



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Elko Field Office
3900 East Idaho Street
Elko, Nevada 89801-4611

In Reply Refer To:
4400/4120 (NV-012)

OCT 16 1997

Von L. and Marian Sorensen
HC 60 Box 165
Wells, NV 89835

Kenneth Jones
HC 30 Box 530
Lamoille, NV 89828

Dear Mr. Sorensen and Mr. Jones:

The Spruce Allotment Management Action Selection Report (MASR) for the Spruce Allotment is enclosed for your review.

This MASR follows the Spruce Allotment Evaluation mailed in May 1995, and describes the management actions to be implemented on the Spruce Allotment. This MASR also responds to significant comments made about the evaluation and discusses proposed management actions that have been modified, added, and/or not selected.

The Spruce Allotment Evaluation analyzed all monitoring data through March 31, 1994. Concerns were raised about the data collected and analyzed during a drought cycle and the Bureau was requested to include at least data through 1996. This MASR contains data collected and analyzed through March 31, 1997.

The Bureau would like to share the selected management actions in the MASR with permittees and interested publics prior to issuance of the proposed multiple use decision. The meeting is scheduled for October 30, 1997 at the BLM Elko Field Office from 2:00 to 4:30 p.m. Both the permittees and the public are encouraged to attend.

If you have any questions, please contact Leticia Lister of my staff at (702) 753-0200.

Sincerely yours,

CLINTON R. OKE, Assistant District Manager
Renewable Resources

Enclosure: as stated above.

cc: See attached list.

The Humane Society of the US
Animal Protection Institute
Commission for the Preservation of Wild Horses
HTT Resource Advisors
Federal Land Bank
Nevada Department of Agriculture
American Horse Protection Association, Inc.
Nevada Wildlife Federation
Natural Resources Defense Council
U.S. Fish and Wildlife Service
People for the West
Sierra Club, Toiyabe Chapter
Wild Horse Organized Assistance
Resource Concepts, Inc.
American Mustang and Burro Association
Wells Resource Area Grazing Association
Nevada Division of Wildlife
The Nature Conservancy
Rutgers Law School
Nevada Division of Environmental Protection
Elko Board of County Commissioners
Nevada Cattlemen's Association/Nevada Land Action Association
Bottari and Associates Realty
Nevada Woolgrowers Association
Nevada State Clearing House
Bertrand Paris and Sons
Kathryn Cushman
Buster Wines Ranch
Charles M. and John H. Young

10/16/97

**Management Action Selection Report
Spruce Allotment
Wells Resource Area**

A. INTRODUCTION

This report outlines the management actions selected for the Spruce Allotment. Monitoring was conducted from 1973-1997 to determine if management practices were meeting the Land Use Plan (LUP), Rangeland Program Summary (RPS), Antelope Valley Herd Management Area Plan (HMAP), and key area multiple use objectives. The public involvement process and response procedure for the allotment evaluation and subsequent management actions are pursuant to guidance set forth in Instruction Memorandum No. NV-91-185.

The Spruce Allotment Evaluation went to the public for review and comment in May 1995. Comments from the public addressed the concern of monitoring data collected during the drought cycle. A request was made to include data at least through 1996 because it was an above average precipitation year. This Management Action Selection Report (MASR) analyzes data collected through March 31, 1997. The additional data can be found in Appendices 1 through 9 of this document.

Comments on the Spruce Allotment Evaluation were received from Edie Wilson on June 1, 1995, Commission for the Preservation of Wild Horses (Commission) on June 6, 1995, Nevada Division of Wildlife (NDOW) on June 7, 1995, Von L. Sorensen on July 13, 1995, and Kenneth Jones on July 14, 1995. Copies of the comment letters can be found in the Elko District files. The comments received pertinent to issues presented and evaluated in the allotment evaluation were summarized and are addressed below.

Edie Wilson:

1. **Comment:** *Halt all utilization by livestock. Public lands were not designed to support unto eternity the subsidizing of ranching or farming at the expense of the American public.*

Response: Livestock grazing is a legitimate use of public lands as recognized in the Taylor Grazing Act of 1934 and Federal Land Policy and Management Act (FLPMA) of 1976. No grazing was not an alternative in the land use planning process for the Wells Resource Area Resource Management Plan and Environmental Impact Statement (RMP/EIS). Through the allotment evaluation process, the BLM evaluates whether or not the multiple uses of the public lands are providing for attainment of land use plan objectives.

2. **Comment:** *Rest all allotments in Spruce, and primary response should be to return to original status, prior to ranching and farming. I would give this a ten year period. Wildlife, mustangs, and riparian life should be the only preference given for this ten year period.*

Response: See discussion in Comment 1 above.

3. **Comment:** *Before any more seedings, bulldozing or whatever is done, I would consult with Native Americans or also the Heye Foundation in New York City, Idaho State University, Nevada State University, Washington State University, Illinois State University, Colorado State University, and Michigan State University as to what knowledge their Historical and Archaeological Departments might supply, reference, and research work for the BLM. Has the BLM ever found relic or indications of Native Americans living on what is now federal land and reported it?*

Response: It is BLM policy to ensure that a cultural survey is completed and consultation with the State Historic Preservation Officer (SHPO) is conducted prior to authorizing a project. Depending on the findings of the cultural survey, special project stipulations are incorporated in the environmental assessment (EA). BLM Archaeologists ensure that projects are designed so that all significant archaeological sites are avoided. The BLM maintains a record of all surveys and reports completed for all projects.

4. **Comment:** *How much of the hydrological basin of the Spruce Allotment is affected by mining industry in your area?*

Response: There are two old mining districts on the Spruce Allotment. The first is the Spruce Mountain Mining District. This mining district is composed of several mines that operated between 1869 and 1961. Lead, copper, silver, zinc, and gold ores were mined. Gold exploration of this mining district continued from the 1960's through the 1980's.

The second mining district was the Dolly Varden Mining District. This mining district was in operation between 1872 and 1981, intermittently. The Victoria Mine was the largest mine in this district. Copper was the major ore mined in this district, although some silver, lead, and gold were present.

Neither of these mining districts are in active production, although both continue to be occasionally explored for gold. Total mine patented lands on the Spruce Allotment is less than 1 percent of the total allotment acreage.

5. **Comment:** *All predators are to be reintroduced to maintain natural ecological balance.*

Response: The BLM is not responsible for the reintroduction of predators, big game, small game, or even fisheries. Reintroductions are the responsibility of the Nevada Division of Wildlife (NDOW), although the BLM coordinates, consults, and cooperates on such reintroduction plans as they pertain to habitat management on public lands.

6. **Comment:** *No inbreeding of wild horses on Spruce or other allotments. The rounding up, selection for breeding purposes is the equivalent work of a not too popular species of America now, in that it touts a superiority that does not exist. In the selection of the Spanish horse (who's ancestors go back to the Inquisition in Europe) will produce a genetically unsound animal in the future (such as that of the*

Hanoverian, Royal English Family who some say produced Jack the Ripper, who knew).

Response: The BLM in Nevada is currently gathering wild horses on an age selective basis. This policy can be found in the Strategic Plan for Management of Wild Horses and Burros on Public Lands which was signed by the Director of the BLM on June 4, 1992. The Antelope Valley Herd Management Area Plan (HMAP) states under section II.C. 4. :

"The wild horses within the Antelope Valley HMA which exhibit the "Spanish Barb" characteristics will be maintained within the population."

Genetic testing of wild horses occurring throughout Nevada has shown no evidence of inbreeding; in fact, wild horses have a much more diverse genotype than any domestic breed of horse. The horses within the Spruce allotment are able to breed with horses from the Maverick-Medicine, Antelope Valley and Goshute Herd Management Areas (HMAs).

7. **Comment:** *Any planting of whatever it is you have in mind at this time, must be done with either 17 or 19 ~~NPS~~ in mind.*

Response: This comment was clarified through a telephone conversation with Edie Wilson on September 5, 1995. She stated that NPS was a typo and should be SNPS (State Native Plant Species). She further stated that the 17 or 19 was the law or regulation.

The BLM maintains a current list of threatened, endangered, and sensitive plant species provided by the U.S. Fish and Wildlife Service (USFWS) which they compile using the Nevada Heritage Program database. The BLM ensures that any impacts of the proposed management actions on threatened, endangered, and sensitive plant species are considered prior to implementation as per the Endangered Species Act of 1973 (as amended) and Bureau policy.

Commission for the Preservation of Wild Horses:

8. **Comment:** *It is evident that the BLM failed to complete an allotment management plan, environmental assessment or management decision to allow the conversion from domestic sheep to cattle.*

Response: As noted on pages 5 through 9 of the Spruce Allotment Evaluation, a historical summary of what action have been completed on the Spruce Allotment prior to completion of this allotment evaluation is given.

The above historical information describes the actions BLM has taken to make progress toward meeting objectives that were identified in the LUP process; including completion of an AMP. As per the appeals received stating that the BLM had not consulted with affected interests and no National Environmental Policy Act (NEPA)

documentation was completed, the BLM rescinded the interim AMP which was approved in 1993. The EA for Change-in-Kind of Livestock and Implementation of the Spruce Interim AMP, dated December 15, 1993, identified both potentially positive and negative impacts as a result of converting or not converting from sheep to cattle. Although the Finding Of No Significant Impact/Decision Record (FONSI/DR) for the EA indicated that the No Action Alternative was selected, it was evident by the summary in Attachment 8 of the EA that a conversion would be more beneficial overall to not only wild horses but also wildlife. The primary reason for the benefit is the construction of new waters. Lack of water has been identified as a limiting factor on this allotment to not only wildlife but also wild horses. The No Action Alternative stated in general that no changes in management would occur until completion of the allotment evaluation and multiple use decision process.

The allotment evaluation has now evaluated all available data and provided technical recommendations on the changes in management needed to attain all of the multiple use objectives, including the conversion from sheep to cattle grazing. A multiple use decision will be issued, which in part, will identify what the conversion from sheep to cattle will be and define grazing management for the allotment.

The selected management actions identified in this MASR and subsequent multiple use decision conform with the environmental analysis described in the Final Wells Environmental Impact Statement dated July 17, 1985. An Administrative Determination of NEPA Compliance is on file in the Elko Field Office.

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9. **Comment:** *National Policy (Instruction Memo 91-332) and State Policy (Instruction Memo 90-177) were issued in 1989 to all resource areas in Nevada. These policies direct resource areas to prepare allotment evaluations and decisions with consultation of affected interests. The Commission's concerns for full disclosure and NEPA compliance concerning its appeal are founded on sound BLM policy, law, and regulation.*

Response: The Bureau does not question the Commission's appeal and the history regarding the appeal can be found on pages 5 through 9 of the Spruce Allotment Evaluation.

10. **Comment:** *As stated, "The AML for wild horses in the Spruce Allotment will be determined through this allotment evaluation process." We must assume that a thriving ecological balance will be established consistent with all multiple uses. Therefore, a carrying capacity must be computed and allocated to wild horses and livestock.*

Response: Through this allotment evaluation process, the BLM has allocated available forage to the competing forage consumers on the Spruce Allotment. One objective for this allocation of forage is to manage wild horse numbers to ensure a thriving natural ecological balance consistent with other multiple uses.

A carrying capacity for the allotment was calculated and forage allocated. The carrying capacity analysis in Appendix 3 of the allotment evaluation (Appendix 10 in this MASR) indicates that carrying capacity was calculated using both livestock and wild horse actual use and combined utilization. Upon determining the carrying capacity for each subunit, wild horse appropriate management level (AML) was calculated using either wild horse actual use and pre-livestock use or proportioned based on average actual use by livestock and wild horses. Therefore, the total carrying capacity was divided to show what was allocated to livestock and wild horses (see Table 3-1, Appendix 3 of the allotment evaluation).

11. **Comment:** *The land use plan wild horse amendment countered the objective to establish and maintain the 1971 wild horse herd areas.*

It should be stated that the Wells RMP Wild Horse Amendment reduced herd areas and eliminated the Toano wild horse herd area due to the BLM's inability to manage wild horses on private lands.

Response: The original Wells RMP/EIS and Record of Decision (ROD), signed July 16, 1985, stated as a general objective:

"Continue management of the six existing wild horse herds consistent with other resource uses".

The RMP listed as a short and long term management action to:

"Conduct wild horse gatherings as necessary and maintain populations within a range from 550 to 700 animals. The Toano Herd would be maintained at 20 animals".

Data collected after 1985 showed a need for combining herd areas (the Cherry Creek herd area (HA) was absorbed into the Antelope Valley and Maverick-Medicine HMAs) based on seasonal movement patterns, and for the removal of checkerboard lands from wild horse management. The removal of the checkerboard lands was a result of numerous requests from the private land owners to remove wild horses from their private lands. As per Public Law 92-195, wild horses must be removed from unfenced private land when requested by the private landowners.

Additionally, a series of decisions by IBLA in 1988 (IBLA 88-591, 88-638, 88-648, and 88-679, API v. BLM) ruled that the wild horse numbers established in certain RMPs were not based on monitoring and were therefore, invalid. The Wells Resource Area decided that in order to update the wild horse objectives in the RMP, a land use plan amendment was needed. The Approved Wells RMP Wild Horse Amendment was signed August 2, 1993.

The Wells RMP Wild Horse Amendment established four HMAs within the Wells Resource Area: Goshute, Spruce-Pequop, Antelope Valley, and Maverick-Medicine. As indicated above, the Cherry Creek HA was absorbed into the Antelope Valley and

Maverick-Medicine HMA. In addition, the amendment stated that wild horses would be removed from the checkerboard lands within the HMAs and these lands would be managed as wild horse free areas. This action did eliminate the Toano herd area from wild horse management, although it will always retain its status as a herd area.

The Toano herd area is not in or adjacent to the Spruce Allotment. Furthermore, none of the checkerboard land patterns that were deleted from management by the Amendment occur within the Spruce Allotment. The issues and concerns surrounding the Toano herd area will be addressed through the allotment evaluations which occur within this herd area, specifically Big Springs, Pilot, and Pilot Valley Allotment Evaluations.

12. **Comment:** *The 10 percent utilization limit of key forage prior to livestock entry on to winter range was established in the land use plan amendment. This limitation is arbitrary and presently under appeal by the Commission.*

Response: The Commission has challenged the Bureau on this issue in their appeal of the Goshute Wild Horse Gather Plan (Appeal No. NV-010-94-05). On July 14, 1997, IBLA issued a decision on the appeal for the Goshute HMA Gather Plan (IBLA 94-126, 94-127, and 94-128). In their decision, IBLA affirmed the BLM's decision by stating that the appellants had not shown that the reported data or the conclusions drawn therefrom were in error. Therefore, the appellants had not sustained their burden of persuasion on the issue. IBLA further stated that the appellants did not offer any evidence supporting their contention that BLM damaged the genetic makeup of the herd by removing "adoptable" horses that were most likely to contribute to a strong herd. Finally, IBLA concluded that the environmental assessment for the Goshute HMA Gather Plan, the Approved Wild Horse Amendment and Decision Record, and the Draft Wild Horse Amendment and Environmental Assessment were properly tiered to the 1985 Wells Proposed Resource Management Plan/Environmental Impact Statement (RMP/EIS) and the approved 1985 Wells Record of Decision; therefore, BLM was not required to prepare another EIS in order to undertake this action.

Specific to the 10% use by wild horses prior to livestock turnout, the BLM indicated that, "The District took all of the best available data and the professional judgement of several range conservationists and wild horse specialists to make this decision. Data show that 40-50 percent utilization prior to livestock turnout on winter use areas leads to severe use at the end of the combined use period. The 10 percent utilization level, which is the midpoint of the slight use category, given to wild horses prior to livestock turnout in the winter use areas is a starting point. It is believed that continued monitoring will prove that the 10 percent utilization prior to livestock turnout will protect wild horse winter range and will result in proper use at the end of the combined wild horse and livestock use period. Monitoring may show that utilization prior to the entry by livestock can be higher and still meet key area utilization goals and adjustments will be made in the allotment evaluation process."

In reference to this issue, IBLA indicated that the "Appellants have not provided the Board with any evidence refuting the information upon which this conclusion rests; nor have they offered evidence to show that BLM's experts erred 'when collecting the underlying data, when interpreting the data, or in reaching the conclusion' challenged by Appellants." IBLA went on to say that BLM is not required to wait until the range is damaged before it take preventive action; proper range management dictates herd reduction before it causes damage to the rangeland. The optimum number of horses is somewhat less than the number that would cause damage.

The Commission also challenged the Bureau on the Wells RMP Wild Horse Amendment in their appeal of the Spruce-Pequop HMA Gather Plan (Appeal No. NV-010-94-03). On March 31, 1997, IBLA issued a decision on the appeal for the Spruce-Pequop HMA Gather Plan (IBLA 94-115, 94-116, and 94-120). In their decision, IBLA dismissed the appeal for two reasons. First, IBLA does not have any jurisdiction to consider appeals of decisions approving or amending RMPs and cannot acquire jurisdiction until action to implement the plan is taken. Therefore, IBLA only considered the appeal as it relates to the Spruce-Pequop HMA. Second, IBLA indicated that in order for an appellant to have standing in an appeal, the appellant must show that they are adversely affected by the decision appealed. In this case, the appellants failed to avail themselves of the opportunity to comment on the draft Gather Plan and Plan EA within the time specified. Therefore, where the appellant has not participated in the process before consideration of the decision, the appellant failed to show that they were adversely affected.

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In conclusion, the 10% utilization limitation by wild horses prior to livestock turnout and implementation of the Wells RMP Wild Horse Amendment have been upheld by IBLA.

13. **Comment:** *We cannot find utilization limits for riparian species. Were portions of these utilization limits allocated to wild horses?*

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Response: As noted on page 22 of the Spruce Allotment Evaluation, the extent of riparian habitat is in the form of springs and seeps. Because of the limited riparian on the Spruce Allotment, riparian utilization objectives were not established. These limited riparian habitat areas would best be protected if improvement, enhancement, or development of the springs is completed. The only utilization limits placed on wild horses is for key forage species within the common winter use areas by livestock and wild horses.

14. **Comment:** *Present Bureau policy requires 75 percent of all riparian areas to be in proper functioning condition by 1998. The objectives and projects do not assess this national policy.*

Response: There are 23 surface waters on public lands within the allotment, of which 16 have been developed. Some of these water sources and associated riparian zones have been fenced. As per Technical Recommendation 13 in the allotment evaluation, the BLM plans to improve, enhance or develop at least three springs in the allotment

placing emphasis on those springs that are receiving high use. Those springs that are not currently being severely impacted by livestock or wild horses will be placed lower on the priorities. All proposed spring developments will ensure that water is available for wildlife, wild horses, and livestock and that the spring source is protected.

