	
151	Winterfat	22371	220703	152940	20490		52541	270718	10551		
161	Blackbrush		118406	415001	76162	12678		5386	4071		
162	Cactus	18528	74870	29406	16709		11732	22867	32405		
163	Joshua Tree	11154	499360	332002	44807	13244	68694	520360	176278	11723	
164	Other Desert Shrubs	23516	767542	645505	65554	1350	29484	616933	312592	3892	
171	Snakeweed		18575	5316				7061	4303		
174	Other Half Shrubs	5196	21633	6320			5196	25055	2903		
181	Cheatgrass	81986	31081	33089	26930		16327	24775			
182	Other Annual Grasses			1580				1580			
183	Annual Forbs	4850	9290	16689	18860		6940	1320			

EROSION CONDITION CLASSES

DIST.	TIME	STABLE ACRES	%	SLIGHT ACRES	%	MODERATE ACRES	%	CRITICAL ACRES	%	SEVERE ACRES	%
01	PSSF	173,196	13.2	760,341	58.0	363,854	27.7	14,376	1.1	0	0
	FOSSF	173,196	13.2	650,751	49.6	454,463	34.6	30,096	2.3	3,261	0.2
	FMSSF	240,894	18.4	834,306	63.6	230,463	17.6	6,024	0.5	0	0
	FPSSF	257,824	19.7	846,391	64.5	201,528	15.4	6,024	0.5	0	0
02	PSSF	45,910	1.6	1,330,334	45.6	1,320,431	45.3	212,112	7.3	6,113	0.2
	FOSSF	17,983	0.6	1,112,200	38.2	1,395,527	47.9	378,830	13.0	103	0.4
	FMSSF	50,991	1.7	1,623,093	55.7	120,217	38.4	116,804	4.0	3,790	0.1
	FPSSF	63,040	2.2	1,799,203	61.7	943,045	32.4	105,817	3.6	3,790	0.1
03	PSSF	139,157	20.4	459,169	67.3	73,364	10.8	10,757	1.6	0	0
	FOSSF	139,195	20.4	453,042	66.4	78,685	11.5	7,632	1.1	3,843	0.6
	FMSSF	169,551	24.8	459,292	67.3	45,148	6.6	7,693	1.1	768	0.1
	FPSSF	216,474	31.7	433,756	63.6	24,529	3.6	7,683	1.1	0	0
04	PSSF	239,051	4.1	2,618,863	44.8	2,705,100	46.2	286,091	4.9	2,281	< 0.1
	FOSSF	215,279	3.7	1,869,346	31.9	3,241,946	55.4	505,954	8.6	18,041	0.3
	FMSSF	258,414	4.4	3,322,880	56.8	2,152,316	36.8	117,006	2.0	0	0
	FPSSF	275,413	4.7	4,713,348	80.5	792,269	13.5	70,436	1.2	0	0
05	PSSF	28,051	1.2	1,639,327	50.5	1,435,475	44.3	130,793	4.0	0	0
	FOSSF	13,529	0.4	1,090,952	33.6	1,735,098	53.5	397,015	12.3	6,257	0.2
	FMSSF	26,047	0.8	1,738,772	53.6	1,294,331	39.9	184,501	5.7	0	0
	FPSSF	26,047	0.8	1,818,089	56.1	1,215,014	37.5	184,501	5.7	0	0
06	PSSF	220,667	3.9	4,170,726	73.1	1,216,378	21.3	89,165	1.6	9,814	0.2
	FOSSF	75,686	1.3	2,852,849	50.0	2,486,317	43.5	277,724	4.9	20,175	0.4
	FMSSF	817,997	14.3	4,187,308	73.4	678,692	11.9	22,694	0.4	0	0
	FPSSF	1,162,854	20.4	3,952,617	69.3	577,016	10.1	14,264	0.2	0	0
STATE TOTALS	PSSF	856,032	4.3	10,978,760	55.7	7,114,602	36.1	743,300	3.8	18,208	0.1
	FOSSF	634,868	3.2	8,029,140	40.7	9,386,036	47.6	1,598,101	8.1	62,837	0.3
	FMSSF	1,563,894	7.9	12,165,766	61.7	5,521,167	28.0	455,597	2.3	4,568	< 0.1
	FPSSF	2,001,652	10.2	13,563,409	68.8	3,753,401	19.0	388,730	2.0	3,790	< 0.1

PSSF - Present erosion condition.