The Bureau's Riparian-Wetland Initiative for the 1990's indicated that the BLM would "restore and maintain riparian-wetland areas so that 75 percent or more are in proper functioning condition by 1997." The initiative also stated that the BLM would "protect riparian-wetland areas and associated uplands through proper land management and avoid or mitigate negative impacts." The BLM feels that through the improvement, enhancement, and development of springs and seeps on the Spruce Allotment, the BLM will be making progress toward attainment of this national policy.

15. **Comment:** *Key area SP-24, SP-27, and SP-30 have average utilization rates in excess of five times the utilization limit established for wild horses. While we would agree that overall utilization should be limited to "moderate" or 50 percent, we recognize that application of the carrying capacity computation of Technical Reference (TR) 4400-7 (Analysis, Interpretation, and Evaluation) would eliminate the wild horse herd by these data.*

Response: Key areas SP-24, SP-27, and SP-30 occur within the common winter areas used by wild horses and livestock. These areas were identified in the Wells RMP Wild Horse Amendment as having a utilization objective of 10 percent use by wild horses prior to livestock turnout by November 1st. Calculating carrying capacity for the total area using total combined actual use by wild horses and livestock and then calculating AML using wild horse actual use and pre-livestock use ensures that forage is available for livestock, wild horses, and wildlife and multiple use objectives are attained. Only the utilization by wild horses that occurs from 4/1 to 10/31 is used for calculating the number of horses that can use the common winter use areas prior to livestock turnout and not exceed the 10% utilization limit. This ensures that the same number of horses can continue to utilize the common winter use areas from 11/1 to 3/31 when livestock are turned out and multiple use objectives can still be attained. Refer to Appendix 10 of this MASR.

16. **Comment:** *A definition of animal unit month (AUM) may be in order. An adult horse with a foal less than six months old is equivalent to a cow/calf as an animal unit month.*

Response: It is current BLM policy to count each horse, regardless of age, as an AUM. This policy was upheld by IBLA in IBLA 92-241 (API v. BLM) which cites an Affidavit from the State Director, Nevada, filed July 16, 1992 which states:

"The reason we include foals in our counts is that soon after (if not during a removal or census) the foals would be consuming forage. BLM's practice is not to count calves under 6 months of age. The basis for this is that a calf does not consume substantial amounts of forage until the age of 6 months. BLM in Nevada

generally records any horse under one year of age as a foal for population statistics. Therefore, even at the time of a census, many horses recorded as foals are actually consuming substantial amounts of forage. Even a young foal will be consuming substantial amounts of forage soon after a removal ([less than] 6 months). Therefore, Nevada has always included foals as part of the total population when setting appropriate management levels (AMLs) and censusing animals remaining after a removal to avoid a second removal within six months."

17. **Comment:** *Riparian habitat acreage and condition should be defined. It would appear that riparian protection is only limited to a few projects identified in the land use plan.*

Response: As stated in the discussion on Comment 13 above and page 22 of the allotment evaluation, the extent of the riparian habitat on the Spruce Allotment is in the form of springs and seeps. The size of these springs and seeps and associated riparian areas is less than one acre for each water source. Condition of these springs and seeps, as noted on page 55 of the allotment evaluation, vary from poor to fair. Some of the higher elevation springs may be in good condition. As per Technical Recommendation 13 in the allotment evaluation, an inventory of the springs would not only help determine riparian condition, but also prioritize those that would need to be improved, enhanced, or developed.

18. **Comment:** *The land use plan is presently being amended to allow for elk in the Spruce Allotment. It is obvious that the conversion from domestic sheep to cattle created competition with wild horses, the introduction of elk may increase problems with exceeding utilization limits on key forage. This issue should be assessed.*

Response: The purpose for the Wells RMP Elk Amendment and Decision Record, approved on February 14, 1996, was to address the issue of expanding elk populations in the Wells Resource Area. The objective of the Elk Amendment is to "manage public lands in the Wells Resource Area on a sustained yield basis to support elk populations at a level consistent with other resource needs, while minimizing impacts to adjacent private and public land resources." In addition, the planning criteria established for this amendment specifically states "[elk] population targets will be set at a level consistent with other existing resource values and uses. The expansion of elk populations in the Wells Resource Area up to target population levels will not affect existing domestic livestock permits and licensed AUMs, wild horse AMLs, or wildlife use levels identified in the Wells RMP."

In order to assist in the impact analysis for each of the proposed elk management alternatives, an Elk Available Forage Analysis was prepared. This forage analysis presented an estimated range of elk numbers which could be supported based on the relationship between elk habitat potentials and existing livestock and wild horse use

areas. Various conservative factors were utilized to temper recognized limitations in the use of this analysis to ensure a conservative approach to estimating elk populations supportable by forage considered unavailable to livestock and wild horses. This conservative approach was taken to ensure low level conflicts associated with the proposed plan.

The issue of conflicts with existing grazing uses [livestock, wild horses, and wildlife] was identified during scoping for the Proposed Elk Amendment. The impacts of each proposed management alternative on existing grazing uses was analyzed in the environmental assessment for the Proposed Elk Amendment. This impact analysis determined that target elk populations would be supported by forage currently unavailable to existing grazing uses (livestock and wild horses) and impacts to existing grazing uses would be low. Only acres of public land within the zero utilization category and ten percent of the acres within the slight use category were used in the forage analysis. Under the approved plan, identified elk habitat enhancement projects are projected to be effective in achieving maximum use of available habitat by elk and minimizing the potential for direct competition with existing grazing uses.

The Long-Term Management Actions described on page 17 of the Record of Decision for the Wells Resource Management Plan state that monitoring will be the basis for future adjustments in livestock stocking rates. The Approved Elk Amendment outlines several management determinations which include monitoring data as the basis for future adjustments in elk populations to protect existing multiple uses within the resource area. The Master Memorandum of Understanding between the BLM and the NDOW describes the cooperative management responsibilities for wildlife and habitat. Through this cooperative management agreement, the NDOW has agreed to support the BLM's monitoring program and reduce wildlife numbers where monitoring data supports needed adjustments. In order to support adjustments in a particular class of grazing animal, monitoring is designed to segregate forage utilization where possible. Where utilization can not be segregated, adjustments are made proportionately. It should be pointed out, however, that monitoring of livestock and wild horse use has been ongoing for the past 10 years in some cases. Therefore, sufficient monitoring data are available to establish average historic use by livestock, wildlife, and wild horses and determine increased use by augmented grazing animals such as elk. All such considerations are made prior to making adjustments in grazing use.

As mentioned in Comment 8 above, the EA for Change-in-Kind of Livestock and Implementation of the Spruce Interim AMP, dated December 15, 1993, identified both potentially positive and negative impacts as a result of converting or not converting from sheep to cattle. Although the Finding Of No Significant Impact/Decision Record (FONSI/DR) for the EA indicated that the No Action Alternative was selected, it was evident by the summary in Attachment 8 of the EA that a conversion would be more beneficial overall to not only wild horses but also wildlife. The primary reason for the benefit is the construction of new waters. Lack of water has been identified as a limiting factor on this allotment to not only wildlife but also wild horses.

19. **Comment:** *Livestock distribution is a problem. It is apparent that herding, salting, and water hauls were not successful with cattle and successful with domestic sheep. The allotment may not be suitable for cattle.*

Response: The analysis in the EA, as indicated in number 18 above, identified areas that would be suitable for conversion from sheep to cattle. Appendix 3 of the allotment evaluation and Appendix 10 of this MASR further describes the carrying capacity for the allotment and the appropriate allocation of forage to the competing grazing uses which will allow for progress towards attaining multiple use objectives. The Wells RPS indicated that formal conversions from sheep to cattle would be considered. The EA identified both positive and negative impacts associated with a conversion from sheep to cattle and deferred the conversion ratio to the allotment evaluation. This allotment evaluation process evaluated the "temporary" conversion through nearly 20 years of data and continued monitoring will allow the BLM to further refine the conversion. Analysis of available monitoring data indicates that cattle, wild horses, and wildlife can utilize forage resources and habitat on the Spruce Allotment while achieving or making progress toward attainment of multiple use objectives.

20. **Comment:** *In order to achieve a thriving ecological balance, appropriate management levels for wild horses, classification of livestock, seasons of use, and active preference must be based upon a carrying capacity determined by rangeland monitoring data. The allocation of available forage should be based upon proportional adjustments based upon actual use. Where a wild horse herd appropriate management level is established near or below 50 animals, the BLM must justify its genetic viability and longevity.*

We found it difficult to determine the actual computations for carrying capacity per use area. We request additional explanation and the actual computations determining the AML's in the Spruce Allotment.

Response: The Spruce Allotment Evaluation does not set an AML of fewer than 50 animals. However, the statement that the BLM must justify genetic viability and longevity when the population is at or near 50 animals is not correct. In IBLA 90-419 (API v. BLM) the board affirmed a decision by the Montrose District Office to set an AML of "...an average of 50 head. At such time when total population approaches 65 head, a gather/capture operation will be initiated to remove excess animals. Summarized, the population level managed will be 35 to 65 head +/- 10% at either end."

All available monitoring data on the Spruce Allotment were analyzed when determining the carrying capacity and AML for the allotment. In some cases, carrying capacity was based on a proportion of average actual use by livestock and wild horses. The steps outlined in Appendix 3 of the allotment evaluation and Appendix 10 of this MASR summarize all of the steps taken to determine the carrying capacity and AML.

BLM contacted the Commission for the Preservation of Wild Horses three times to set up a meeting to go over the carrying capacity calculations. No response was given to the BLM for a meeting date.

21. **Comment:** *We request full disclosure as to the list of preparers of the allotment evaluation.*

Response: The Spruce Allotment Evaluation was completed by the BLM. A complete list of the BLM personnel involved in the preparation of the Spruce Allotment Evaluation can be found on page 7 of the allotment evaluation, Consultations, Elko District, BLM.

Nevada Division of Wildlife:

22. **Comment:** *The big game use description on pages 13-14 is accurate and concise. We feel there should be a clarification of the facts in the deer write up to state that the majority of the deer that utilized the allotment migrate in from the East Humboldt, Snake, and Jarbidge ranges. Winter use of the allotment by deer accounts for the majority of yearly deer use. At present, it sounds in the write up as if deer which summer on Spruce and the Pequops just do an elevational migration from summer to winter range and back.*

Response: The deer write up on page 12 of the allotment evaluation is hereby rewritten to read as follows:

"Based on updated information from the Nevada Division of Wildlife (NDOW), yearlong (DY), summer (DS), winter (DW), crucial winter (DW(C)), and spring (DSP) use areas are shown on Map 4. The summer areas are mainly at higher elevations of the Medicine Range, Spruce Mountain, and the Pequops, which are used by a small resident deer herd. The small population migrates to lower elevations in the winter, utilizing the lower benches of Spruce Mountain and the Pequop Mountains. The majority of the deer that utilize the allotment migrate in from the East Humboldt, Snake, and Jarbidge Ranges. Winter use of the allotment by deer accounts for the majority of yearly deer use. See Map 6 for seasonal mule deer habitat boundaries. Table 5 outlines the acres of each seasonal use area within the Spruce Allotment."

23. **Comment:** *Active preference for the allotment as identified in the RPS is 35,565 AUMs. Total preference is 36,085 AUMs. These AUMs were initially allocated as sheep AUMs. Total recommended preference is 14,568 AUMs. Therefore, the conversion factor for sheep to cattle was 2.47 to 1. This conversion was an issue when the draft Spruce AMP was first submitted in 1987 and at that time we questioned the conversion rate.*

Response: If we divide the current total number of AUMs of specified livestock grazing use of 36,085 AUMs, which was allocated based on sheep use, by the 14,568

AUMs determined through the present evaluation to be available for livestock, the conversion ratio would be approximately 2.47 sheep AUMs to 1 cow AUM. However, the Bald Mountain Sheep Use Area (1,320 AUMs) remains as sheep use and therefore, should not be included in calculating the conversion ratio from sheep to cattle.

The following calculations show what the conversion from sheep to cattle will be based on the carrying capacity calculated with the updated information:

Permittee	Pre-Evaluation	Post-Evaluation
	Total # of AUMS of Specified Livestock Grazing Use (Sheep AUMs)	Total # of AUMS of Specified Livestock Grazing Use (Cattle AUMs)
Von L. and Marian Sorensen	22,128	10,965
Kenneth Jones	13,437	4,532
Total	35,565	15,497

If we divide the 35,565 sheep AUMs by 15,497 cattle AUMs, the conversion ratio is 2.3 sheep AUMs to 1 cow AUM. If we divide 15,497 by 35,565, we get 44%. This means that 44% of the original sheep AUMs are available for cattle use.

If we want to compare the number of animals, instead of AUMs, we must first convert the number of sheep AUMs into numbers of sheep based on the following:

- 5 sheep grazing for one month = 1 AUM (sheep)
- 1 cow grazing for one month = 1 AUM (cattle)

There are two ways to compare the number of animals:

1. We could first multiply 35,565 sheep AUMs times 5 sheep/AUM to arrive at a total of 177,825 sheep. These 177,825 sheep grazing for one month are numerically equivalent to 35,565 sheep AUMs. Therefore, if we compare 177,825 sheep to 15,497 cattle, the conversion ratio is 11.5 sheep to 1 cow.
2. If 2.3 sheep AUMs are equivalent to 1 cow AUM, then 2.3 x 5 sheep/cow AUM equals 11.5 sheep to 1 cow.

14,568

24. **Comment:** A recommendation was made to add to the evaluation, under Wildlife Use (Section II.C.), additional Threatened, Endangered, and Candidate Species, Birds of Prey, Song Birds. Also, Section II.C.8, "Other", would be modified to show number of species of birds, mammals, and reptiles that occur within the allotment.

Response: The threatened, endangered, and sensitive species list will be updated to show the most recent information received by the NDOW. U.S. Fish and Wildlife Service (USFWS) no longer lists candidate species. As of April 1997, the Bureau listed the once candidate species as BLM State Sensitive species. Appendix 9 shows an updated list of Threatened, Endangered, and BLM State Sensitive Species on the Spruce Allotment.

25. **Comment:** *Recommended adding a new wildlife objective (Section III.C.4.b, Wildlife Objectives). The new objective would be:*

"Improve all ferruginous hawk nesting habitat to good habitat condition."

Recommended adding a new technical recommendation that would read as follows:

"A majority of ferruginous hawk nesting territories were vacant in 1994. All nesting/foraging habitats should be managed to good condition to ensure a healthy prey base for the species. Any projects that would convert native shrub/grass steppe and salt/desert shrub habitats to exotic monotypic grasslands would have a negative impact on ferruginous hawk populations in those areas."

The establishment of exotic monotypic grasslands would eliminate most of the native nongame species in those sites.

Response: Range key area monitoring sites within ferruginous hawk nesting habitat currently have objectives to manage for late seral conditions or better, which will ensure overall improved habitat conditions for wildlife.

Any projects that involve vegetation manipulation, fencing, water developments, etc., must follow the proper coordination, consultation, and cooperation with NDOW and any other affected interests to ensure that there are no conflicts or minimal conflicts not only with big game wildlife species, but other species as well. All proposed projects must have an EA completed to analyze potential impacts, including those to ferruginous hawks.

In addition, as indicated in the approved Standards and Guidelines for Rangeland Health developed for the Northeastern Great Basin Area, Standard #3 (Habitat), allow for healthy habitat conditions that provide food, water, cover, and living space for animals and also provide for the life cycle requirements of threatened and endangered species. Several guidelines, including vegetation manipulations projects, were identified as tools that could be used to ensure progress is made toward attainment of this standard.

26. **Comment:** *Recommended inserting into Technical Recommendation #13, page 103, the following:*

"The Quilici Spring fence should be redesigned to eliminate any gates and a remote water should be developed outside the enclosure for wildlife, livestock, and wild horses. There doesn't appear to be any other alternative to protecting this spring from abuse."

Response: A gate, as part of the design, is necessary to ensure access into the enclosure to complete proper maintenance or removal of animals that may accidentally get into the enclosure. The fence design should allow for wildlife to use the spring source, as per Bureau standard operating procedures (SOP). It is important to emphasize that although this spring is on public land, the water rights are held by the permittee and Relict dace, a BLM sensitive species, is present in the spring. Coordination, consultation, and cooperation will not only be required with the permittee but also USFWS, NDOW, and any other affected interests.

27. **Comment:** *On Spruce Mountain, heavy use of the high elevation coniferous forest type by wild horses may be having a negative impact on ground nesting song birds, such as the gray-headed junco and ground foraging species such as the hermit thrush. Horses should be excluded from this isolated habitat types.*

Response: The BLM has been conducting intensive wild horse distribution and census flights since 1992. The number of wild horses observed in the high elevation coniferous forests is incidental and the BLM has not recorded heavy use by wild horses in these areas.

Spruce Mountain is located within the Spruce-Pequop HMA. The winter range associated with this HMA did not indicate any needed changes to wild horse numbers, therefore, AML proposed for this HMA is 82 horses; the same number proposed as initial herd size in the Well RMP Wild Horse Amendment.

28. **Comment:** *All improvement projects planned for isolated springs and seeps should allow for yearlong use of water by nongame wildlife (bats, birds, and terrestrial mammals) at the historic spring site.*

Response: The Bureau must comply with State Water Laws when developing projects. As per Nevada Revised Statutes 533.367, it is a requirement to ensure access of wildlife to water it customarily uses. In addition, it is Bureau SOP to design fences that will allow for wildlife access to the water source.

Kenneth Jones:

29. **Comment:** *Table 3 on page 2 of the allotment evaluation indicates that the current season of use ends April 15 for the Kenneth Jones winter cattle operation, when the actual use for the past 20 years has run from May 15 to June 1. The historic season of use for the Secret Pass Herd (Von L. and Marian Sorensen) is November 1 through May 31.*

Response: Table 3 was in error. As per actual use reports, cattle have traditionally come off of the range around May 15 for both operators. Table 3 is hereby corrected to indicate season of use for Von L. and Marian Sorensen (Secret Herd) as November 1 through May 31 and Kenneth Jones as November 1 through May 15.

NOTE: This comment was submitted by both Kenneth Jones and Von Sorensen but was consolidated into one comment and response.

30. **Comment:** *Since 1988, 90 to 95 percent of the grazing use around Quilici Spring has been done by wild horses.*

Response: On page 3 of the allotment evaluation, the Bureau, in describing the Ken Jones winter cattle operation, indicates that "Increased wild horse use in Subunit A-2, especially around Delcer Buttes, north end of Medicine Range, and Ruby Wash, has led to decreased livestock use in these areas. For over 5 years, the permittee has not used Ruby Wash Well because of the high wild horse use occurring in this area...." As per a meeting between Ken Jones and BLM on July 12, 1995, he wanted this sentence to be more specific and thus will be changed to read, "Since 1988, the permittee has not used Ruby Wash Well....." In addition, the permittee wanted to point out that cattle have used Quilici Spring only incidentally due to the high use by wild horses. As per the quote from the allotment evaluation indicated above, the area around the north end of the Medicine Range is the same as what the permittee refers to as use around Quilici Spring.

31. **Comment:** *In 1981, 2,028 AUMs were specified for wild horses (see page 11 in allotment evaluation) which translates to 169 horses for 12 months (2,028 divided by 12). Table 4 on page 10 of the allotment evaluation indicates that in 1981 there were 245 horses in the allotment (76 more than authorized) and by 1994 there were 673 horses present (504 more than authorized).*

Jones also states that "the areas in their part of the allotment that show the most significant deterioration are those where the greatest horse use has been occurring, Quilici Spring, Ruby Wash, etc."

Response: On page 11 of the allotment evaluation, the Bureau states that the initial management level for wild horses, as specified in the RPS, was to provide forage to sustain 2,028 AUMs of wild horse use. However, in 1988, IBLA rendered a decision that stated that the Bureau would manage for a wild horses herd size that would maintain a thriving ecological balance. As the Bureau began to collect monitoring

data to establish a thriving ecological balance within the herd areas, it was determined that a land use plan amendment was needed to establish HMAs, clarify boundaries, and to set initial herd size. The Wells RMP Wild Horse Amendment was final on August 2, 1993. Therefore, as a result of the IBLA decision and LUP amendment, the objective to sustain 2,028 AUMs has been replaced by maintaining a thriving ecological balance and the Bureau is currently monitoring and evaluating the initial herd sizes established in the LUP amendment and adjusting as necessary through the allotment evaluation process.

The initial herd sizes presented on page 11 of the allotment evaluation represent total numbers of wild horses within the HMA. Appendix 3, Table 3-2 in the allotment evaluation, shows how wild horses are separated by HMA and percentages of wild horses within the Spruce Allotment by HMA. In summary, the initial herd size in the Wells Resource Area is 814 as per the Wild Horse Amendment. The average number of wild horses within the Spruce Allotment as determined through census flight information is 369. Refer to Appendix 10 of this MASR for updated numbers based on addition of new data through March 31, 1997.

Table 4 on page 10 of the allotment evaluation (updated in Appendix 6 of this MASR), indicates the increase in wild horses on the Spruce Allotment through the years. Appendix 5 of this MASR summarizes wild horse actual use and also indicates an increase from 2,832 AUMs in 1989-90 to 6,052 AUMs in 1996-97. It is important to note that the Bureau was documenting and was aware of the problem which led to the completion of the LUP amendment. The Bureau also feels that this allotment evaluation has adequately addressed the wild horse issue and is proposing a technical recommendation to establish an AML for the allotment to ensure multiple use objectives can be attained while providing for the needs of other resource users, including livestock and wildlife. The AML will be portrayed as a range to ensure that gathers will maintain wild horses at or below the maximum level.

32. **Comment:** *Much of the problem of poor livestock distribution is related to the heavy horse use in some areas which leaves little or no feed available for livestock. (This comment was made in reference to the RPS objective that states, "Improve livestock distribution in Ruby Valley" on page 16 of the allotment evaluation.)*

Response: The Bureau feels that the problems associated with poor livestock distribution have been adequately addressed in the Conclusions section of the allotment evaluation (page 59).

33. **Comment:** *In reference to Table 14 (average actual use) on page 27 of the allotment evaluation, Jones indicated that their actual use was down for 3 years due to the fact that they quit wintering Loyd Sorensen's cows with theirs in 1990-91 and it has taken until now to build their numbers to the previous level.*

Response: The Bureau is aware of the split in the Sorensen/Jones livestock operation as it is documented on page 2 of the allotment evaluation.

34. **Comment:** *Table 35 (Wild Horse Actual Use) on page 44 of the allotment evaluation, indicates a real problem. In the four years from 1989 to 1993, horse use in the allotment more than doubled from 2,832 AUMs to 5,727 AUMs.*

Response: Pre-livestock use by wild horses has been collected on the Spruce Allotment since 1991 and the problems identified were the basis for completion of the Wells RMP Wild Horse Amendment in 1993. Actual use and utilization by wild horses was also incorporated into the carrying capacity analysis to determine a total carrying capacity and then proportioned to forage users. The Bureau feels that this issue has been adequately addressed in the allotment evaluation.

35. **Comment:** *Table 45 (Climatic Adjustment Factor) on page 58 of the allotment evaluation, provides a key factor that must not be overlooked in this evaluation. The eight years (1986 through 1993) averaged almost 20% below the average for precipitation.*

This evaluation began after four years (1982-1985) which averaged 150% of normal precipitation, so the range had just experienced four good years and was evaluated through eight bad years. One would expect the "trend" to be downward.

I believe the statistics indicated in Table 45 must be given real consideration in the "conclusions" part of this summary. If carrying capacity is based on the "trend" indicated by this summary and then we get back into a more "normal" precipitation trend which reverses the downward trend we've been in, I'm afraid we would have a very difficult time trying to obtain any increase in livestock AUMs.

Response: Appendix 8 of this MASR shows the updated Table 45 (from the allotment evaluation) to include data from 1994 through 1996. The data for the climatic adjustment factor include precipitation data from September of one year to June of the next year, therefore, data for 1997 is beyond the evaluation period and is not included in this table. The climatic adjustment factors for the Ruby Lake and Montello Weather Stations were used in comparison of the data in the winter grazing range. An average of the climatic adjustment factor from 1980 through 1996 for these two stations indicates that precipitation has been above average. An average of the climatic adjustment factor from 1986 through 1996 when monitoring data were being collected indicates that precipitation has been close to normal. The conclusion that can be made is that data have been collected on this allotment through both drought and wet years resulting in an average that is close to "normal" precipitation over the last 10 years. Therefore, the carrying capacity is based on "normal" precipitation data for the area and no adjustments are necessary (i.e. using post-CAF carrying capacity calculations).

In the case of the precipitation data for the Wells Weather Station, which is used for comparison in the spring, summer, and fall grazing range for the Spruce Mountain Herd, the average climatic adjustment factor from 1980 through 1996 indicates precipitation is normal. The average from 1986 through 1996 is slightly below normal.

The conclusions summary in the allotment evaluation indicated that in some cases not only was the lack of precipitation a contributing factor to non-attainment of multiple use objectives but grazing also contributed. We cannot predict what the climate will be for the next ten years, but we can only base carrying capacity based on what we know has happened for the last ten years, which as indicated by the data, is close to "normal." Only future evaluations of the allotment can give us indications of any increases in carrying capacity.

Carrying capacity is based on actual use and utilization. However, climate, livestock distribution, trend data, and weight-estimate production data are also used in making final recommendations on the carrying capacity. Refer to response in Comment #55 for more discussion on carrying capacity.

36. **Comment:** *In reference to RPS objective "o" on page 67 of the allotment evaluation, it is my observation that significant damage has been done in the areas around Quilici Spring and Ruby Wash and in order to allow recovery from excessive horse use in those areas, horse numbers should be reduced below the desired, or specified, management levels for a period of at least a few years.*

Response: The AML was determined by evaluating all available monitoring data. The established AML will ensure a thriving natural ecological balance consistent with all other multiple uses. The wild horse AML will be revised to show a range which will ensure that gathers will maintain wild horses at or below the maximum level.

37. **Comment:** *The first paragraph on page 72 of the allotment evaluation refers to the key factor of wet versus dry cycles which must be remembered in the conclusion phase of this evaluation.*

Response: The Bureau acknowledges the fact that data were collected in 1986 after a wet cycle and in 1990 after a dry cycle. However, if we look at precipitation data over the period of the evaluation, precipitation was "normal." Refer to the discussion in Comment 35 above.

38. **Comment:** *Subunit A-1 lies outside an HMA, but the presence and frequency of "stud piles" indicates that horses are present almost continually. This is an indication that there are too many horses in the adjacent HMAs for the range to carry, thus they are locating outside the designated habitats.*

Response: Maintaining wild horse numbers at AML in each HMA as established in this allotment evaluation should ensure that wild horses will not experience social pressure or lack of forage which would cause them to leave the HMA.

39. **Comment:** *In the conclusions for key area SP-01 on page 73 of the allotment evaluation, the data indicate a decrease in the frequency of white sage, but an increase in production of white sage. This would suggest that the dry trend has taken its toll on seedlings and young plants.*

Response: Under the "Summary for Subunit A-1," on page 74 of the allotment evaluation, the Bureau concluded that it was difficult to determine the decline in shrubs in SP-01 at the time. However, we did determine that it could be possible that drought conditions were a contributing factor to the decline and perhaps not necessarily due to grazing. Slight use was recorded in three of the four readings.

40. **Comment:** *In reference to pages 76 and 77 of the allotment evaluation, these pages cover an area that lies within an HMA and show that in all instances horse use is above the objective levels.*

Monitoring site "05" is an area that receives considerable livestock use while "06" is three or four miles from water and therefore receives only light to moderate use by livestock. There are no monitoring sites southeast of "06" toward Quilici Spring but observation shows that the closer to the spring you get, the more accelerated the downward trend.

Response: The Bureau feels that key area SP-06 adequately monitors use on this bench. This key area has also been read prior to livestock turnout to determine what percent utilization wild horses are making. If the pre-livestock use levels by wild horses are exceeding the objective level at SP-06, it would be a safe assumption to say that as you get closer to water, that use will increase. While no key areas exist closer to Quilici Spring, use pattern maps reflecting combined wild horse and livestock use in this area were completed in 1987, 1989, 1991, 1992, and 1993 (summary on page 30 of allotment evaluation). In addition, the bench was identified as one of the problem areas where excessive wild horse use has occurred in the Wells RMP Wild Horse Amendment. The Bureau feels that this issue has been adequately addressed.

41. **Comment:** *In reference to pages 80-81 of the allotment evaluation, SP-10 is further from water than is SP-11, thus receives lighter livestock use and heavier horse use but "10" is not doing as well as "11." What does this tell you?*

Response: These two key areas occur within Subunit B-2. The conclusion for this subunit on page 81 of the allotment evaluation state that both drought and grazing have had impacts on this subunit. Drought, compounded by grazing, especially during the critical part of the growing season has been detrimental to plants. The conclusions also state that range condition in SP-10 has remained in mid seral and trend is downward while in SP-11, range condition has remained in late and trend is static.

42. **Comment:** *Once again, the indications shown on these tables (Tables 47 through 50 on pages 95 and 96 of the allotment evaluation) must be viewed with the thought in mind that the data has been collected through a seven year drought period and the sites showing the poorest performance are those areas where horse use is the heaviest. Table 50 once again, points to the excessive pre-livestock horse utilization. Twelve out of the thirty sites received horse utilization above objective levels every year covered by this evaluation.*

Response: This comment is implying that drought and wild horse use are the reason for non-attainment of multiple use objectives. The Bureau feels that this allotment evaluation has adequately analyzed and interpreted the results of all the available monitoring data. The technical recommendations to establish an AML and proposed changes to livestock grazing management should ensure attainment of multiple use objectives.

43. **Comment:** *Technical Recommendation 2 indicates that an active preference of 4,464 AUM's is the objective for Jones. This is unacceptable to me. These figures were apparently arrived at by averaging the actual use numbers found on page 27, Table 14 of the allotment evaluation.*

I have been operating on the Spruce Allotment since 1974 and have gradually been converting from sheep to cattle. In 1982, all of the sheep were sold and in 1990 the Jones/Sorensen cattle operation split. The split resulted in the creation of the Secret Pass Herd currently operated by Von L. and Marian Sorensen. We went into the winter with our own significantly reduced numbers with the objective of building our herd to the size of the combined herd that we had been going to the winter range with.

It is my view that by controlling horse use and limiting it to the "objective levels" and with the change in climatic conditions away from the drought trend that we have been experiencing (hopefully we are entering into a wet cycle at this time). The part of the Spruce Allotment that I use can easily carry 5,500 to 6,000 AUM's and enjoy an upward trend in range condition.

If seedings can be established to accommodate the livestock through April and until they leave the Spruce Allotment in May, the rate of improvement in the native range should surely be accelerated.

Response: The two key factors in determining carrying capacity are actual use and recorded key area utilization. Appendix 3 of the allotment evaluation summarized how the carrying capacity and AML were calculated. The proposed carrying capacity for Jones is higher than average actual use. Average actual use, as identified in Appendix 3 of this MASR, is 4,048 if we use data through 1994. The recommended carrying capacity is 4,464. This results in a 9% increase in use from average actual use. If we include data through 1997, as indicated in Appendix 3 of this MASR, average actual use is 4,212 AUMs. The recommended carrying capacity is 4,532 AUMs, which results in a 7% increase from average actual use.

The Bureau agrees that establishing an AML for wild horses and limiting use to objectives levels will result in improved range conditions. Precipitation is a factor which we cannot control but we can control establishing proper stocking rates and change management through implementation of grazing systems.

44. **Comment:** *In reference to Technical Recommendation 21, since Paris' no longer desire to use Bald Mountain with sheep, I would suggest that a monitoring site be established near "Mud Spring" and another site be established near Quilici Spring to better evaluate horse use.*

Response: In 1992, three new key areas were established in Subunit A-2 to monitor wild horse use. These key areas adequately monitor not only use around Quilici Spring, but also Ruby Wash. The recommendation for a key area in Subunit G (Bald Mountain Sheep Use Area) is already included in the allotment evaluation. Location of any new key areas and objectives for those key areas will be coordinated with the permittees and any other affected interests.

45. **Comment:** *Appendix 2 of the allotment evaluation continues to indicate excessive horse use in the proposed "Valley Mountain" portion of the Spruce Allotment.*

Response: The Bureau is aware of the excessive horse use that has been occurring on this allotment. As previously stated, pre-livestock use by wild horses has been collected since 1991 on the Spruce Allotment. These monitoring data, along with the combined use (livestock and wild horses) data were the basis for completion of the Wells RMP Wild Horse Amendment and establishment of AML through the allotment evaluation.

46. **Comment:** *In Appendix 3 of the allotment evaluation, item #10 refers to the problem of "drift." In actual observance over the last six years, since we've been attempting to run separately, we have seen approximately 5 cows drift from C-1 into B-1 for every 1 cow that has gone the other way.*

Response: The "drift" is a problem because as mentioned in #10, Appendix 3 in the allotment evaluation, carrying capacity is calculated using actual use and utilization. Interpretation of monitoring data includes looking at the relationship of actual use reported to the utilization recorded. When a "drift" problem occurs, usually the actual amount of drift is not reported and the data is skewed. For this reason, it was recommended that carrying capacity in Subunit B-1 be the same as average actual use, indicating that most of the "drift" problem was from the north to the south.

When carrying capacity was calculated with data added through 1997, the capacity was close to average actual use thus no changes are proposed for this subunit from calculated carrying capacity.

47. **Comment:** *The recommended carrying capacity for livestock in Subunit B-2 is too low (Table 3-1, Appendix 3 in allotment evaluation). This subunit contains a bench area southwest of the Dolly Varden Mountains that, on a good year and after horses have been removed, has produced an abundance of usable forage; as is the case this year. There is enough feed within this subunit this year to provide at least three times the recommended AUMs.*

Response: The carrying capacity for each subunit was based on analysis of all available monitoring data on the Spruce Allotment. Additional data collected between April 1994 and March 1997 are included in the carrying capacity calculations. In addition, refer to the discussion on Comment 35 above and 55 below.

48. **Comment:** *The calculated carrying capacity calculations (Table 3-3, Appendix 3 in allotment evaluation) are too low and are not justified.*

Response: Refer to the discussion on Comment 35 above and 55 below.

49. **Comment:** *Table 3-4 (Appendix 3 in allotment evaluation) indicates a loss of 67% of the AUM's held by me (Jones) in this conversion which is not acceptable to me, nor do I believe it is justified for reasons previously stated.*

Response: Refer to the discussion on Comment 35 above and 55 below.

50. **Comment:** *The introduction in Appendix 4 of the allotment evaluation, indicates that multiple use objectives are not being attained. Once again, I would point out that this evaluation has been conducted over a period of 8 years during which 7 of those years received an average precipitation level of only 77% of normal and the remaining year only 5% above normal (as indicated in Table 45, page 58 of allotment evaluation). Combine that with the excessive horse use recorded in the summary and I find it amazing that the range condition trend had been "static" to "slightly downward."*

Response: All available monitoring data were analyzed in drawing conclusions for this allotment. The Bureau feels that the proposed stocking levels, establishment of an AML, completion of proposed range improvements, and implementation of the proposed grazing system that reduces grazing use during the critical growth period will lead to improved range conditions. These desert shrub communities within the valleys of this allotment receive an average of 5-10 inches of precipitation annually. It may be sometime before significant changes occur. However, this is a starting point and as monitoring continues on the allotment, any adjustments can be made accordingly.

51. **Comment:** *The grazing system outlined in Table 4-3 (Appendix 4 in the allotment evaluation) outlines the use of the native range of my allotment in four distinct subunits. I have never advocated this approach and don't believe it to be practical. We have historically rotated the use on A and B from year to year and that system has allowed flexibility to adjust for weather and climatic conditions that vary so much from year to year and even month to month. I recommend combining A-1 and A-2 and B-1 and B-2 and that the only new fences that should be considered are those necessary for the protection and management of the proposed seedings.*

Response: The Ken Jones grazing system for all options has been modified to show combined use in Subunits A-1 and A-2 and B-1 and B-2. It should be noted however, the importance of submitted actual use by water wells within the subunits that are used. Actual use information for both livestock and wild horses is critical in the establishment of an AML for the allotment. The northern half, Subunit A-1, receives

less wild horse use while the southern half, Subunit A-2, receives more use. Livestock use as it relates to the southern half and the northern half is very important in determining a percent of use by livestock and wild horses.

52. **Comment:** *Since we (Jones) began this process of developing a management plan for our portion of the Spruce Allotment, some factors have changed which requires us to take a different look at the way any plan might work the best.*

We now own the Circle Bar Ranch in Ruby Valley which incorporates the Big Meadows Allotment. This means that instead of looking to the north in the spring-time, we (and our cattle) are now looking to the west. For this reason, we should probably see if there isn't a suitable site for a seeding north and west of Medicine Spring to be used on those years when the cattle are in that area during March and April.

Response: Seedings have been considered as part of the selected management actions for this allotment. The proposed locations identified in the allotment evaluation are general areas that have been considered suitable for seedings. Other areas may be looked at for suitability. The final location of the seedings will be determined by areas that have the least impacts to wildlife, wild horses, cultural resources, and other resources and will provide for attainment of multiple use objectives. Consultation, cooperation, and coordination will be completed with the permittees and all other affected interests for this allotment.