FOSSF - Predicted erosion condition class without change in management.

FMSSF - Predicted erosion condition class with land use change.

FPSSF - Predicted erosion condition class with land use change and additional treatmen

Source - Phase I watershed rating system, 1972 through present.

Illustration #5

Land Treatment by Acres

	State Project	Units of Meas.	.1260	1285	1520	7100	7110	8100	8209	9500	Total
Revegetation Chemical	6001	Acres	10,500	5				8,440			18,945
Revegetation Mechanical	6002	Acres	48	1,901				32,793			34,742
Revegetation Burning	6003	Acres						2,336			2,336
Seeding & Planting	6004	Acres	122,589	3,180				27,804			153,573
Waterfowl Habitat	6010	Acres		48							48
Stream Fish Habitat	6011	Miles		122			1				123
Lake Fish Habitat	6012	Acres		1							1
Tree Planting Seeding	6014	Acres			360						360
Revegetation Chemical	6101	Acres	197,200					580			197,780
Revegetation Mechanical	6102	Acres	361,351		950					542	362,843
Revegetation Burning	6103	Acres	20,092		106,314						126,406
Seeding & Planting	6104	Acres	248,902		7,991			1,104		335	258,332
Watershed Tillage	6105	Acres	13,397		38,097						51,494
Reservoirs	6241	Number	180	11		8		574			773
Springs	6242	Number	362	11		9		852		2	1,236
Wells	6243	Number	302	3		3	1	687			996
Supplemental Water Facilities	6244	Miles	8,853	5		1		3,178			12,037
Water Catchments	6245	Number	5	14			51	6			76
Detention & Diversions	6346	Cu.Yds.	40,722		203,419			19,877			264,018
Dikes & Other Structures	6347	Cu.Yds.	90,343		16,751			1,000			108,094
Fences	6448	Miles	5,118	38	149	3		4,032	10	8	9,358
Cattle Guards	6449	Number	800	1				342			1,023
Trails	6475	Miles	105					539			644

RESOURCE AREA TIME COMPARISON EXPRESSED AS A PERCENTAGE
Las Vegas, Ely, and Winnemucca Districts
As Reported By Area Managers

District	Resource Area	Position	% Office	% Field
Las Vegas	State Line	(5,800,000 AC/BLM)		
		Area Manager	80	20
		Realty Specialist	70	30
	(Vacant)	Realty Specialist		
	(Vacant)	Geologist		
		Desert Ranger	30	70
		Desert Ranger	30	70
	(Vacant)	Desert Ranger		
		Outdoor Recreation Specialist	20	80
		Range Conservationist	70	30
(Note: Vacant positions seem to occur consistently, therefore, there is never a full complement of staff.)				
	Caliente	(6,500,000 AC/BLM)		
		Area Manager	75	25
		Range Conservationist	50	50
		Range Conservationist	70	30
	(Vacant)	Recreation Specialist		
Ely	Moriah	(3,700,000 AC/BLM)		
		Area Manager	80	20
		(WAE) Range Conservationist	50	50
		Natural Resource Specialist	70	30
		(WAE) Range Conservationist	50	50
	Pony Springs	(2,700,000 AC/BLM)		
		Area Manager	90	10
		Range Conservationist	60	40
	Current	(1,800,000 AC/BLM)		
		Area Manager	85	15
		Range Conservationist	60	40
Winnemucca	Gerlock-Sonoma	(4,500,000 AC/BLM)		
		Area Manager	75	25
		Range Conservationist	50	50
		Range Conservationist	50	50
		Range Conservationist	50	50
	Paradice-Denio	(4,000,000 AC/BLM)		
		Area Manager	75	25
		Range Technician	20	80
		Range Conservationist	75	25
		Range Conservationist	75	25
		Natural Resource Specialist	90	10

Illustration #7

Stable Acres, Present and Future as Shown Within the JREM065 Program of the WC&D Data System.