Von L. Sorensen:

53. **Comment:** *Sorensen contends that the only resource objectives that are relative to the Spruce Allotment are included in the 1985 Wells RMP/EIS, 1993 Wells RMP Wild Horse Amendment, and 1992 Antelope Valley HMAP.*

Sorensen further contends the 1986 RPS does not contain a decision identifying the information contained in this document as being binding allotment objectives.

Furthermore, Sorensen expects to be actively involved in all aspects of the subsequent development of the Spruce AMP, including formulation and identification of allotment specific objectives.

Response: The purpose of the RPS was to inform interested parties of the implementation of the rangeland program in the Wells Resource Area. It provided a tracking mechanism between the Wells ROD and grazing decisions that would be issued as related to the grazing management program. The RPS also identified and informed the public of grazing allotment management objectives in three major categories which are: livestock, wildlife, and wild horses. Additionally, it identified the specific kinds of monitoring studies used to measure attainment or non-attainment of management goals.

The allotment specific objectives and RPS objectives are in conformance with the LUP. As per 43 CFR 1601.05(b), Conformance means that "a resource management action shall be specifically provided for in the plan, or if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or plan amendment." In a recent ALJ Decision, N2-90-23 (NJ Ranches v. BLM) and N2-91-6 (Fred Buckingham v. BLM), the judge stated that an "allotment specific objective which is not specifically set forth in the LUP, may be created in conformance with the LUP if it is clearly consistent with the plan." The allotment specific objectives for the Spruce Allotment are consistent with the LUP process and therefore, in conformance with the plan, which is binding by the Wells ROD.

TR 4400-1, Planning for Monitoring, states that "selection of key areas is tied directly to land use, coordinated resource management, and/or activity plan objectives. Where justified, an interdisciplinary team may be used to select these areas. In addition, permittees, lessees, and other interested parties outside the BLM may be invited to participate, as appropriate, in the selection of key areas." Upon establishing key areas, monitoring on the allotment begins. As per the Nevada Rangeland Monitoring Handbook (NRMH), "monitoring determines the nature of grazing which has occurred and measures the effectiveness of management in meeting specific objectives. In order for the results of monitoring studies to be useful, it is essential that management objectives be based upon existing resource conditions and issues and be measurable, attainable, and realistic." The NRMH further states that "monitoring is conducted to find out what is happening and why it is happening in relation to specific management objectives." Now that monitoring data have been gathered on the allotment, an evaluation of the data must be completed. The purpose of the allotment evaluation is to: 1) summarize current management on the allotment, 2) determine whether or not adequate progress is being made toward achieving the multiple use objectives, and 3) provide recommendations for future management of the allotment.

As indicated in the allotment evaluation, key areas were established in 1986 and 1987, hence the beginning of the monitoring program on the allotment. Our files indicate that on August 21, 1986, Ken Jones and the range conservationist agreed to the key area locations on Mr. Jones' portion of the allotment. Mr. Jones signed a key area concurrence form on November 20, 1990. On August 27, 1986, Von Sorensen, Les McKenzie (permittee's consultant), and the range conservationist agreed to the key area locations on Mr. Sorensen's portion of the allotment. Mr. Sorensen signed a key area concurrence form on November 30, 1990. The key area concurrence form simply states that the permittee approves the locations of the key areas, which is the basis for the monitoring program for the allotment. This allotment evaluation is the result of the collection, analysis, interpretation, and evaluation of all available monitoring data on the Spruce Allotment.

In summary, the Bureau has the responsibility to develop allotment monitoring objectives to achieve the broader LUP objectives. LUP objectives were developed through the CCC (consultation, cooperation, and coordination) process. The Spruce Allotment Evaluation process has provided an opportunity to review objectives,

including refinement of RPS and allotment specific objectives and suggestions for additions, deletions, and modifications to the objectives.

Prior to implementation of the new grazing regulations on August 21, 1995, a permittee could only be afforded flexibility and after-the-fact billing without prior approval of the authorized officer through implementation of an AMP. The new regulations, as outlined in 43 CFR 4120.2(a) (Allotment Management Plans), indicate that "an allotment management plan or other activity plans intended to serve as the functional equivalent of allotment management plans shall be prepared in careful and considered consultation, cooperation, and coordination with affected permittees or lessees, landowners involved, the resource advisory council, any State having lands or responsible for managing resources within the area to be covered by such a plan, and the interested public."

In Nevada, the multiple use decision issued as a part of the allotment evaluation process is deemed as a functional equivalent of an AMP. Therefore, the selected management actions, including refinement of RPS and allotment specific objectives through this allotment evaluation process are incorporated into a multiple use decision. In addition, increased flexibility in which the permittee may be allowed to adjust operations without prior approval of the authorized officer and billing at the end of the grazing season or reconciliation billing may also be incorporated into the multiple use decision. Therefore, there is no need to complete an AMP unless the permittee requests one be completed. If that were the case, the management actions identified in the final multiple use decision would be incorporated into the AMP.

54. **Comment:** *Sorensen made the statement that "four additional wells are authorized and ready for development pending resolution of the water rights issue."*

Response: The wells in question have not been authorized by the Bureau as NEPA documentation has not been completed. The Bureau has proposed to develop some wells in the allotment evaluation because lack of water was determined to be a problem. Sorensen has also requested the development of some stockwater wells. Approval to develop wells will not be authorized until completion of the allotment evaluation process and appropriate NEPA documentation.

55. **Comment:** *The allotment evaluation recommends implementing stocking rates that represent a substantial reduction in the historic cattle use on the Spruce Allotment. Through a series of mathematical formulations and data manipulation this evaluation has determined that the native range portions of the Spruce Allotment has an estimated carrying capacity totally 8,784 AUMs under Option 1 or 9,777 AUMS under Option 3. Disregarding the issue of replacement spring seedings, this BLM estimate represents a 12 percent reduction in the average actual livestock use practiced during the interval of this evaluation. Manipulations of the monitoring data used by the BLM to derive these estimates include:*

a) Using the highest recorded utilization level to estimate carrying capacities when two or more key species are present at a key area study site.

b) Using selective "comparable" estimates to derive carrying capacity estimates rather than considering all the data generated by these analysis.

c) Using "pre-CAF" values to estimate carrying capacities rather than "post-CAF" estimates which are normalized to reflect average conditions.

Relative to the first two techniques, existing manual/handbook instructions and authorities do not authorize the BLM to manipulate monitoring data in the manner utilized and described above.

Regarding the third technique, the allotment evaluation provides substantial documentation that Sorensen has consistently been a pro-active livestock manager that readily adjusts stocking rates during periods of low production to achieve allotment objectives. The fact is evidenced by the actual use data contained in the allotment evaluation. As such, we see little need to penalize Sorensen for practicing good stewardship by offering anything less than average actual use in this evaluation.

Sorensen strongly recommends that the BLM review and revise the current analysis of livestock carrying capacities for Spruce Allotment to more accurately reflect actual forage utilization levels and livestock use, the documented forage availability, and to provide adequate consideration for all the monitoring data compiled to date and past stewardship practiced by Sorensen.

Response: Appendix 3 of this MASR indicates that the total average actual use from 1986 through 1994 for Von Sorensen's cattle operation is 7,960 AUMs. If we only include those years when Von Sorensen started running the two cattle operations (beginning in 1991-1992), the total average actual use is 8,879 AUMs. With a recommended carrying capacity of 8,784 AUMs, this would mean a 9% reduction or 1% increase depending on which average we compare. The 12% reduction was based on total combined sheep and cattle actual use since 1986. In comparing this total, the assumption is being made that 1 sheep AUM is equal to 1 cow AUM, which we know is not the case as per the discussion in Comment #23 above.

With the three years of data added (through March 31, 1997), the total average actual use for Von Sorensen from 1986 through 1997 is 8,322 AUMs. The average actual use since 1991-1992 is 9,084 AUMs. The recommended carrying capacity with the new data is 10,965 AUMs, therefore, this would mean a 24% increase or 17% reduction, again depending on which average we compare.

In conclusion, the Bureau feels that this allotment evaluation has thoroughly addressed the analysis and interpretation of all the available monitoring data used in deriving the carrying capacity and this total does not result in a substantial reduction from Von's Sorensen's historic use.

TR 4400-7 (Analysis, Interpretation, and Evaluation), states that "the analysis of biological information should be logical and well documented. Interpretation and evaluation are thought processes that deal with unique biological situations rather than

more restrictive cookbook processes. There is no simple formula that can be used to analyze, interpret, and evaluate grazing use and its effects on the public rangeland." The technical reference further states that "because of the variety of monitoring data collected throughout the BLM, no single format for analysis is feasible or recommended. To facilitate the analysis of specific data, the format must be designed on a case-by-case basis. Complete documentation of the analysis is essential. The analysis may be as basic as visually comparing cover values from successive readings of trend or as complex as conducting a computer-aided analysis of variance of large amounts of data."

Therefore, from the direction provided in BLM technical references, there is no one method of analyzing and interpreting or evaluating data as long as it is well documented on how the final conclusion was reached. The BLM feels that the Spruce Allotment Evaluation has adequately and thoroughly addressed the collection, analysis, interpretation, and evaluation of monitoring data on the allotment.

In the case of *API v. BLM* (IBLA 93-308, 94-14), the judge stated that,

"Although appellants disagree with BLM's conclusions concerning that data, we are unwilling to overturn a BLM decision where the appellant merely presents some other course of action which may be theoretically as correct as that chosen by BLM. The Department is entitled to rely on the reasoned analysis of its experts in matters within the realm of their expertise. In cases involving an expert's interpretation of data, it is not enough that the party objecting to the interpretation of data demonstrates that another course of action or interpretation is available or that the party's proposed course of action is also supported by the evidence. The appellant must demonstrate by a preponderance of the evidence that the BLM expert erred when collecting the underlying data, when interpreting that data, or in reaching the conclusion."

In another case involving *Glanville Farms and Thomas Silvey v. BLM* (Oregon 030-38-01), the ALJ stated that, in summary, the monitoring data collected provides reliable information upon which BLM's range managers, exercising professional judgement, could make proper decisions regarding range management. In the case of *NJ Ranches and Fred Buckingham v. BLM* (N2-90-23, N2-91-6), the ALJ stated that,

"...the appellants seeking relief therefrom bears the burden of showing by substantial evidence that the decision is arbitrary, capricious, or clearly erroneous as a matter of law. A decision may be regarded as arbitrary and capricious only if it is not supportable on any rational basis or if it does not substantially comply with the grazing regulations."

The BLM feels there has been substantial documentation in this allotment evaluation explaining how BLM reached the conclusions. In the three cases, where the BLM is

accused of manipulating data to arrive at a stocking rate, the following information is offered:

a) The Bureau is simply using the limiting factor to derive a carrying capacity. The key species with the highest recorded use is the limiting factor and management changes should result in attaining proper use of this species to ensure long term survival.

b) All the data were considered and evaluated in determining the carrying capacity. However, only those years for which actual use and utilization were more closely related were included in the average for carrying capacity results. In the ideal situation, you would expect utilization to increase with actual use. However, in some cases you may get a low utilization reading with high actual use. Therefore, professional judgment is used to determine which years are more closely related, i.e. show the most linear relationship between actual use and utilization and should be used as part of the average to determine carrying capacity. As indicated in comment #46 above, some problems, such as drift, may result in no relationships between the data, thereby requiring some data not be used.

c) Monitoring data on the Spruce Allotment has been collected through both drought and wet years resulting in an average that is close to "normal" precipitation over the last 10 years. Therefore, the carrying capacity is based on "normal" precipitation data for the area and no adjustments are necessary (i.e. using post-CAF carrying capacity calculations). In addition, refer to the Bureau response in Comment #35 above.

56. **Comment:** *On page 97 of the evaluation, the BLM proposes to eliminate all grazing preference of record that is determined to be in excess of the carrying capacities for cattle on the allotment. Current regulations and policies do not provide the BLM the authority to eliminate established grazing preference. As such, Sorensen requests that any existing grazing preference that is determined to be in excess of active preference, based on re-evaluation of the livestock carrying capacity analysis as previously discussed, be applied to a suspended status.*

Response: As per 43 CFR 4100.0-5 (Definitions), Suspension is defined as "temporarily [emphasis added] withholding from active use, through a decision issued by the authorized officer or by agreement, of part or all of the permitted use in a grazing permit or lease. As per 43 CFR 4110.3-2 (Decreasing Active Use), AUMs may be placed in suspension for the following reasons: 1) due to drought, fire, or other natural causes; 2) facilitate installation, maintenance, or modification of range improvements; 3) when monitoring or field observations show grazing use or patterns of use are not consistent with the provisions of subpart 4180 (Fundamentals of Rangeland Health and Standards and Guidelines); 4) grazing use is otherwise causing an unacceptable level or pattern of utilization; or 5) when use exceeds the livestock carrying capacity as determined through monitoring, ecological site inventory or other unacceptable method.

The grazing regulations refer to suspended AUMs in terms of AUMs that are part of the current active use. In the case of the Spruce Allotment, we are converting from sheep AUMs to cattle AUMs and as per the discussion in Comment 23 above, a sheep AUM is not the same as a cattle AUM; therefore, in the conversion, there would be no sheep AUMs remaining.

If, in the future, the request was made to convert back to sheep AUMs, then the baseline for the conversion would be the existing 35,565 sheep AUMs within the Spruce Allotment or sheep AUMs within that portion where the conversion is requested. The evaluation of historic suspended non-use associated with trail AUMs can also be evaluated at that time. Refer to Appendix 12 of this MASR.

57. **Comment:** *The development of seedings to defer spring livestock use in the winter range is of particular interest to Sorensen. Sorensen supports this approach to improve range conditions on Spruce Allotment. However, an important point that is not disclosed in the evaluation is that Sorensen has been promised by the BLM the development of up to 20,000 acres of seedings to replace lost forage associated with past allotment boundary adjustments. As such, we are most interested in developing as many seedings as can be realistically supported by this evaluation.*

Due to low stocking rates resulting from the carrying capacity analysis contained in the current evaluation, BLM proposal for replacement seedings are also limited. Sorensen believes that a more realistic review of this same monitoring information will provide adequate justification for stocking levels substantially greater than current proposals contained in the evaluation. These higher stocking rates will in turn provide the justification necessary to increase the area of seeding required to provide spring deferral on the winter range.

Sorensen believes that if carrying capacity is based on average actual use, the monitoring data would justify 6,888 acres of seeding for the Secret Pass Herd. If carrying capacity is based on all monitoring data, we could justify 6,928 acres of seeding for the Secret Pass herd and 838 additional acres for the Spruce Mountain Herd totalling 6,766 acres.

Response: As per a memo to the files on December 1, 1967, from J. Kent Giles, District Manager, and Darrel J. Short, Currie Area Manager, "it was agreed that the BLM would within the next five years, provide Robison & Sorensen a 795 acre seeding or the equivalent thereof within their area of use. This seeding is to replace 795 acres of seeding that was taken out of Robison & Sorensen's area of use by unit boundary adjustment between the Ruby and Medicine Butte Units."

The memo further stated that, "the reason the Bureau has agreed to the above amount of seeding is Robison & Sorensen have given up approximately 5000 acres of possible seeding land plus 795 acres that is already seeded. They are receiving no reseedable country or country with potential possibilities from the unit boundary adjustment which give reasonable justification for the above statement. Robison & Sorensen agreed to the unit boundary adjustment at the Bureau's request, to give the south Ruby

Sub-Unit users some potential lands to help bring back a 56% reduction within their unit."

In a letter dated August 5, 1971, from Oscar Anderson, Currie Resource Area Manager, to Loyd Sorensen, Mr. Anderson informed Sorensen that seedings, as had been agreed upon, would be completed on the Spruce Allotment upon completion of a grazing plan or AMP. Mr. Anderson further stated that it was district policy that project work would be done in areas that were under a grazing plan or AMP. He offered help in preparing the plan. This issue was taken to court and IBLA upheld the Bureau's decision in IBLA 79-143.

In 1986, the BLM completed a draft AMP which was never signed for two main reasons: 1) disagreement on the conversion ratio; and 2) proposed acres of seeding. As per events that have happened since 1986, we are now at the stage of completing the allotment evaluation to determine what changes in management are needed to attain multiple use objectives. As per the selected management actions, seedings are proposed to be completed in this allotment.

The comment indicates that carrying capacity should be based on average actual use. In doing so, the Bureau would ignore all the data collected on this allotment as was defined by the land use planning process. The RPS for the Wells Resource Area dated September 15, 1986, indicated that the method for implementing the rangeland management program would be through monitoring and/or agreement. Grazing use adjustments would be implemented either through agreements with permittees or through decisions based upon monitoring evaluations. The RPS further identifies specific kinds of monitoring studies used to measure attainment or nonattainment of management goals. The objective for the monitoring program was to gather data that can be used in the planning process. The monitoring program would include wildlife, watershed, range, riparian, and wild horse studies, and the data collected would include actual use, utilization, climatic and condition and trend studies. Monitoring plan components identified for the Spruce Allotment were utilization, actual use, ecological status and trend, climate, wildlife habitat, and wild horse studies. Therefore, basing a carrying capacity solely on actual use would ignore all other components of the monitoring program for the Spruce Allotment.

The amount of acres of seeding the Bureau is proposing is based on the minimum number of acres needed based on the capacity of the winter range. Refer to Appendix 11 of this MASR.

58. **Comment:** *A condition under Recommendation 5 contains the provision to "Ensure that all stockwater troughs at water facilities...are left full of water when cattle are removed (after 3/31)." As a matter of practice, Sorensen always leaves some water in the troughs to accommodate stragglers. The exception to this practice is at the water haul sites, where the troughs are emptied to encourage livestock movement to the next use area.*

However, as currently worded, this condition could be used to unfairly penalize Sorensen in situations where horses and/or cattle move into an area and consume the available water within a day or two of the pump being removed. Based on this potential, Sorensen recommends that this condition be re-worded to address this situation, to clarify the enforcement provisions, and to provide an exemption for water haul sites. One possible solution may be to change the wording from "left full" to ensure that some water is left when cattle are removed.

Response: The recommendation specifically states ".....all stockwater troughs at water facilities utilized during the second half of the winter grazing season...." By 3/31, cattle would be coming off of the native salt-desert shrub communities onto private land seeding. The cattle in the winter range are watered by wells and not water hauling and thus this argument is moot as water haul sites are not affected by winter grazing. Leaving "some" water in the troughs is too vague and could be interpreted to mean several different things. Specifying the troughs be left full is clear and would leave no question as to the amount of water to be left. The recommendation states the troughs be left full, not be kept full. Therefore, if all the water is consumed within a few days, the requirement has still be met.

Another option that is available to the permittee is to allow the Bureau to place wildlife drinkers at the wells. This will ensure that water is available for wildlife and then only some water needs to be left in he troughs. When water is gone from the troughs, wild horses will move on to the summer range and be off of the white sage during the critical growth period. Wildlife drinkers are usually fenced and would prevent wild horses or even livestock from using the drinkers.

59. **Comment:** *A separate condition under Recommendation 5 infers that salt and livestock supplements will be located away from all stockwater sources. If this is the case, then this provision appears to be shortsighted. For instance, in the situation of most of the developed stockwater located in the winter range, cattle come to water from a 360 degree radius, are quick to water, and then get back out to graze. Furthermore, most of the spring sources developed in the summer range are piped to water troughs located some distance from the source. Many of these spring sources have limited potential to provide substantial riparian vegetation due to the lack of surface flows. In situations such as these, it would be unwise to encourage additional areas of heavy animal impact by salting or supplementing away from water when the resulting effects or benefits at the water source would be marginal. Since these examples represent the rule rather than the exception on Spruce Allotment, Sorensen recommends that this condition be revisited and an consensus provision developed. During the development of the subsequent AMP would be an appropriate time to reach a consensus on this matter.*

Response: Placing salt and mineral supplements away from live waters is a term and condition of the existing approved term permit that has been agreed to by the permittee.

Poor riparian habitat conditions around wet and/or dry meadows and live waters is usually the result of heavy livestock and/or wild horse grazing impacts. Most of the spring and seeps on the allotment are in poor to fair condition and the BLM plans to improve, enhance, or develop springs as needs are determined and as funds become available. One way of offering protection to these areas while developments are completed is to salt away from these areas. It would be wiser to have these other areas of heavy animal impact away from water, rather than at the water source, no matter how limited the potential of the spring or seep.

Proper salt location is a tool to improve livestock distribution. Lack of water has been identified as the major reason for poor livestock distribution on the winter range. However, salt placement could also be used as a means to improve distribution, although it may not totally solve the problem. Over 50% of the summer range does not get used by livestock (refer to use pattern map results, Table 20 in the allotment evaluation). The majority of the use in the summer range is in the canyons. Good use of the canyon is accomplished as a result of intensive water hauling practices. Improved distribution could possibly be accomplished by placing salt away from the water troughs.

The stipulation included in the allotment evaluation was the same one that was included in the interim AMP and does not include no salting at troughs, which is included in the standard office stipulations that are part of the grazing permit. In the allotment evaluation we simply say that the location of salt will be done in conjunction with the BLM to promote good livestock distribution and away from wet and/or dry meadows and live waters. During the discussions when the interim AMP was being prepared, Sorensen brought up the same issue. At that time, the Bureau was hesitant to change a standard office stipulation that every permittee has agreed to by signing their term grazing permits. However, in order to get agreement from the permittee on the interim AMP and the direction provided from upper management, it was agreed that the stipulation would be changed in the interim to read as indicated above. At that time, the Bureau felt this would be no problem as long as the salt was away from the limited real riparian areas.

All permittees in the district have agreed to the standard stipulation of placing salt, mineral, and/or protein supplements at least ¼ mile from live waters (springs, streams, and troughs), wet and dry meadows, and aspen stands by signing their term grazing permits. The Bureau would like to remain consistent with all permittees and not allow for exceptions. The technical recommendation in the allotment evaluation will be changed to read that placement of supplements will be ¼ mile from water.

60. **Comment:** *Recommendation 7 in the current evaluation provides 5 days of flexibility rather than a 10 day interval agreed to in the 1993 interim AMP. Since the BLM agreed to the 10 day interval earlier, Sorensen would like to know what has changed that would justify this more restrict provision. Our preference would be to leave the flexibility provision at the 10 day limit as previously agreed to.*

Response: The 1993 Interim AMP for the Spruce Allotment was rescinded and all agreements in the AMP are moot. The Bureau feels that a 5 day flexibility before and after scheduled use is sufficient for the Spruce Allotment. This time period should allow sufficient time to move livestock from one subunit to another since the country is not mountainous and cattle are simply being moved from one water source to the next. As long as water sources are shut off as scheduled and a reasonable effort has been made to move all cattle to the next sources, there should be no problems with unauthorized use. The Bureau understands that there may be some problems with stragglers and in cases like these, the permittees should contact the rangeland management specialist to notify them of any problems that may be occurring, especially if more than 5 days is required to move from one subunit to another.

61. **Comment:** *Recommendation 12 specifies that Sorensen "will construct a fence on private lands located in Flowery Lake to prevent livestock drifting onto public land when using private fields." This recommendation represents a great expense to Sorensen yet no information has been presented, in either this evaluation or elsewhere, to indicate that this expensive improvement is required to meet resource objectives. Historic use in this subunit has been limited to one month of use in April of each year, and again for a few days around the first of November when cattle are trailed through the winter range. Current recommendations contained in the evaluation would continue this historic pattern of grazing in this subunit. Based on this past use, Sorensen has observed only very light or incidental use on the key native species during the spring grazing period. Another important consideration is that all available stockwater in this subunit is located on private land.*

Based on these reasons, Sorensen recommends that site-specific resource objectives, key species, and key areas be identified for this subunit, and monitoring implemented to determine whether these objectives are being met under current grazing practices. If, through the proposed monitoring, it is determined that livestock grazing is preventing the attainment of the previously established resource objectives on the federal range, then options to resolve this problem can be explored at that time.

Response: As per the LUP, no grazing would be authorized on the salt-desert shrub communities after 4/1. In order to comply with the LUP, the BLM is proposing a grazing system that would eliminate use of these desert shrub communities in the spring and allow for improved range conditions. Fencing off the private lands would prevent drift into these desert shrub communities.

As per Technical Recommendation 21 of the allotment evaluation, the BLM is proposing that a key area be established in this subunit.

Actual use data for the Spruce Allotment indicates that use on the public land portion of Subunit C-2 has occurred into May and June. Discussions with the permittee early in the allotment evaluation process indicated that the private seedings were not enough to support the livestock herd for one month. Therefore, during that one month period, the permittee would reduce licensed numbers to allow for the livestock use on public land. As per the meeting with the permittee in September 1995, the permittee

indicated that more seedings have been completed on private lands and they may have enough to support their livestock herd. Therefore, they feel livestock drift is now minimal and do not need a fence.

The Bureau is aware that the water sources in this subunit are on private land. However, this does not nullify the Bureau's responsibility to manage the public lands. Authorization for grazing use on public land is still given by the Bureau. The Bureau has considered the permittees request and will monitor spring use in this subunit. If monitoring shows utilization levels during spring grazing (after 4/1) exceeds established utilization objectives, the permittee may be required to fence his private land.

62. **Comment:** *Based on the information presented in the corresponding summary tables contained in Appendix 1 (Data Summary Matrices), there appears to be a series of typographical errors under the heading of "average actual use" for Subunits D through E-4 as summarized in Table 3-1. These typographical errors appear not to have a bearing on the resulting estimates of carrying capacity contained in this same table.*

Response: Table 3-1 of Appendix 3 in the allotment evaluation was based on actual use from 4/1-3/31 annually. The matrices in Appendix 1 show actual use from 4/1-10/31 in Subunits D through E-4, which is the period of use for which carrying capacity was calculated for these summer/fall use areas. The data on Table 3-1 will be footnoted to explain the difference between the information presented in the matrices and the information in Table 3-1.

B. **ANALYSIS OF MONITORING DATA**

An evaluation of the existing monitoring data indicates that of the 141 land use plan (LUP), Rangeland Program Summary (RPS), herd management area plan (HMAP), and key area multiple use objectives, 48 were attained, progress was made toward attaining 52, and 39 were not attained. The additional monitoring data does not change the above totals of objective that were attained, progress made toward attainment or those that were not attained.

Standards and Guidelines for Rangeland Health for the Northeastern Great Basin Area of Nevada were approved by the Secretary of the Interior on February 12, 1997. Standards are expressions of levels of physical and biological condition or degree of function required for healthy, sustainable rangelands. Guidelines are types of grazing management methods and practices determined to be appropriate to ensure that standards can be met or that significant progress can be made toward meeting the standard.

Based on the data analysis and conclusions for LUP, RPS, HMAP, and key area objectives presented in the Spruce Allotment Evaluation, the following determinations are made regarding attainment of the Standards for Rangeland Health:

1. Upland Sites:

Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and land form.

Analysis of monitoring data indicates that although this Standard has not been attained, some progress has been made toward attainment. Livestock grazing has been determined to be a causal factor in failure to meet this objective. Refer to Section V (Conclusions) of the Spruce Allotment Evaluation for discussion on progress made toward attainment of this Standard. More specifically refer to RPS objectives (a-c, g, j, l, o-p), HMAP objective (a(1) &(2)), and range key area objective (a(1-4)).

2. Riparian and Wetland Sites:

Riparian and wetland areas exhibit a properly functioning condition and achieve state water quality criteria.

Analysis of monitoring data indicates that although this Standard has not been attained, some progress has been made toward attainment. The riparian areas within the Spruce Allotment are generally springs and seeps. Indicators used to determine whether springs and seeps are functioning properly is if adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics. Livestock grazing has been determined to be a causal factor in failure to meet this objective. Refer to Section V (Conclusions) of the Spruce Allotment Evaluation for discussion on progress made toward attainment of this Standard. More specifically refer to RPS objectives (k & p), and HMAP objective (a(2)).

3. Habitat:

Habitats exhibit a healthy productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Analysis of monitoring data indicates that although this Standard has not been attained, some progress has been made toward attainment. Indicators to determine attainment of this Standard include vegetation composition, structure, distribution, and productivity. Livestock grazing has been determined to be a causal factor in failure to meet this objective. Refer to Section V (Conclusions) of the Spruce Allotment Evaluation for discussion on progress made toward attainment of this Standard. More specifically refer to RPS objectives (a-c, g, j, l, o-p), HMAP objective (a - 1 & 2), and range key area objective (a - 1 thru 4).

4. Cultural Resources:

Land use plans will recognize cultural resources within the context of multiple use.

Analysis of monitoring data indicates that this Standard has been attained.

C. **SUMMARY OF OPTIONS**

Based on the analysis of all available monitoring data, 23 of the technical recommendations are required to ensure that all the multiple use objectives are met. Following is a discussion of the management actions selected in the MASR as well as those that were modified, added or not selected.

1. **Technical Recommendations Modified**

Technical recommendation 2 will be modified to show the total number of animal unit months of specified livestock grazing based on the new monitoring data added through March 31, 1997. Bertrand Paris and Sons will be removed from this allotment as the sheep grazing permit within the Bald Mountain Sheep Use Area will revert back to Kenneth Jones. This areas is not suitable for conversion from sheep to cattle and will remain as sheep use.

Technical recommendation 3 will be modified to include another grazing system option with reduced numbers, reduced use on the winter range, minimum acres of seeding, and proposed fencing and water projects to improve livestock management.

Technical recommendation 5 was modified to reword the salting and supplemental feed term and condition. In addition, term and conditions relating to after-the-fact billing and payment of grazing fees will be added. Technical recommendations 6 and 7 will be combined with Technical recommendation 5 and include that not only must actual use reports require use by subunit, but also identify the water sources used within the subunit.

Technical recommendation 9 will be modified to show a range for the established AML.

Technical recommendation 20 was modified to remove "completion of nine miles of the Rockland Fence." This project was completed in 1994.

RPS, HMAP, and allotment specific objectives will be modified and/or requantified for the allotment. General land use plan objectives and Standards and Guidelines for Rangeland Health for the Northeastern Great Basin Area will remain unchanged.

2. **Technical Recommendations Added**

Two new technical recommendations will be added. One is to include the general land use plan objective from the Wells RMP Approved Elk Amendment and Decision Record. The second is to include a new stipulation into terms and conditions of the grazing permits and annual authorizations as per the revision of the Native American Graves Protection and Repatriation Act of 1990.

3. **Technical Recommendations Not Selected**

Technical recommendation 8 which indicated that an AMP would be completed was not selected because the new grazing regulations, implemented in August 1995, provide BLM the authority to allow increased flexibility and after-the-fact billing in activity plans that are intended to serve as the functional equivalent of allotment management plans (43 CFR 4120.2). Nevada BLM has identified multiple use decisions as functional equivalents to an AMP.

Technical recommendation 12 which requires the permittee, Von L. Sorensen to construct a fence on private land located in Flowery Lake was not selected. Monitoring will be established in the subunit (C-2) to determine the need for a fence based on the utilization recorded during the critical part of the growing season.

Technical recommendation 24 which indicated that a forest plan would be completed for the Spruce Allotment was not selected because forestry management can be completed in conjunction with established multiple use objectives to meet habitat wildlife requirements.

The following comments from the public were considered but not selected:

- request to modify the term and conditions to leave only some water in the troughs when cattle leave the area.

- increase flexibility from 5 days before and after use to 10 days before and after use.

Refer to the responses to Comments 58 and 59.

The recommendation from the public to determine carrying capacity using average actual use was not selected because this approach is not consistent with the monitoring program for the allotment outlined in the land use plan.

D. SELECTED MANAGEMENT ACTIONS

The following technical recommendations have been determined appropriate to establish significant progress toward attainment of the multiple use objectives for the Spruce Allotment and the Standards for Rangeland Health approved for the Northeastern Great Basin Area of Nevada. The actions will be implemented through a multiple use decision.

1. Formally divide the Spruce Allotment into 2 allotments. Von L. and Marian Sorensen will be authorized grazing use within the east unit or Spruce Allotment. Kenneth Jones will be authorized use within the West Unit or Valley Mountain Allotment.

Rationale. There are currently two main livestock operations in the Spruce Allotment. The permittees have attempted to rotate use in Steptoe Valley to prevent mixing of cattle. However, drift in this area has allowed for inaccuracies in actual use reports. Division of the allotment would help achieve the multiple use objectives by improving livestock control and management.

2. Formally convert the Spruce Allotment from sheep to cattle use. Establish the total number of animal unit months of specified livestock grazing use for the Spruce and Valley Mountain Allotments as follows:

Allotment	Permittee	Kind Of Livestock	Total # of AUMs of Specified Lvsk. Grazing Use	Susp.	Total # of AUMs of Specified Lvsk. Grazing Use
Spruce Allotment	Von L. and Marian Sorensen	Cattle	10,965	0	10,965
Valley Mountain Allotment	Kenneth Jones	Cattle	4,532	0	4,532
Total			15,497	0	15,497

Rationale. The total number of AUMs of specified livestock grazing use on the Spruce and Valley Mountain Allotments is the result of conversions from sheep to cattle for Von L. and Marian Sorensen and Kenneth Jones. The total active use was converted from sheep to cattle.

If, in the future, the request is made to convert back to sheep AUMs, then the baseline for the conversion would be the existing 35,565 sheep AUMs within the Spruce Allotment or sheep AUMs within that portion the conversion is requested. See Appendix 12 for summary of sheep AUMs by subunit.

3. Implement the following grazing system for each permittee:

Kenneth Jones:

Use on the salt-desert shrub communities (native winter range) from 11/1-3/31 with reduced livestock numbers and reduced use on the winter range. Completion of 3,120 acres of seeding with associated fencing and water developments to improve livestock management.

Von L. and Marian Sorensen:

Use on the salt-desert shrub communities (native winter range) from 11/1-3/31 with reduced livestock numbers and reduced use on the winter range. Completion of 2,412 acres of seeding with associated fencing and water developments to improve livestock management.

Use on the spring/summer/fall range from 4/1-10/31 annually. Completion of 400 acres of seeding within Subunit D-1,2,3.

An additional 3,120 acres of seeding for Kenneth Jones and 2,412 acres of seeding for Von L. and Marian Sorensen may be developed if funding is other than the Bureau.

The grazing system showing the subunits, stockwater facilities to be used, and rotation schedules by livestock herd are outlined in Appendix 11.

Rationale. Implementation of the grazing system outlined in Appendix 11 will allow for improved ecological status and trend on winter and summer ranges, improved crucial deer winter range and seasonal antelope habitats, and improved livestock distribution.

Appendix 11 also includes an interim schedule to allow for spring use by cattle on the salt-desert shrub communities while the seedings are developed. The interim grazing system is very similar to how the allotment has been grazed for the past 7 years. Continued annual grazing by livestock in the spring on the salt-desert shrub communities can diminish the ability of these plant communities to improve in condition and diversity or stay healthy over the long term, and excessive use can result in further declines in condition.

4. The grazing permit for each operator will read as follows:

Operator	No. Lvsk.	Kind	Pd. of Use	% PL	AUMs
Kenneth Jones	703	Cattle	11/1 - 2/28	100	2,774
	703	Cattle	3/1 - 5/15	100	1,758
Von L. and Marian Sorensen					4532
Secret Pass Herd	401	Cattle	11/1 - 2/28	100	1,582
	401	Cattle	3/1 - 5/31	100	1,214
Spruce Mountain Herd	672	Cattle	5/1-10/31	100	4,064
	827	Cattle	11/1-2/28	100	3,263
	827	Cattle	3/1-3/31	100	842

2796

8169

15,997

Rationale. As per analysis of existing data in this allotment evaluation, the carrying capacity was established by subunit. The proposed grazing systems are designed to allow use of the use of the native winter range and summer use areas and still attain the multiple use objectives.

5. The terms and conditions on the term grazing permits common to all three permits should include the following:

"Authorized grazing use will be in accordance with the Spruce Allotment Evaluation and Final Multiple Use Decision dated ____."

"Supplemental feeding is limited to salt, mineral and/or protein supplements in block, granular or liquid form. Such supplements must be placed at least ¼ mile from live waters (springs, streams, and troughs), wet or dry meadows, and aspen stands."

"All available waters within the scheduled use subunit will be used to ensure proper livestock distribution."

"Ensure that all stockwater troughs at water facilities utilized during the second half of the winter grazing season are left full of water when cattle are removed (after 3/31)."

"An annual grazing application outlining the annual operation which reflects the terms and conditions in the term grazing permit and multiple use decision must be submitted prior to the start of the grazing season. An actual use report will be submitted as indicated below. A billing notice will be prepared after the grazing season based on actual grazing use in accordance with 43 CFR 4130.8(e).

"Von L. and Marian Sorensen must submit an actual use report showing use by subunit and water sources used within the subunit by
-4/15 for the Spruce Mountain Herd and,
-6/15 for the Secret Pass Herd."

"Kenneth Jones must submit an actual use report showing use by subunit and water sources used within the subunit by 5/30."

"The numbers of livestock to be grazed will remain flexible according to the needs of the permittee. The grazing system is based on the maximum number of AUMs that may be removed from each subunit and the grazing treatments. Livestock numbers and periods of use will be applied for on an annual basis. Moving dates between subunits can vary 5 days before and after the scheduled move dates."

"Deviations from the grazing system will be allowed to meet the needs of the resources and the permittee as long as these deviations are consistent with multiple use objectives. Deviations, including turnout date, livestock numbers, and grazing system, will require an application and written authorization from the Renewable Resources Manager prior to grazing use."