Dist.	Total Acres Inventoried	Present Stable Acres	Future W.O. Change in Management	Future With Change of Management	Future With Add. Practices
01	1,311,850	1,096,857	1,066,867	1,154,523	1,175,293
02					
03	3,597,786	2,750,134	2,661,216	2,909,569	2,968,873
04	5,852,397	4,406,556	4,224,823	4,684,547	5,163,550
05	3,244,019	2,439,955	2,261,074	2,490,474	2,511,389
06	5,707,427	4,728,008	4,282,111	5,114,999	5,228,634
State Totals	19,713,479	15,421,510	14,496,091	16,354,112	17,047,739

Without change we will have 925,419 less stable acres.
With change we can have 932,602 more stable acres.
With change in management plus additional treatment we can have 1,626,229 more stable acres.

APPENDIX

APPENDIX 1

4115
4133
(N-930.7)

Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

District Manager, Elko (N-010)

State Director, Nevada

Jackpot Allotment Management Plan

The subject plan has been reviewed by the Division of Resources and we have the following comments:

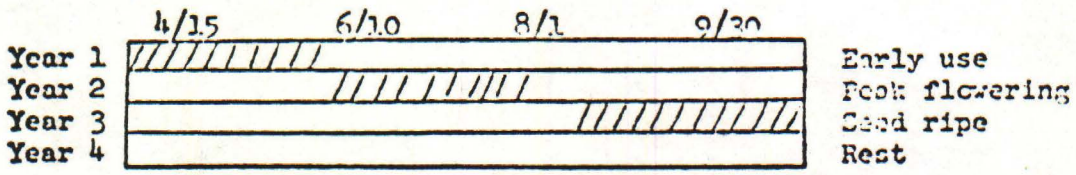
1. The plan outline follows BLM Manual guidelines.

2. Qualifications are ---------- 6406 AUM's (page 6)
   Carrying capacity ---------- 8065 AUM's (page 12)
   Normal operation
   9.5 months X 1,150 AU X 92% -------- 10050 AUM's (page 18)
   Flexibility allowance
   9.5 months X 1,250 AU X 92% -------- 10925 AUM's (page 19)

   What is the basis of raising the 1940 range survey AUM's by 55% on the Brown's Bench Area, 33% on the Grassy Mountain Area and 10% on th Rhone Pasture (page 12, last paragraph)? Why increase the operation by allowing 100 head of livestock as additional flexibility prior to proven available forage not needed for other uses?

3. Page 13, first paragraph, talks about a seeding in the fall of 1974 in the Snake Pasture. There is no mention of this seeding in the proposed project section nor does it show on the map. What is the purpose of the seeding? There was no problem identified in the general information section nor was it an objective to increase AUM's above Class I qualifications. It also appears that the production of additional imbalance in the forage production between pastures of the system.

4. Pages 13, 15, 16 - Shoshone System



Page 15 - The peak flowering treatment is to provide for seedling establishment, plant growth, and improved plant vigor.

To accomplish this, (1) seed would have to be planted in Year 1, which is not true; (2) plants would have to be rested until root reserves are replenished (seed ripe) for plant growth and increased vigor. This is not true, as plants would be grazed during this period.

5. The Brown's Bench and Grassy Mountain systems are not related to plant phenology - (page 14)

6. The Grassy Mountain system does not allow rest for the Cottonwood and Windmill pastures - (page 14)

7. Sandblow-Idavada system allows no rest for plants on a yearlong basis.

8. Page 18 discusses the normal operation as April 15 - January 31. If this is the normal operation, why are the grazing systems shown as ending the season on:

Shoshone ----------9/30
Brown's Bench------11/15
Grassy Mtn. -------11/30
Sandblow - Ida ----12/15

On page 19 under flexibility, the operator is authorized to stay as long as he wants to in the fall - does this mean January 31? Is this fall use?