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

"All riparian exclosures, including spring development exclosures, are closed to livestock use unless specifically authorized in writing by the Renewable Resources Manager."

"Payment of grazing fees is due on or before the due date specified on the grazing bill. Failure to pay the grazing bill within 15 days of the

due date specified on the bill shall result in a late fee assessment of \$25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed \$250.00."

Rationale: An evaluation of current grazing management practices has indicated multiple use objectives have not been achieved and changes are necessary.

Supplemental feed and its location is important to proper livestock distribution and range management.

Using all available waters within a pasture will ensure proper livestock distribution and provide water for wildlife and wild horses when livestock leave the area.

Actual use is essential in the monitoring effort.

The permittees are afforded flexibility in their operations in order to adjust to range readiness, climatic conditions, and annual fluctuations in their livestock operation.

6. Establish and maintain an appropriate management level (AML) for wild horses within the Spruce Allotment as follows:

Herd Management Area	AML for the Spruce Allotment	AML - Range to be Managed	Adjusted Initial Herd Size by HMA
Antelope Valley	181	110 - 181	299
Goshute	50	29 - 50	178
Maverick-Medicine	104	64 - 104	273
Spruce-Pequop	82	57 - 82	82
Total	417	260 - 417	852

Rationale: Maintaining wild horses at the appropriate management level will result in a thriving, natural, ecological balance between wild horses and other resource values. Continued monitoring within the allotment will show if any adjustment in the AML is needed. Establishing a range to manage wild horses will ensure that gathers will maintain wild horses at the maximum level. **Refer to Appendix 10 for AML calculations.**

7. Complete the Basco, Spruce, and Latham Spring Pipelines located in the summer range on the Spruce Allotment as proposed in the environmental assessment completed in 1982.

Rationale. Completion of these projects is essential in improving livestock distribution in the summer range and providing water for wildlife and wild horses.

8. The permittee, Von L. and Marian Sorensen, will evaluate and equip Goshute Valley Well (Project #4970) if feasible.

Rationale. This well will help improve livestock distribution in Subunit C-3 (East Goshute Valley).

9. Improve, enhance, or develop at least 3 springs in the Spruce and Valley Mountain Allotments from the list provided below. The following list was compiled from the 1980-81 wildlife habitat and water inventory. Additional springs will be developed as needs are determined and funding becomes available.

As springs are inventoried for prioritization for developing, an inventory of existing wire hazards will also be conducted. Springs that contain old wire will be cleaned up and wire disposed of, especially where it creates a significant hazard to wild horses.

Location	Site No. from Inventory	Remarks
T. 28 N., R. 61 E., Sec. 2, NWSW	C069	Quilici Spring, Developed
T. 28 N, R. 66 E., Sec. 4, NENE	D044	
T. 28 N., R. 66 E., Sec. 6, SWSW	D040	Developed
T. 28 N., R. 66 E., Sec. 14, NENE		Austin Spring, Developed
T. 28 N., R. 66 E., Sec. 4, NENE		
T. 28 N., R. 66 E., Sec. 4, NWNW		
T. 28 N., R. 66 E., Sec. 6, NENE	D040	
T. 29 N., R. 65 E., Sec. 25, SENW	C020	Deer Spring, Developed
T. 29 N., R. 66 E., Sec. 31, SESE		Horse Trap Spring, Developed
T. 30 N., R. 63 E., Sec. 2, NENE	D361	Basco Spring, Developed
T. 30 N., R. 65 E., Sec. 6		
T. 31 N., R. 63 E., Sec. 4	C309	
T. 31 N., R. 63 E., Sec. 12, NWNW		Upper Latham Spring, Developed
T. 31 N., R. 64 E., Sec. 18, SWNW		Sidehill Spring, Developed
T. 31 N., R. 63 E., Sec. 14, SWNE		Developed
T. 31 N., R. 63 E., Sec. 27, NENE		Developed
T. 31 N., R. 63 E., Sec. 36, NENW	C329	Lower Spruce Spring, Developed
T. 31 N., R. 64 E., Sec. 6, SENW	B247	Developed
T. 31 N., R. 65 E., Sec. 20, NESW	C367	Lower Boone Spring, Developed
T. 31 N., R. 65 E., Sec. 19, NENW		
T. 31 N., R. 65 E., Sec. 20, NENE		

T. 33 N., R. 61 E., Sec. 23, SESE	C134	Government Spring, Developed
T. 33 N., R. 64 E., Sec. 29, SESE	D438	Dug-out Pond
T. 33 N., R. 64 E., Sec. 29, NWSE	D440	Dug-out Pond
T. 33 N., R. 64 E., Sec. 32, SENE	D441	Dug-out Pond

Rationale: One of the RPS objectives for the Spruce Allotment was to develop 3 springs. Development of springs on the Spruce Allotment is necessary to meet the multiple use objectives.

Quilici Spring is an important spring to the Bureau in that it not only supports a small population of relict dace, a BLM sensitive species, but is also an important water source for livestock, wildlife, and wild horses. This spring is currently fenced but wildlife and wild horses do get in as gates are usually open. Because of drought conditions during the past few years, the pond inside the fenced area has been virtually dry. High emphasis will be placed on improving current conditions on this spring. Quilici Spring is located within subunit A-2 of the Spruce Allotment. This spring is located on public land with private water rights. Therefore, it will be necessary to consult, coordinate, and cooperate with the permittee on this project.

Wild horses have become tangled in old barbed wire especially in old spring enclosures and wild horse traps. Entanglement in barbed wire causes extensive injuries and in some cases the need for the animal to be destroyed.

10. Identify and develop at least two waters for wild horses within the Spruce Allotment.

Rationale: Additional water sources are needed within the Spruce Allotment to improve the distribution of wild horses. The Wells RMP Wild Horse Amendment identified eight water sources to be developed for wild horses. While locations of these water sources was not identified, at least two need to be developed in the Spruce Allotment. Additional water sources (either springs or water catchments) may be developed or constructed as needs are determined and funding is available.

11. Construct at least 23 wildlife water catchments within the Spruce Allotment.

Rationale: The installation of water catchments would reduce potential conflicts with elk and would benefit wildlife (elk, antelope, deer, chukar, and other big game and non-game species) because lack of water is a limiting factor in the Spruce Allotment. The locations of the catchments have been determined by BLM Wildlife Biologists in cooperation, coordination, and consultation with NDOW Wildlife Biologists. Site specific environmental assessments will be completed prior to construction of the proposed projects. The catchments will be completed as funds are available.

- 12. Prioritize and construct range improvement projects identified in Appendix 11, Tables 11-8 and 11-9 as funding is available.**

Rationale. Construction of these range improvement projects is essential in improving livestock distribution and control. Site specific environmental assessments will be completed prior to construction of each proposed project.

- 13. Inventory and identify existing fence projects that do not meet BLM specifications. Modify those fences which create significant barriers to big game.**

Rationale: Fence modifications to BLM specifications would help facilitate big game movements and allow for more efficient use of available habitat while retaining the primary goal of restricting livestock movements.

- 14. Continue to collect seasonal distribution data on the Maverick-Medicine, Antelope Valley, Spruce-Pequop, and Goshute HMAs.**

Rationale: In 1991, intensive seasonal distribution flights were begun within the Elko District. These census flights have provided valuable information on horse movements and should continue until monitoring data indicates that the appropriate management level has been attained in all HMAs.

- 15. Modify approximately one mile of the Sorensen-Lear fence to a let-down fence.**

Rationale: The Sorensen-Lear Fence is located on the southern boundary of the Spruce Allotment and separates the Spruce and Currie Allotments. Modification of this fence would allow free movement by wild horses between the Spruce and Currie Allotments when livestock are not in the area.

- 16. Establish at least one key area in each of the following subunits:**

- C-2 (West Goshute Valley)**
- D-1 (West Independence Valley)**
- D-2 (East Independence Valley)**
- E-3 (Boone Springs)**
- F-1/F-2 (Dolly Vardens)**
- G (Bald Mountain Sheep Use Area)**

Rationale. Livestock and wild horse data is currently lacking within these subunits. A key area in Subunit C-2 would help determine livestock and wild horse use on salt-desert shrub communities during the critical growing period (after 4/1). This key area could also be used to monitor frequency, production, and ecological condition. Monitoring results will determine the need to construct a fence on private land at Flowery Lake to prevent livestock from drifting onto public land when using the private fields. Wild horse use could also be monitored prior to livestock turnout to help determine if any adjustments need to be made to AML.

Key areas in Subunits D-1 and D-2 will monitor utilization and production.

Key areas in Subunits E-3 and G will monitor frequency, production, ecological condition, and utilization. Wildlife key areas currently exist in these two subunits and locations will be evaluated to determine if it is suitable to monitor livestock and wild horse use. Subunit G occurs within the Bald Mountain Sheep Use Area and while no sheep currently graze this subunit, wild horse use could be monitored.

A wildlife key area currently exists in Subunits F-1/F-2. The location of this key area will be evaluated to determine if it is suitable to monitor wild horse use. This area was determined to not be suitable for conversion from sheep to cattle use.

17. Modify and/or requantify the RPS, HMAP, and allotment specific objectives for the allotment. General land use plan objectives and Standards and Guidelines for Rangeland Health for Northeastern Nevada Great Basin Area will remain unchanged.

Rationale. Modification and/or requantification of objectives will allow for consolidation of objectives that are similar and allow for incorporation of desired plant community objectives.

18. The RPS objectives that have been attained will no longer be addressed. The objectives are as follows:

- a. Maintain summer use areas on the upper elevations of Spruce Mountain (north and west sides), Medicine Range, and the Pequop Mountains (between Nine-mile Canyon and Brush Creek).
- b. Consider formal conversions from sheep to cattle on portions of the allotment.
- c. Periodically evaluate the monitoring data for the allotment to reinstate suspended non-use when they become permanently available.
- d. Develop an allotment management plan to be signed in fiscal year 1987.
- e. Reintroduce bighorn sheep in the Goshute Mountains.

Rationale. Tracking of objectives that have been attained is not necessary. The objective to maintain the summer use areas is vague in that it does not clarify whether it is to maintain the condition or continue to allow use of the summer use areas. In either case, monitoring condition of the summer use areas is addressed in the allotment specific objectives. Further, the proposed grazing system for the Von L. and Marian Sorensen yearlong cattle operation allows for continued use of the summer use areas.

This allotment evaluation has proposed a formal conversion from sheep to cattle for the Von L. and Marian Sorensen and Kenneth Jones cattle operations. Suspended AUMs were associated with sheep trailing and no longer will be an issue since allotment was converted to cattle use.

An AMP is no longer required to be completed since the new grazing regulations implemented on August 1995 consider additional flexibility and after-the-fact billing in activity plans that are intended to be functional equivalents of an AMP. Nevada BLM considers multiple use decisions functional equivalents to an AMP.

Because of existing conflicts with wild horses, cattle, and especially domestic sheep, a successful reintroduction of bighorn sheep in the Goshute Mountains cannot be successful until these conflicts are resolved.

19. Continue to conduct necessary monitoring studies and periodically evaluate the effects of grazing to determine if progress is being made in meeting the multiple use objectives. The Spruce and Valley Mountain Allotments will be reevaluated in accordance with priorities established in the Wells Resource Area Monitoring and Evaluation Schedule. If monitoring studies indicate a need to bring grazing use in line with capacity, necessary adjustments will be made.

Rationale. Additional monitoring and analysis will be required to determine whether objectives are being met and determine if carrying capacities need to be adjusted or changes made to existing management strategies.

E. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) REVIEW

The selected management actions for the Spruce Allotment conform with the environmental analysis described in the Final Wells Environmental Impact Statement dated July 17, 1985. The Environmental Impact Statement and Administrative Determination of NEPA Compliance are on file in the Elko District Office, 3900 E. Idaho Street, Elko, Nevada 89803.

F. FUTURE MONITORING EFFORTS

The Elko Field Office will continue to monitor the allotment. The monitoring data will be reevaluated according to the Wells Resource Area Allotment Evaluation Schedule. These reevaluations are necessary to determine if the allotment specific objectives are being met under the existing management strategies. Appendix 13 outlines the multiple use objectives to be used in the next allotment evaluation.



CLINTON R. OKE, Assistant District Manager
Renewable Resources



Date

APPENDIX 1

Data Summary Matrices

Subunit A-1

Spruce Allotment

Key Area SP-01

Range Site: Silty 8-10 (28B-13)
 Key Species: EULA5 and ORHY
 Period of Use: 11/1 - 3/31

12/3

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	1,996 (L)	5/9/86 11/19/86-3/31/87	EULA5 64	4/27/87	MODERATE	5/87	1,715	1.17	1,466	MID 44 449 / 525	EULA5 72.5 ORHY 40.5
1987-88	648 (L)	4/1/87-4/18/87 11/25/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	1,029 (L) 0 (WH)	4/28/88-5/3/88 11/18/88-12/9/88 12/24/88 2/22/89-3/31/89	ORHY 32	6/20/89	LIGHT	6/20/89	1,769	0.63	2,808	Not Read	Not Read
1989-90	1,909 (L) 0 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 28	6/20/90	Not Mapped	N/A	3,750	0.94	3,989	Not Read	Not Read
1990-91	554 (L) 0 (WH)	5/3/90-5/9/90 11/5/90-11/6/90 11/25/90 12/8/90 3/1/91-3/31/91	ORHY 38	5/20/91	LIGHT	5/20/91	802	0.82	978	LATE 61 396 / 325	EULA5 48.5- ORHY 32.2-
1991-92	1,245 (L) 0 (WH)	4/1/91-5/16/91 11/1/91-1/29/91	EULA5 60	5/7/92	Not Mapped	N/A	1,141	0.61	1,870	Not Read	Not Read
1992-93	210 (L) 112 (WH)	5/9/92-5/11/92 11/10/92-11/12/92 3/20/93-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.75	Not Calc.	Not Read	Not Read
1993-94	1,755 (L) 85 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	ORHY 67	3/1/94	Not Mapped	N/A	1,510	1.42	1,063	Not Read	Not Read
1994-95	550 (L) 2 (WH)	5/16/94-5/17/94 11/9/94-11/11/94 2/24/95-3/31/95	EULA5 44	6/14/95	Not Mapped	N/A	690	0.73	945	Not Read	Not Read
1995-96	1,704 (L) 36 (WH)	4/1/95-5/13/95 11/29/95-2/22/96	ORHY 43	5/31/96	Not Mapped	N/A	2,226	1.71	1,903	Not Read	Not Read
1996-97	614 (L) 33 (WH)	5/12/96-5/15/96 12/2/96-12/4/96 2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1,110 (L) 54 (WH)		47				1,527 ⁶			423 / 425	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase + Significant increase

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-1 11/3											
Spruce Allotment Key Area SP-02											
Range Site: Silty Clay 8-10 (28B-71)											
Key Species: EULA5 and ORHY											
Period of Use: 11/1 - 3/31											
Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,996 (L)	5/9/86 11/19/86-3/31/87	EULA5 50	4/24/87	HEAVY	5/87	2,196	1.17	1,877	LATE 75 298 / 349	EULA5 75.5 ORHY 11.5
1987-88	648 (L)	4/1/87-4/18/87 11/25/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	1,029 (L) 0 (WH)	4/28/88-5/3/88 11/18/88-12/9/88 12/24/88 2/22/89-3/31/89	EULA5 48	6/20/89	MODERATE	6/20/89	1,179	0.63	1,871	Not Read	Not Read
1989-90	1,909 (L) 0 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 42	6/20/90	Not Mapped	N/A	2,500	0.94	2,660	Not Read	Not Read
1990-91	554 (L) 0 (WH)	5/3/90-5/9/90 11/5/90-11/6/90 11/25/90 12/8/90 3/1/91-3/31/91	ORHY 36	5/20/91	LIGHT	5/20/91	846	0.82	1,032	LATE 58 567 / 465	EULA5 69.0= ORHY 12.0=
1991-92	1,245 (L) 0 (WH)	4/1/91-5/16/91 11/1/91-1/29/92	ORHY 54	5/7/92	Not Mapped	N/A	1,268	0.61	2,079	Not Read	Not Read
1992-93	210 (L) 112 (L)	5/9/92-5/11/92 11/10/92-11/12/92 3/20/93-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.75	Not Calc.	Not Read	Not Read
1993-94	1,755 (L) 85 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	ORHY 68	3/1/94	Not Mapped	N/A	1,488	1.42	1,048	Not Read	Not Read
1994-95	550 (L) 2 (WH)	5/16/94-5/17/94 11/9/94-11/11/94 2/24/95-3/31/95	EULA5 46	6/14/95	Not Mapped	N/A	660	0.73	904	Not Read	Not Read
1995-96	1,704 (L) 36 (WH)	4/1/95-5/13/95 11/29/95-2/22/96	ORHY 44	5/31/96	Not Mapped	N/A	2,175	1.71	1,272	Not Read	Not Read
1996-97	614 (L) 33 (WH)	5/12/96-5/15/96 12/2/96-12/4/96 2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1,110 (L) 54 (WH)		49				1,525 ⁶			433 / 407	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The block that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-1

Spruce Allotment

Key Area SP-03

Range Site: Coarse Silty 6-8 (28B-84)

Key Species: EULA5 and ORHY

Period of Use: 11/1-3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./ unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,996 (L)	5/9/86 11/19/86-3/31/87	EULA5 30	4/24/87	MODERATE	5/87	3,659	1.17	3,127	LATE 57 361 / 422	EULA5 69.0 ORHY 52.0
1987-88	624 (L)	4/1/87-4/18/87 11/25/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	1,029 (L) 0 (WH)	4/28/88-5/3/88 11/18/88-12/9/88 12/24/88 2/22/89-3/31/89	ORHY 41	6/20/89	MODERATE	6/20/89	1,380	0.63	2,190	Not Read	Not Read
1989-90	1,909 (L) 0 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 39	6/20/90	Not Mapped	N/A	2,692	0.94	2,864	Not Read	Not Read
1990-91	554 (L) 0 (WH)	5/3/90-5/9/90 11/5/90-11/6/90 11/25/90 12/8/90 3/1/91-3/31/91	ORHY 46	5/20/91	MODERATE	5/20/91	662	0.82	807	MID 47 359 / 295	EULA5 64.5= ORHY 39.0=
1991-92	1,245 (L) 0 (WH)	4/1/91-5/16/91 11/1/91-1/29/92	ORHY 57	5/7/92	Not Mapped	N/A	1,201	0.61	1,969	Not Read	Not Read
1992-93	210 (L) 112 (WH)	5/9/92-5/11/92 11/10/92-11/12/92 3/20/93-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.75	Not Calc.	Not Read	Not Read
1993-94	1,755 (L) 85 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	ORHY 64	3/1/94	Not Mapped	N/A	1,581	1.42	1,113	Not Read	Not Read
1994-95	550 (L) 2 (WH)	5/16/94-5/17/94 11/9/94-11/11/94 2/24/95-3/31/95	EULA5 38	6/14/95	Not Mapped	N/A	799	0.73	1,095	Not Read	Not Read
1995-96	1,704 (L) 36 (WH)	4/1/95-5/13/95 11/29/95-2/22/96	ORHY 30	5/31/96	Not Mapped	N/A	3,190	1.71	1,865	Not Read	Not Read
1996-97	614 (L) 33 (WH)	5/12/96-5/15/96 12/2/96-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1,110 (L) 54 (WH)		43				1,807 ⁶			360 / 359	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. - Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-1