9. There is no reference to the Salmon Falls HMP anywhere in this AMP. Seems like this would be good to notify the user, and good cross-reference for coordination of activity plans.

10. The Objectives make no reference to the Salmon Falls River as fish habitat, nor do they provide an objective towards good vegetation management on the stream banks or riparian habitat so vital to manage for trout stream habitat management.

11. The District's Planning System identifies a "crucial area" for antelope in this proposed AMP; however, no reference or mention is made anywhere in this AMP to this other important resource use, nor does the vegetation management system account for managing vegetation for antelope compatible with livestock use.

12. There are sage grouse in this area and there are meadows reported to be in deteriorated condition; however, no mention is made of this anywhere in the AMP, nor does the proposed management strive to improve these deteriorated meadows.

13. Regarding Section IV, it is recommended that a paragraph be added to state that this plan on national resource lands must consider and be consistnet with objectives of other resource activities on a multiple use basis.

14. Considering the number of pastures in the total operation, we believe that grazing systems could be designed to meet more specific multiple use objectives as well as comply with the basic concepts of plant phenology.

/s/ E. I. Rowland

REF arric:mc 2/25/74

Appendix #2

From: Floyd E. Kinsinger

Subject: Field Trip Report

Covering Travel To:

Kane Springs and Tule Grazing Units, Las Vegas DO

Dates:

10/29/73 - 11/2/73

PLEASE number paragraphs in accordance with subjects listed below; if one or more items is not applicable, so state.

1. Purpose/Objectives of Trip
2. Persons Contacted/Interviewed
3. Subjects Discussed
4. Facts Gathered
5. Other Observations Made
6. Accomplishments or Results of the Trip

Use additional pages if necessary

BUREAU OF LAND MANAGEMENT
DENVER SERVICE CENTER
DENVER FEDERAL CENTER BUILDING 50
DENVER COLORADO 80225

Memorandum

To: State Director, Nevada

From: Floyd Kinsinger, Leader
Range Staff, Denver Service Center

Merrill DeSpain, Range Management Specialist
Nevada State Office

Subject: Staff Report - Kane Springs and Tule Grazing Units, Las Vegas District

Background

The Kane Springs and Tule Grazing Units have never been adjudicated. Allotments have been established on both units, but numbers of livestock, season of use and qualifications have not been formally established.

Range surveys have been conducted in the past on both units. Current licensing is in many cases two and three times the capacities as determined by these surveys.

Ephemeral forage is produced on both units. Some thought had been given to classification as ephemeral range on both units.

Attention was called to the problem at the December 20, 1972, Las Vegas District Advisory Board Meeting. In acting on a protest at the meeting the board recommended:

> If Kane Springs is determined to be perennial range, it should be adjudicated. The State Director's attention is called to the need for this work.

Findings

As a result of the above, the District Manager requested that we review the units to assist district personnel in arriving at a conclusion whether the areas were ephemeral and/or perennial range.

We spent the week of October 29 to November 2, 1973, reviewing the units with the District Manager, Area Manager, and Range Specialist. We found that a majority of the area of the two units supported perennial vegetation. Potential exists for improvement and increase in perennial vegetation with proper livestock management.

Ephemeral vegetation is also produced in years of favorable climatic conditions, particularly in certain vegetation types. Vegetation on some allotments within the two units show evidence of serious over-utilization, occurring principally on the most desirable perennial grass and browse species.

Present practice of winter grazing use extends until about May 15 each year. Such spring use year-after-year is detrimental to perennial vegetation and has undoubtedly contributed to depletion of the vegetative resource.

Recommendation

Grazing management in both units should be based upon perennial forage. Grazing authorizations should be issued basically on the grazing capacity of perennial forage. Authorizations for ephemeral forage could be issued only after such forage is assured. Essentially this is in accordance with Bureau manual procedures under 4112.53B.

To implement this recommendation it is necessary to conduct a range survey of both units since previous surveys were conducted several years ago. Grazing capacities need to be established based upon perennial forage and adjudication decisions issued by the District Manager.

We recommend this action proceed in the Kane Springs Unit this fiscal year and that work be programmed for the Tule Unit next fiscal year. We also recommend that the State Office and Service Center develop detailed procedures for this action and work closely with the district people in conducting the work.

cc: WO-330

Appendix #3

UNITED STATES GOVERNMENT

Memorandum

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

6620
(N-941

Nevada State Office
Room 3008 Federal Building
300 Booth Street
Reno, Nevada 89502

DATE: DEC 14 1973

TO : Chief, Division of Resources (N-930)

RECEIVED
DEC 1 . 1973
Bureau of L... ...ment
Ely.

FROM : Chief, Division of Technical Services

SUBJECT: Hydrological Investigation of Goshute Creek

John Trimmer, Hydrologist of my staff, made a preliminary feasibility study of the Goshute Watershed, as requested by District Manager - Ely. The repor of the Hydrological Investigation is enclosed.

James A. Yoakum, Wildlife Specialist, Nevada State Office, said that Goshute Creek is a good stream for the rearing of the fish. This is evidenc by the fish production over the past years.

The Hydrological Investigation of Goshute Creek Watershed of September 1973 shows the stream channel being in a deteriorating condition.

The following recommendations and suggestions reflect the thinking that this area is a good fishery and should be maintained:

1. The Goshute Creek Channel should be stabilized in the canyon at canyon dam to prevent the headcut from moving through alluvium into the upper canyon. To accomplish this: (1) an appropriately engineered structure must be designed to lower the water flows 10'-15' over the headcut and without damage to the downstream channel. The design of the structure should allow the passage of sediment from the upper watershed. (2) Upstream from the stream recorder another struct should be designed and installed. (3) Deposition of sediment in the stream channel downstream from canyon dam can be accomplished by planting vegetation along the stream banks and by properly designed and constructed structures.

2. The portion of the channel degrading from the stream recorder to the alluvial fan will start aggrading by deposition of sediment trapped by vegetation on the channel banks. To speed up the process, addition small structures appropriate for this need may also be desirable, although if used, every precaution must be taken to insure that the structures act in harmony with what we wish to accomplish.

3. The report reveals that the upper watershed is in good condition (SSF 40-41). Therefore, the upper watershed is quite stable. The opportunities to reduce uncontrolled runoff and sediment production are limited.

Among the most important are:

a. Continue or establish good vegatative management of the upper watershed. (Lower SSF if possible to 20.)
b. The substandard roads be erosion proofed by waterbars, location change, seeding, etc.
c. Spring source areas be protected and water for livestock furnished away from these locations.

4. The flood frequency curve developed for this area reflects that there is a wide variation in the peak (cfs) of yearly runoff. While we are not certain of the frequency of runoff that was experienced May 1973, the odd are about 1 chance in 10 of getting a runoff of this magnitude in the next 5 years and about 1 to 2 of getting runoff that would cause some damage in the next 5 years.

5. Diverting water from the "new" channel to the "original" channel can be accomplished. Some items to consider are: (1) Additional water loss to the ground watertable. (2). An energy dissipation device near the county road must be provided. (3) Attention must be paid to the method of making the initial diversion to prevent damage to the stream channel.

Because of the nature of the alluvial fan, diverting water into the original channel may be advantageous from a fisheries standpoint. The "original" water course through the alluvial fan is deeper and has formed some meanders that will cause alternate pools and riffles which are more desirable for the fish.

6. The Coshute Creek Habitat Management Plan should be modified because measures (structural) contained in the report are not compatable with th physical nature of the stream and watershed.

Functional requirements must be developed to identify specific needs tha must be met to maintain this creek as a fishery. The water uses that depend on this creek must be considered. Functional requirements should developed for these uses, and included in the overall plan.