Spruce Allotment

Key Area SP-04

Range Site: Coarse Silty 6-8 (28B-84)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,996 (L)	5/9/86 11/19/86-3/31/87	Not Read	N/A	LIGHT	5/87	Not Calc.	1.17	Not Calc	LATE 52 327 / 382	EULA5 65.0 ORHY 49.5
1987-88	648 (L)	4/1/87-4/18/87 11/25/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc	0.88	Not Calc	Not Read	Not Read
1988-89	1,029 (L) 0 (WH)	4/28/88-5/3/88 11/18/88-12/9/88 12/24/88 2/22/89-3/31/89	ORHY 50	6/26/89	MODERATE	6/26/89	1,132	0.63	1,797	Not Read	Not Read
1989-90	1,909 (L) 0 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 41	6/20/90	Not Mapped	N/A	2,561	0.94	2,724	Not Read	Not Read
1990-91	554 (L) 0 (WH)	5/3/90-5/9/90 11/5/90-11/6/90 11/25/90 12/8/90 3/1/91-3/31/91	ORHY 60	5/20/91	MODERATE	5/20/91	508	0.82	620	MID 49 407 / 334	EULA5 58.9= ORHY 41.0-
1991-92	1,245 (L) 0 (WH)	4/1/91-5/16/91 11/1/91-1/29/92	ORHY 55	5/7/92	Not Mapped	N/A	1,245	0.61	2,041	Not Read	Not Read
1992-93	210 (L) 112 (WH)	5/9/92-5/11/92 11/10/92-11/12/92 3/20/93-3/31/93	Not Read	N/A	MODERATE	4/6/93	Not Calc	0.75	Not Calc.	Not Read	Not Read
1993-94	1,755 (L) 85 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	ORHY 66	3/1/94	Not Mapped	N/A	1,533	1.42	1,080	Not Read	Not Read
1994-95	550 (L) 2 (WH)	5/16/94-5/17/94 11/9/94-11/11/94 2/24/95-3/31/95	EULA5 50	6/14/95	Not Mapped	N/A	607	0.73	832	Not Read	Not Read
1995-96	1,704 (L) 36 (WH)	4/1/95-5/13/95 11/29/95-2/22/96	EULA5 62	5/31/96	Not Mapped	N/A	1,544	1.71	903	Not Read	Not Read
1996-97	614 (L) 33 (WH)	5/12/96-5/15/96 12/2/96-12/4/96 2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1,110 (L) 54 (WH)		55				1,212 ⁶			367 / 358	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. = Production data adjusted to Caf. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-2

Spruce Allotment

Key Area SP-05

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,819 (L)	5/9/86 12/2/86-3/31/87	Not Read	N/A	MODERATE	5/87	Not Calc.	1.17	Not Calc.	MID 41 439 / 514	EULA5 65.0 ORHY 16.5
1987-88	373 (L)	4/1/87-4/18/87 12/8/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	809 (L) 108 (WH)	4/22/88-5/3/88 11/19/88-12/9/88 2/22/89-3/31/89	ORHY 37	6/26/89	LIGHT	6/26/89	1,363	0.63	2,163	Not Read	Not Read
1989-90	1,182 (L) 1,272 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 28	6/20/90	Not Mapped	N/A	4,820	0.94	5,128	Not Read	Not Read
1990-91	291 (L) 1,272 (WH)	3/1/91-3/31/91	EULA5 44	5/20/91	MODERATE	5/20/91	1,954	0.82	2,383	MID 28 321 / 263	EULA5 60.5= ORHY 16.0=
1991-92	1,084 (L) 731 (WH)	4/1/91-5/16/91 11/1/91-1/28/92	ORHY 50	3/27/92	MODERATE	3/27/92	1,997	0.61	3,274	Not Read	Not Read
1992-93	135 (L) 1,444 (WH)	11/10/92-11/12/92 3/20/93-3/31/93	EULA5 60	4/6/93	MODERATE	4/6/93	1,447	0.75	1,929	Not Read	Not Read
1993-94	1,506 (L) 1,520 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	EULA5 68	3/1/94	Not Mapped	N/A	2,448	1.42	1,724	Not Read	Not Read
1994-95	435 (L) 1,691 (WH)	2/24/95-3/31/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.73	Not Calc.	Not Read	Not Read
1995-96	1,704 (L) 1,274 (WH)	4/1/95-5/18/95 11/29/95-2/22/96	EULA5 66	5/15/96	Not Mapped	N/A	2,482	1.71	1,451	Not Read	Not Read
1996-97	431 (L) 1,401 (WH)	2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	888 (L) 1,190 (WH)		50				2,066 ⁶			380 / 389	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-2

Spruce Allotment

Key Area SP-06

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,819 (L)	5/9/86 12/2/86-3/31/87	Not Read	N/A	MODERATE	5/87	Not Calc.	1.17	Not Calc.	MID 43 488 / 572	EULA5 33.0 ORHY 21.0
1987-88	373 (L)	4/1/87-4/18/87 12/8/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	809 (L) 108 (WH)	4/22/88-5/3/88 11/19/88-12/9/88 2/22/89-3/31/89	EULA5 39	6/26/89	LIGHT	6/26/89	1,293	0.63	2,052	Not Read	Not Read
1989-90	1,182 (L) 1,272 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	EULA5 36	6/20/90	Not Mapped	N/A	3,749	0.94	3,988	Not Read	Not Read
1990-91	291 (L) 1,272 (WH)	3/1/91-3/31/91	EULA5 61	5/20/91	HEAVY	5/20/91	1,409	0.82	1,718	LATE 61 299 / 245	EULA5 17.0 ORHY 14.5
1991-92	1,084 (L) 731 (WH)	4/1/91-5/16/91 11/1/91-1/28/92	ORHY 85	3/27/92	SEVERE	3/27/92	1,174	0.61	1,925	Not Read	Not Read
1992-93	135 (L) 1,444 (WH)	11/10/92-11/12/92 3/20/93-3/31/93	ORHY 62	4/6/93	HEAVY	4/6/93	1,401	0.75	1,868	Not Read	Not Read
1993-94	1,506 (L) 1,520 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	ORHY 66	4/20/94	Not Mapped	N/A	2,522	1.42	1,776	Not Read	Not Read
1994-95	435 (L) 1,691 (WH)	2/24/95-3/31/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.73	Not Calc.	Not Read	Not Read
1995-96	1,704 (L) 1,274 (WH)	4/1/95-5/18/95 11/29/95-2/22/96	EULA5 60	5/15/96	Not Mapped	N/A	2,730	1.71	1,596	Not Read	Not Read
1996-97	431 (L) 1,401 (WH)	2/27/97-3/31/97	ORHY 47	4/18/97	Not Mapped	N/A	2,144	--	--	Not Read	Not Read
Avg.	888 (L) 1,190 (WH)		57				1,917 ⁶			394 / 409	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ Adj. = Production data is adjusted to CAF. Unadj. = Production data is unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-2

Spruce Allotment

Key Area SP-24

Range Site: Silty 8-10 (28B-13)

Key Species: EULA5

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. ⁴	Key Spp. Frequency ⁴
1986-87	1,819 (L)	5/9/86 12/2/86-3/31/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.17	Not Calc.	Not Read	Not Read
1987-88	373 (L)	4/1/87-4/18/87 12/8/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	809 (L)	4/22/88-5/3/88 11/19/88-12/9/88 2/22/89-3/31/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	1,182 (L) 1,272 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.94	Not Calc.	Not Read	Not Read
1990-91	291 (L) 1,272 (WH)	3/1/91-3/31/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.82	Not Calc.	Not Read	Not Read
1991-92	1,084 (L) 731 (WH)	4/1/91-5/16/91 11/1/91-1/28/92	Not Read	N/A	SEVERE	3/27/92	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1992-93	135 (L) 1,444 (WH)	11/10/92-11/12/92 3/20/93-3/31/93	EULA5 73	4/27/93	HEAVY	4/27/93	1,190	0.75	1,587	Not Read	Not Read
1993-94	1,506 (L) 1,520 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	EULA5 75	4/20/94	Not Mapped	N/A	2,219	1.42	1,563	Not Read	Not Read
1994-95	435 (L) 1,691 (WH)	2/24/95-3/31/95	EULA5 71	4/26/95	Not Mapped	N/A	1,647	0.73	2,256	Not Read	Not Read
1995-96	1,704 (L) 1,274 (WH)	4/1/95-5/18/95 11/29/95-2/22/96	EULA5 62	5/7/96	Not Mapped	N/A	2,642	1.71	1,545	Not Read	Not Read
1996-97	431 (L) 1,401 (WH)	2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	888 (L) 1,190 (WH)		70				1,933 ⁵				

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ This key area is used to monitor utilization only.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 is 55%.

Subunit A-2

Spruce Allotment
Key Area SP-27

Range Site: Coarse Gravelly Loam 6-8 (28B-75)
Key Species: EULA5 and ORHY
Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. ⁴	Key Spp. Frequency ⁴
1986-87	1,819 (L)	5/9/86 12/2/86-3/31/87	Not Read	N/A	MOD-HVY	5/87	Not Calc.	1.17	Not Calc.	Not Read	Not Read
1987-88	373 (L)	4/1/87-4/18/87 12/8/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	809 (L) 108 (WH)	4/22/88-5/3/88 11/19/88-12/9/88 2/22/89-3/31/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	1,182 (L) 1,272 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.94	Not Calc.	Not Read	Not Read
1990-91	291 (L) 1,272 (WH)	3/1/91-3/31/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.82	Not Calc.	Not Read	Not Read
1991-92	1,084 (L) 731 (WH)	4/1/91-5/16/91 11/1/91-1/28/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1992-93	135 (L) 1,444 (WH)	11/10/92-11/12/92 3/20/93-3/31/93	EULA5 54	4/6/93	MODERATE	4/6/93	1,608	0.75	2,144	Not Read	Not Read
1993-94	1,506 (L) 1,520 (WH)	4/1/93-5/11/93 11/3/93-2/26/94	EULA5 48	3/1/94	Not Mapped	N/A	3,467	1.42	2442	Not Read	Not Read
1994-95	435 (L) 1,691 (WH)	2/24/95-3/31/95	EULA5 38	6/14/95	Not Mapped	N/A	3,077	0.73	4,215	Not Read	Not Read
1995-96	1,704 (L) 1,274 (WH)	4/1/95-5/18/95 11/29/95-2/22/96	EULA5 72	5/15/96	Not Mapped	N/A	2,275	1.71	1,330	Not Read	Not Read
1996-97	431 (L) 1,401 (WH)	2/27/97-3/31/97	EULA5 36	4/18/97	Not Mapped	N/A	2,723	--	--	Not Read	Not Read
Avg.	888 (L) 1,190 (WH)		50				2,692 ⁵				

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ This key area is used to monitor utilization only.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit A-2

Spruce Allotment

Key Area SP-30

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. ⁴	Key Sp. Frequency ⁵
1986-87	1,819 (L)	5/9/86 12/2/86-3/31/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.17	Not Calc.	Not Read	Not Read
1987-88	373 (L)	4/22/87-5/3/87 12/8/87-12/18/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	809 (L) 108 (WH)	4/22/88-5/3/88 11/19/88-12/9/88 2/22/89-3/31/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	1,182 (L) 1,272 (WH)	4/1/89-5/3/89 11/29/89-2/14/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.94	Not Calc.	Not Read	Not Read
1990-91	291 (L) 1,272 (WH)	3/1/91-3/31/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.82	Not Calc.	Not Read	Not Read
1991-92	1,084 (L) 731 (WH)	4/1/91-5/16/91 11/1/91-1/28/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1992-93	135 (L) 1,444 (WH)	11/10/92-11/12/92 3/20/93-3/31/93	ORHY 54	4/6/93	MODERATE	4/6/93	1,608	0.75	2,144	Not Read	Not Read
1993-94	1,506 (L) 1,520 (WH)	4/1/93-5/11/93 1/3/93-2/26/94	ORHY 52	3/1/94	Not Mapped	N/A	3,201	1.42	2,254	Not Read	Not Read
1994-95	435 (L) 1,691 (WH)	2/24/95-3/31/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.73	Not Calc.	Not Read	Not Read
1995-96	1,704 (L) 1,274 (WH)	4/1/95-5/18/95 11/29/95-2/22/96	ORHY 32	5/15/96	Not Mapped	N/A	5,118	1.71	2,993	Not Read	Not Read
1996-97	431 (L) 1,401 (WH)	2/27/97-3/31/97	Not Read	N/A	Not Mapped	N/A	Not Calc.		Not Calc.	Not Read	Not Read
Avg.	888 (L) 1,190 (WH)		46				3,201 ⁵				

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ This key area is used to monitor utilization only.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for ORHY is 55%.

Subunit B-1

Spruce Allotment

Key Area SP-07

Range Site: Silty 8-10 (28B-13)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	525 (L)	4/1/86-5/8/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	MID 49 597 / 364	EULA5 33.0 ORHY 42.5
1987-88	1,473 (L)	12/19/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,506 (L)	4/1/88-4/27/88 11/17/88-12/1/88 12/10/88-2/21/89	EULA5 38	6/12/89	LIGHT	6/12/89	2,180	1.10	1,982	Not Read	Not Read
1989-90	826 (L)	11/28/89-12/2/89 2/15/90-3/31/90	ORHY 58	5/30/90	Not Mapped	N/A	783	0.95	824	Not Read	Not Read
1990-91	1,461 (L)	4/1/90-5/2/90 11/7/90-2/28/91	EULA5 ORHY 37	3/19/91	LIGHT	3/19/91	2,172	0.89	2,440	LATE 75 279 / 248	EULA5 25.5= ORHY 34.0-
1991-92	581 (L) 0 (WH)	1/29/92-3/31/92	ORHY 55	6/5/92	Not Mapped	N/A	581	0.68	854	Not Read	Not Read
1992-93	1,533 (L) 0 (WH)	4/1/92-5/8/92 11/13/92-1/11/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	374 (L) 6 (WH)	2/27/94-3/31/94	ORHY 61	5/26/94	Not Mapped	N/A	343	1.28	268	Not Read	Not Read
1994-95	1,726 (L) 174 (WH)	4/1/94-5/15/94 11/12/94-2/23/95	Not Read	Not Read	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	481 (L) 0 (WH)	2/23/96-3/31/96	ORHY 35	5/23/96	Not Mapped	N/A	756	1.41	536	Not Read	Not Read
1996-97	1,637 (L) 0 (WH)	4/1/96-5/11/96 12/5/96-2/26/97	ORHY 31	3/26/97	Not Mapped	N/A	2,904	--	--	Not Read	Not Read
Avg.	1,102 (L) 90 (WH)		45				1,294 ⁶			438 / 306	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit B-1

Spruce Allotment

Key Area SP-08

Range Site: Silty 8-10 (28B-13)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	525 (L)	4/1/86-5/8/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	PNC 77 692 / 420	EULA5 50.5 ORHY 62.0
1987-88	1,473 (L)	12/19/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,506 (L)	4/1/88-4/27/88 11/17/88-12/1/88 12/10/88-2/21/89	EULA5 52	6/14/89	MODERATE	6/14/89	1,593	1.10	1,448	Not Read	Not Read
1989-90	826 (L)	11/28/89-12/2/89 2/15/90-3/31/90	ORHY 46	5/30/90	Not Mapped	N/A	988	0.95	1,040	Not Read	Not Read
1990-91	1,461 (L)	4/1/90-5/2/90 11/7/90-2/28/91	ORHY 40	3/19/91	LIGHT	3/19/91	2,009	0.89	2,257	LATE 65 123 / 110	EULA5 41.5= ORHY 49.0-
1991-92	581 (L) 0 (WH)	1/29/92-3/31/92	EULA5 ORHY 53	6/5/92	Not Mapped	N/A	603	0.68	887	Not Read	Not Read
1992-93	1,533 (L) 0 (WH)	4/1/92-5/8/92 11/13/92-1/11/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	374 (L) 6 (WH)	2/27/94-3/31/94	ORHY 65	5/26/94	Not Mapped	N/A	322	1.28	252	Not Read	Not Read
1994-95	1,726 (L) 174 (WH)	4/1/94-5/15/94 11/12/94-2/23/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	481 (L) 0 (WH)	2/23/96-3/31/96	ORHY 58	5/24/96	Not Mapped	N/A	456	1.41	323	Not Read	Not Read
1996-97	1,637 (L) 0 (WH)	4/1/96-5/11/96 12/5/96-2/26/97	ORHY 47	3/26/97	Not Mapped	N/A	1,916	--	--	Not Read	Not Read
Avg.	1,102 (L) 90 (WH)		52				1,111 ⁴			408 / 265	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit B-2

Spruce Allotment

Key Area SP-10

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	262 (L)	4/1/86-5/8/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	MID 36 661 / 403	EULA5 42.5 ORHY 38.0
1987-88	736 (L)	12/19/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,047 (L)	4/1/88-4/27/88 12/2/88-2/21/89 3/28/89-3/29/89	EULA5 58	6/12/89	MODERATE	6/12/89	993	1.10	903	Not Read	Not Read
1989-90	578 (L) 51 (WH)	11/28/89-12/2/89 2/15/90-2/28/90	EULA5 52	5/31/90	Not Mapped	N/A	665	0.95	700	Not Read	Not Read
1990-91	1,116 (L) 768 (WH)	4/2/90-4/11/90 11/7/90-2/28/91	ORHY 43	3/19/91	MODERATE	3/19/91	2,410	0.89	2,708	MID 37 378 / 336	EULA5 26.5- ORHY 11.0-
1991-92	581 (L) 592 (WH)	1/29/92-3/31/92	ORHY 70	5/7/92	Not Mapped	N/A	922	0.68	1,356	Not Read	Not Read
1992-93	350 (L) 724 (WH)	4/1/92-5/8/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	331 (L) 515 (WH)	3/1/94-3/31/94	ORHY 27	5/26/94	Not Mapped	N/A	1,723	1.28	1,346	Not Read	Not Read
1994-95	1,727 (L) 502 (WH)	4/1/94-5/15/94 11/12/94-2/23/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	480 (L) 516 (WH)	2/23/96-3/31/96	EULA5 29	5/24/96	Not Mapped	N/A	1,889	1.41	1,340	Not Read	Not Read
1996-97	1,637 (L) 571 (WH)	4/1/96-5/11/96 12/5/96-2/26/97	ORHY 37	3/26/97	Not Mapped	N/A	3,282	--	--	Not Read	Not Read
Avg.	804 (L) 598 (WH)		45				1,587 ⁶			520 / 370	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit B-2