After the functional requirements are developed, the feasibility study can be completed. The results of the feasibility study will then furnish the information to update the Habitat Management Plan.

sgd Ralph S. Dunn

Appendix #4

FIELD TRIP REPORT

Location: Goshute Creek

Date: October 26, 1973

Personnel: Frank Dodge, Nevada Fish and Game Dept.
Don Cain, Bureau of Land Management
Pardee Bardwell, Bureau of Land Management

Purpose: Population Inventory

Sample Area	Fork Length in Inches 2	3	4	5	6	7	8	9	10	Avg. Size	Fish/ Mile
A	Not shocked										
B	2			5	8		1	2		5.21	760
C				7	1	4	1	1		6.14	591
D				5						5.00	211
E				3	2					5.40	211
F						1				7.00	42
G					2			1	1	7.75	169
H						1				7.00	42
I				2	5		3			6.40	422
Totals	2			22	18	6	5	4	1	6.03	272

The table above is a summary of the electro shocking. The table below shows how the data compares with past years.

Year	Fork Length in Inches 2	3	4	5	6	7	8	9	10	11	12	Avg. Size	Fish/ Mile
1969	56						1	5				2.66	291
1970				24	14	5	2	6	1			6.13	244
1971	12		1	3	5	14	12	8	3			6.36	272
1972	104	7		1	7	8	9	14	5		1	3.79	733
1973	2			22	18	6	5	4	1			6.03	272

The inventory revealed a very unsuccessful hatch again in 1973. This can be attributed to the very high spring run-off which did considerable damage to the stream channel and fish habitat. In some sections of the stream especially on the lower bench area the cutthroat population was possibly annihilated from the high water.

The stream bottom near the mouth of the canyon was lowered by at least three feet and many sections of the mid-canyon showed that the stream bottom had been scoured out to a two-foot depth. The lower B.L.M. pond in mid-canyon had a channel cut through it that varied from 5 to 12 feet in depth.

This tremendous load of gravel and silt was carried out of the canyon and deposited about half way down the bench in Steptoe Valley. The stream spread out over the lower bench into many channels. When the high water receded, the stream channel in which Sample Area A was located was left high and dry.

That the fish survived in any part of the stream is testimony to their adaptability to the most severe conditions. In fact, the population showed an increase in fish five inches and over in length. Had there been a successful hatch and good survival of young-of-the-year fish the population would be at a high level.

The poor condition of the upstream watershed due to continued overuse by livestock remains as the key factor influencing the condition of the Goshute Creek fishery. Fencing projects scheduled by the B.L.M. have not as yet been initiated.

Prepared by: Frank H. Dodge, Jr.
Fish and Game Agent II

November 28, 1973

cc: B.L.M.
Elko Office

INDEX TO COLOR SLIDES

FILE FOLIO # 1

Slide #

1. Aerial View. Juniper-pinon country, Las Vegas District.
2. Portion of Lake Mead and adjacent country.
3. Low desert, Las Vegas. Desert pavement. Ephemeral Range.
4. Low desert, N.E. of Las Vegas. Ephemeral Range.
5. Joshua trees, Las Vegas.
6. Same general area. Ephemeral range.
7. Inside of fenced pasture along highway R/W.
8. In highway R/W.
9. N.E. of Caliente. Juniper invasion area. Note lack of grass.
10. Typical juniper invasion, Las Vegas District.
11. Cliffrose - heavily hedged.
12. Pinon tree starting in sagebrush.
13. Cleared area near Delamar airstrip. Ground cracking.
14. Ely Springs AMP watering facility. Note severe livestock use around tank.
15. Winter fat plant in same area. Evidence of severe livestock use.
16. Area on right used up until March 15, Ely Springs AMP.
17. Grass in draw-rested pasture last year, Ely Springs AMP.
18. Ely Springs AMP. Hard pan area in background.
19. Fence line clearing.
20. Inside and outside an old cemetary near Panaca.

FILE FOLIO # 2

Slide #

21. State Park, Cathedral Gorge.
22. Map showing inventory of horses, Las Vegas District.
23. Office sign, Ely.
24. Tree chaining area. Good blending of chained and unchained.
25. " " " " " " " " "
26. " " " " " " " " "
27. " " " " " " " " "
28. " " " " " " " " "
29. Land treatment by burning.
30. Straight line - apparently a partly burned chained area. Right side - junipers were windrowed and burned. Left side - only windrowed.
31. Land treatment. Note straight lines.
32. Straight line edge of land treatment.
33. " " " " " "
34. Use area near a marsh.
35. Pupfish development. Shoshone Ponds. Endangered species.
36. Typical BLM in parts of Nevada.

37. Square sided land treatment area.
38. Trails to a water hole. Typical of water areas.
39. Drainage pattern.
40. Square sided land treatment area.

FILE FOLIO # 3

Slide #

41. Road patterns.
42. Land treatment across drainage.
43. Drainage patterns.
44. Insufficient cover for wildlife.
45. Reservoir with heavy grazing on banks leaving no wildlife cover.
46. Sand area may be included as usable by livestock.
47. Mining, Ruth, Nevada.
48. " " "
49. " " "
50. Note drainage bottom grazed by livestock.
51. Land treatment area.
52. On patented land. Spring development. Devestation of adjoining vegetative cover.
53. Head cutting by a wash. Typical of many meadow areas.
54. North Fork, Humboldt River.
55. Aircraft used at Las Vegas.
56. Seven hundred fifty acre Horsethief chaining. In background - mixed seeding. Shows promise of being a good project with proper management.
57. Same as No. 56.
58. Browse recovery and new browse in the Horsethief experimental area.
59. " " " " " " " " " "
60. " " " " " " " " " "

FILE FOLIO # 4

Slide #

61. Forage conditions outside the Horsethief. Experimental plot. Note almost closed stands of juniper. Typical area in pinon-juniper stands which is classified as usable by livestock.
62. Same as No. 61.
63. " " " "
64. " " " "
65. Inside the Horsethief experimental plot. Good forage recovery - some seeded species. Vetch. Excellent wildlife forage and ground cover. Bitterbrush reproduction.
66. Same as No. 65.
67. " " " "
68. " " " "
69. Inside plot. Note young sagebrush plants.

70. Outside the treated area. Horsethief experimental plot.
71. " " " " " " "
72. Deer on seedings, Geyser AMP.
73. " " " " "
74. A former holding lot on a trail. Grass and browse appeared to have been equally mistreated before the area was closed to livestock. Unknown years of nonuse.
75. Same as No. 74.
76. " " " "
77. " " " "
78. Water Canyon. Note excessive livestock grazing. No riparian habitat existing.
79. Same as No. 78.
80. " " " "

FILE FOLIO # 5

Slide #

81. Water Canyon. Note livestock use of riparian habitat.
82. " " " " " " " "
83. " " " " " " " "
84. " " " " " " " "
85. " " " " " " " "
86. " " " " " " " "
87. " " " " " " " "
88. " " " " " " " "
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92. " " " " " " " "
93. " " " " " " " "
94. " " " " " " " "
95. " " " " " " " "
96. " " " " " " " "
97. Spring development on private land. Note livestock use.
98. BLM developed spring. Poorly done, aesthetically. Destruction of succulent vegetation needed by wildlife.
99. Same as No. 98.
100. White sage type - Ely District. Area is typical of applications for change in class of livestock from winter sheep to spring-summer-fall cattle.

FILE FOLIO # 6

Slide #

101. The champion and reserve champion.
102. Nevada highway sign.
103. Duckwater area.

104. Duckwater area.
105. " "
106. " "
107. " "
108. " "
109. Copper Flat Gleason Creek. Heavily used seedings - contrast obvious when compared with highway R/W. Both areas were seeded at the same time. Note rest-pasture and sagebrush invasion on seeding.
110. Same as No. 109.
111. " " " "
112. " " " "
113. " " " "
114. " " " "
115. " " " "
116. Plot along highway east of junction of highway 50 and 93. Inside of plot - black sage, white sage, grasses. Outside - white sage, grass, little rabbitbrush.
117. Same plot. Livestock have trailed around the corner.
118. Goshute Creek side of hill. Vegetative type.
119. " " . Rill erosion.
120. " " . Livestock use on riparian vegetation.

FILE FOLIO # 7

Slide #

121. Goshute Creek. Erosion caused by lack of streambank vegetation.
122. " " Livestock use on riparian vegetation.
123. " " Erosion due to lack of streambank vegetation.
124. " " Livestock use of streambottom vegetation.
125. " " Closed to fishing for the protection of fish but not to grazing.
126. Goshute Creek. Erosion.
127. " " "
128. " " Buildup of trash in stream because of flood.
129. " " Streambank cliffrose use by livestock.
130. " " Spillway washout from extreme flood and/or gully erosion due to livestock grazing.
131. Same as No. 130.
132. Goshute Creek. Bank erosion. Note lack of vegetation.
133. " " Cleared area by mechanical means. Note straight shot.
134. " " Area where stream was channelized.
135. " " Old streambed prior to diversion.
136. " " Note riparian vegetation loss.
137. " " Stream was diverted at this point during runoff to allow flooding of road.
138. Goshute Creek. Alluvial deposit in old streambed.
139. " " Trash catcher in old streambed.
140. " " " " " " "

FILE FOLIO # 8

Slide #

141. Goshute Creek. Old streambed.
142. " " " "
143. " " Trash catcher.
144. " " Old streambed well established.
145. " " Diversion point.
146. " " Diversion into area where no riparian habitat existed.
147. Same as No. 146.
148. " " New stream diversion area. Note lack of riparian habitat.
149. Goshute Creek. Diversion for private interest.
150. " " Alluvial fan deposit from flood.
151. Winnemucca office sign.
152. Horses. Probably wild and free-roaming camped on meadow area.
153. " " " " " " " " " "
154. " " " " " " " " " "
155. " " " " " " " " " "
156. Rest pasture on the right. Excessively cleared R/W.
157. Heavily grazed streambank. Note invasion of sagebrush.
158. Erosion on a meadow. Note invasion of sagebrush. Livestock grazing use heavy.
159. Meadow deteriorated by Livestock.
160. Grazing on riparian vegetation and meadow. Inadequate riparian vegetation.

FILE FOLIO # 9

Slide #

161. This area no longer a meadow. Past overuse by livestock.
162. " " " " " " " " " "
163. " " " " " " " " " "
164. Heavily grazed area around a reservoir. Note lack of wildlife cover.
165. Highly productive meadow area beginning to be restored. Rested 1 yr.
166. Grazed area around reservoir.
167. To fenced reservoir.
168. Spray area. Destruction of sage grouse cover. No leave strips.
169. Spillway of fenced reservoir beginning to heal.
170. Fenced reservoir. Good project. Water piped out. Note outside use of meadow area.
171. Same as No. 170.
172. " " " "
173. Trial sagebrush burn. Rabbitbrush a problem.
174. Same general area.
175. Unfenced reservoir. Note lack of bank vegetation for stabilization W/L cover.

176. Former gravel pit, now reservoir. Could be fenced cattle tight.
177. Grazed area around reservoir.
178. " " " "
179. Stock tanks. No bird ramps.
180. Fenced exclosure since 1935.

FILE FOLIO # 10

Slide #

181. Exclosure since 1935.
182. " " "
183. Exclosure outside to inside.
184. Exclosure outside typical grazing area.
185. Crowley AMP. Hard hit near water. Archaeological values can often be lost by bank cave-ins.
186. Small bench in middle background is a livestock salt ground. Evidence of prehistoric occupation found.
187. Crowley AMP. Further from water - good grass - sprayed area.
188. " " " " " " " " "
189. " " " " " " " " "
190. " " " " " " " " "
191. Heusser AMP, Ely District. Has a long way to go and it will be difficult to effect improvement. However, good example of litter remaining was found on the seeding.
192. Same as No. 190.
193. " " " "
194. " " " "
195. Area used by deer. Little evidence of cattle use.
196. No reproduction of good browse. Cliffrose and bitterbrush.
197. " " " " " " " "
198. " " " " " " " "
199. " " " " " " " "
200. " " " " " " " "