Spruce Allotment

Key Area SP-11

Range Site: Silty 8-10 (28B-13)
 Key Species: EULA5 and ORHY
 Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	262 (L)	4/1/86-5/8/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	LATE 64 602 / 367	EULA5 87.0 ORHY 35.5
1987-88	736 (L)	12/19/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,047 (L)	4/1/88-4/27/88 12/2/88-2/21/89 3/28/89- 3/29/89	EULA5 61	6/12/89	HEAVY	6/12/89	944	1.10	858	Not Read	Not Read
1989-90	578 (L) 51 (WH)	11/28/89-12/2/89 2/15/90- 2/28/90	EULA5 56	5/31/90	Not Mapped	N/A	618	0.95	651	Not Read	Not Read
1990-91	1,116 (L) 768 (WH)	4/2/90-4/11/90 11/7/90-2/28/91	ORHY 62	3/19/91	HEAVY	3/19/91	1,671	0.89	1,878	MID 50 160 / 143	EULA5 81.0= ORHY 19.0-
1991-92	581 (L) 592 (WH)	1/29/92-3/31/92	ORHY 62	5/7/92	Not Mapped	N/A	1,041	0.68	1,531	Not Read	Not Read
1992-93	350 (L) 724 (WH)	4/1/92-5/8/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	331 (L) 515 (WH)	3/1/94-3/31/94	ORHY 52	5/26/94	Not Mapped	N/A	895	1.28	699	Not Read	Not Read
1994-95	1,727 (L) 502 (WH)	4/1/94-5/15/94 11/12/94-2/23/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	480 (L) 516 (WH)	2/23/96-3/31/96	EULA5 44	5/23/96	Not Mapped	N/A	1,245	1.41	883	Not Read	Not Read
1996-97	1,637 (L) 571 (WH)	4/1/96-5/11/96 12/5/96-2/26/97	EULA5 ORHY 49	3/26/97	Not Mapped	N/A	2,478	--	--	Not Read	Not Read
Avg.	804 (L) 598 (WH)		55				1,159 ⁶			381 / 255	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-1a

Spruce Allotment

Key Area SP-20

Range Site: Silty 8-10 (28B-13)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	366 (L)	5/10/86-5/11/86 3/1/87-3/15/87	EULA5 51	5/7/87	Not Mapped	N/A	395	0.61	648	Not Read	Not Read
1987-88	405 (L)	4/14/87 12/10/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc	LATE 62 1,284 / 1,156	EULA5 43.5 ORHY 63.0
1988-89	410 (L)	4/1/88-5/6/88 12/6/88-2/21/89	EULA5 62	6/14/89	HEAVY	6/14/89	364	1.10	331	Not Read	Not Read
1989-90	773 (L) 5 (WH)	4/17/89 11/21/89-12/20/89 2/15/90-2/28/90	EULA5 ORHY 56	5/30/90	Not Mapped	N/A	764	0.95	804	Not Read	Not Read
1990-91	616 (L) 119 (WH)	5/2/90-5/9/90 12/1/90-12/31/90	ORHY 60	3/19/91	MODERATE	3/19/91	674	0.89	757	LATE 53 244 / 217	EULA5 28.5- ORHY 44.5-
1991-92	480 (L) 375 (WH)	12/1/91-12/31/91	ORHY 54	5/8/92	Not Mapped	N/A	871	0.68	1,281	Not Read	Not Read
1992-93	110 (L) 216 (WH)	5/2/92-5/5/92 3/23/93-3/31/93	ORHY 66	4/22/93	HEAVY	4/22/93	272	0.72	378	Not Read	Not Read
1993-94	764 (L) 289 (WH)	4/1/93-6/1/93 12/2/93-2/22/94	ORHY 57	5/26/94	Not Mapped	N/A	1,016	1.28	794	Not Read	Not Read
1994-95	739 (L) 454 (WH)	5/6/94-6/21/94 11/23/94-3/31/95	EULA5 58	6/12/95	Not Mapped	N/A	1,131	0.86	1,315	Not Read	Not Read
1995-96	566 (L) 324 (WH)	4/1/95-5/8/95 12/20/95-2/22/96	EULA5 23	5/23/96	Not Mapped	N/A	2,128	1.41	1,509	Not Read	Not Read
1996-97	292 (L) 338 (WH)	4/15/96-4/16/96 12/7/96-1/22/97	EULA5 64	5/7/97	Not Mapped	N/A	541	--	--	Not Read	Not Read
Avg.	502 (L) 302 (WH)		55				720 ⁶			764 / 687	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-1

Spruce Allotment

Key Area SP-09

Range Site: Saline Terrace 5-8 (28B-47)

Key Species: ATNU2

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,012 (L)	4/1/86-5/13/86 12/6/86-12/21/86 3/16/87-3/31/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	LATE 65 1,231 / 751	ATNU2 48.5
1987-88	1,447 (L)	4/1/87-5/13/87 11/28/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,077 (L)	4/1/88-5/15/88 11/17/88-2/21/89 3/30/89-3/31/89	ATNU2 51	6/14/89	MODERATE	6/14/89	1,161	1.10	1,055	Not Read	Not Read
1989-90	991 (L)	4/1/89-4/28/89 11/15/89-11/29/89 2/15/90-2/28/90	ATNU2 59	5/30/90	Not Mapped	N/A	924	0.95	973	Not Read	Not Read
1990-91	1,547 (L)	4/2/90-4/11/90 5/10/90-5/14/90 11/5/90-12/15/90 1/1/91-3/31/91	ATNU2 48	3/19/91	MODERATE	3/19/91	1,173	0.89	1,992	LATE 65 790 / 703	ATNU2 25.5-
1991-92	1,420 (L) 28 (WH)	4/1/91-4/24/91 11/20/91-2/28/92	ATNU2 56	6/5/92	Not Mapped	N/A	1,422	0.68	2,091	Not Read	Not Read
1992-93	3,703 (L) 292 (WH)	5/2/92-5/5/92 11/13/92-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	1,620 (L) 107 (WH)	4/1/93-6/1/93 12/2/93-2/22/94	ATNU2 54	5/26/94	Not Mapped	N/A	1,759	1.28	1,374	Not Read	Not Read
1994-95	1,808 (L) 398 (WH)	5/6/94-6/21/94 11/23/94-3/31/95	ATNU2 38	6/2/95	Not Mapped	N/A	3,193	0.86	3,713	Not Read	Not Read
1995-96	1,384 (L) 456 (WH)	4/1/95-5/8/95 12/20/95-2/22/96	ATNU2 41	5/23/96	Not Mapped	N/A	2,468	1.41	1,750	Not Read	Not Read
1996-97	715 (L) 557 (WH)	4/15/96-4/16/96 12/7/96-1/22/97	ATNU2 37	3/27/97	Not Mapped	N/A	1,891	--	--	Not Read	Not Read
Avg.	1,520 (L) 306 (WH)		48				1,646 ⁶			1,011 / 727	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for ATNU2 is 55%.

Subunit C-1

Spruce Allotment

Key Area SP-12

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5, ARSP5, and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	1,012 (L)	4/1/86-5/13/86 12/6/86-12/21/86 3/16/87-3/31/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	MID 37 894 / 545	EULA5 4.0 ARSP5 15.5 ORHY 17.5
1987-88	1,447 (L)	4/1/87-5/13/87 11/28/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,077 (L)	4/1/88-5/15/88 11/17/88-2/21/89 3/30/89-3/31/89	ORHY 48	6/28/89	MODERATE	6/28/89	1,234	1.10	1,122	Not Read	Not Read
1989-90	991 (L)	4/1/89-4/28/89 11/15/89-12/29/89 2/15/90-2/28/90	EULA5 57	5/31/90	Not Mapped	N/A	956	0.95	1,006	Not Read	Not Read
1990-91	1,547 (L)	4/2/90-4/11/90 5/10/90-5/14/90 11/5/90-12/15/90 1/1/91-3/31/91	ORHY 48	3/19/91	MODERATE	3/19/91	1,773	0.89	1,992	MID 43 117 / 104	EULA5 6.0= ARSP5 15.5= ORHY 17.0=
1991-92	1,420 (L) 28 (WH)	4/1/91-4/24/91 11/20/91-2/28/92	ORHY 26	6/5/92	Not Mapped	N/A	3,063	0.68	4,504	Not Read	Not Read
1992-93	3,703 (L) 292 (WH)	11/13/92-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	1,620 (L) 107 (WH)	4/1/93-6/1/93 12/2/93-2/22/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	1,808 (L) 398 (WH)	5/6/94-6/21/94 11/23/94-3/31/94	EULA5 38	6/2/95	Not Mapped	N/A	3,193	0.86	3,713	Not Read	Not Read
1995-96	1,384 (L) 456 (WH)	4/1/95-5/8/95 12/20/95-2/22/96	ORHY 33	5/23/96	Not Mapped	N/A	3,067	1.41	2,175	Not Read	Not Read
1996-97	715 (L) 557 (WH)	4/15/96-4/16/96 12/7/96-1/22/97	ORHY 64	5/15/97	Not Mapped	N/A	1,093	--	--	Not Read	Not Read
Avg.	1,520 (L) 306 (WH)		45				2,046 ⁶			506 / 325	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5, ARSP5, and ORHY is 55%.

Subunit C-1

Spruce Allotment

Key Area SP-23

Range Site: Coarse Silty 6-8 (28B-84)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,012 (L)	4/1/86-5/13/86 12/6/86-12/21/86 3/16/87-3/31/87	EULA5 53	5/7/87	Not Mapped	N/A	1,050	0.61	1,721	Not Read	Not Read
1987-88	1,447 (L)	4/1/87-5/13/87 11/28/87-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	MID 32 622 / 560	EULA5 37.0 ORHY 58.5
1988-89	1,077 (L)	4/1/88-5/15/88 11/17/88-2/21/89 3/30/89-3/31/89	ORHY 50	6/28/89	MODERATE	6/28/89	1,184	1.10	1,076	Not Read	Not Read
1989-90	991 (L)	4/1/89-4/28/89 11/15/89-11/29/89 2/15/90-2/28/90	EULA5 41	5/13/90	Not Mapped	N/A	1,329	0.95	1,399	Not Read	Not Read
1990-91	1,547 (L)	4/2/90-4/11/90 5/10/90-5/14/90 11/5/90-12/15/91 1/1/91-3/31/91	ORHY 51	3/19/91	MODERATE	3/19/91	1,668	0.89	1,874	MID 38 449 / 400	EULA5 30.0= ORHY 53.5=
1991-92	1,420 (L) 28 (WH)	4/1/91-4/24/91 11/20/91-2/28/92	ORHY 31	6/5/92	Not Mapped	N/A	2,569	0.68	3,778	Not Read	Not Read
1992-93	3,703 (L) 292 (WH)	11/13/92-3/31/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	1,620 (L) 107 (WH)	4/1/93-6/1/93 12/2/93-2/22/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	1,808 (L) 398 (WH)	5/6/94-6/21/94 11/23/94-3/31/95	EULA5 46	6/2/95	Not Mapped	N/A	2,638	0.86	3,067	Not Read	Not Read
1995-96	1,384 (L) 456 (WH)	4/1/95-5/8/95 12/20/95-2/22/96	ORHY 44	5/24/96	Not Mapped	N/A	2,300	1.41	1,631	Not Read	Not Read
1996-97	715 (L) 557 (WH)	4/15/96-4/16/96 12/7/96-1/22/97	ORHY 82	5/15/97	Not Mapped	N/A	853	--	--	Not Read	Not Read
Avg.	1,520 (L) 306 (WH)		50				1,683 ⁶			536 / 480	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-2

Spruce Allotment

No Key Area

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	649 (L)	5/14/86-6/12/86 1/1/87-1/2/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	1,870 (L)	4/18/87-6/24/87 11/1/87-12/9/87 3/4/88-3/17/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,121 (L)	5/16/88-6/22/88 11/8/88-12/5/88 3/30/89-3/31/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	Not Read	Not Read
1989-90	222 (L)	4/1/89 10/31/89-11/14/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.95	Not Calc.	Not Read	Not Read
1990-91	737 (L)	5/15/90-6/3/90 10/1/90-11/4/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	1,660 (L) 0 (WH)	4/2/91-6/13/91 11/27/91-12/5/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	722 (L) 0 (WH)	5/6/92-5/21/92 11/2/92-11/25/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	956 (L) 46 (WH)	5/5/93-6/18/93 11/6/93-11/19/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	445 (L) 95 (WH)	5/10/95-6/5/94 11/1/94-11/17/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	1,210 (L) 96 (WH)	4/5/95-5/25/95 11/16/95-12/9/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.41	Not Calc.	Not Read	Not Read
1996-97	1,458 (L) 98 (WH)	4/17/96-6/5/96 11/1/96-11/24/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1005 (L) 84 (WH)										

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation). This subunit has been used in conjunction with the private land on Flowery Lake and thus the recommended carrying capacity for livestock on this subunit is based on one half of the actual use by livestock.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no key area in this subunit.

Subunit C-3

Spruce Allotment

Key Area SP-18

Range Site: Silty Clay 8-10 (28B-71)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp-Frequency ⁵
1986-87	1,066 (L)	1/3/87-2/28/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	1,449 (L)	12/21/87-3/5/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	LATE 51 932 / 839	EULA5 71.0 ORHY 4.5
1988-89	2,354 (L)	12/12/88-3/31/89	EULA5 57	6/28/89	MODERATE	6/28/89	2,271	1.10	2,065	Not Read	Not Read
1989-90	1,837 (L) 0 (WH)	4/1/89-4/17/89 12/21/89-2/28/90	EULA5 55	5/30/90	Not Mapped	N/A	1,837	0.95	1,934	Not Read	Not Read
1990-91	2,041 (L) 0 (WH)	11/12/90-1/20/91 3/5/91-3/31/91	ORHY 52	3/20/91	MODERATE	3/20/91	2,159	0.89	2,426	LATE 51 361 / 321	EULA5 78.0+ ORHY 1.0-
1991-92	1,762 (L) 17 (WH)	4/1/91 12/14/91-3/11/92	ORHY 50	5/8/92	Not Mapped	N/A	1,957	0.68	2,878	Not Read	Not Read
1992-93	767 (L) 350 (WH)	11/26/92-1/1/93 3/24/93-3/31/93	EULA5 40	4/22/93	MODERATE	4/22/93	1,536	0.72	2,133	Not Read	Not Read
1993-94	2,024 (L) 392 (WH)	4/1/93-5/4/93 11/20/93-2/28/94	EULA5 47	3/7/94	Not Mapped	N/A	2,754	1.28	2,152	Not Read	Not Read
1994-95	800 (L) 425 (WH)	11/18/94-12/7/94 3/1/95-3/31/95	EULA5 35	6/2/95	Not Mapped	N/A	1,925	0.86	2,238	Not Read	Not Read
1995-96	508 (L) 60 (WH)	4/1/95-4/4/95 12/10/95-1/6/96	EULA5 42	5/24/96	Not Mapped	N/A	744	1.41	528	Not Read	Not Read
1996-97	1,001 (L) 115 (WH)	11/25/96-12/1/96 2/18/97-3/31/97	EULA5 58	5/15/97	Not Mapped	N/A	1,058	--	--	Not Read	Not Read
Avg.	1,419 (L) 227 (WH)		48				1,820 ⁶			647 / 387	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 33 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-3

Spruce Allotment

Key Area SP-19

Range Site: Silty Clay 8-10 (28B-71)

Key Species: EULA5

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA UHL (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	1,066 (L)	1/3/87-2/28/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	1,449 (L)	12/21/87-3/5/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	LATE 60 519 / 467	EULA5 64.5
1988-89	2,354 (L)	12/12/88-3/31/89	EULA5 37	6/28/89	LIGHT	6/28/89	3,499	1.10	3,181	Not Read	Not Read
1989-90	1,837 (L) 0 (WH)	4/1/89-4/17/89 12/21/89-2/28/90	EULA5 55	5/31/90	Not Mapped	N/A	1,837	0.95	1,934	Not Read	Not Read
1990-91	2,041 (L) 0 (WH)	11/12/90-1/20/91 3/5/91-3/31/91	EULA5 46	3/20/91	MODERATE	3/20/91	2,440	0.89	2,742	LATE 57 533 / 475	EULA5 62.5=
1991-92	1,762 (L) 17 (WH)	4/1/91 12/14/91-3/11/92	EULA5 45	5/8/92	Not Mapped	N/A	2,174	0.68	3,197	Not Read	Not Read
1992-93	767 (L) 350 (WH)	11/26/92-1/1/93 3/24/93-3/31/93	EULA5 34	4/22/93	LIGHT	4/22/93	1,807	0.72	2,510	Not Read	Not Read
1993-94	2,024 (L) 392 (WH)	4/1/93-5/4/93 11/20/93-2/28/94	EULA5 32	3/7/94	Not Mapped	N/A	4,044	1.28	3,159	Not Read	Not Read
1994-95	800 (L) 425 (WH)	11/18/94-12/7/94 3/1/95-3/31/95	EULA5 47	6/2/95	Not Mapped	N/A	1,434	0.86	1,667	Not Read	Not Read
1995-96	508 (L) 60 (WH)	4/1/95-4/4/95 12/10/95-1/6/96	EULA5 41	5/24/96	Not Mapped	N/A	762	1.41	540	Not Read	Not Read
1996-97	1,001 (L) 115 (WH)	11/25/96-12/1/96 2/18/97-3/31/97	EULA5 24	5/15/97	Not Mapped	N/A	2,558	--	--	Not Read	Not Read
Avg.	1,419 (L) 227 (WH)		40				2,250 ⁶			526 / 471	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 33 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for this subunit. The allowable use level for EULA5 is 55%.

Subunit C-3

Spruce Allotment

Key Area SP-21

Range Site: Silty Clay 8-10 (28B-71)

Key Species: EULA5

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use	KMA Util. (%)	Dates read	KMA Use-Pat.2 Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj) ⁴	Key Spp. Frequency ⁵
1986-87	1,066 (L)	1/3/87-2/28/87	EULA5 53	5/7/87	Not Mapped	N/A	1,106	0.61	1,813	Not Read	Not Read
1987-88	1,449 (L)	12/21/87-3/5/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	LATE 52 699 / 629	EULA5 62.5
1988-89	2,354 (L)	12/12/88-3/31/89	EULA5 62	6/19/89	HEAVY	6/19/89	2,088	1.10	1,898	Not Read	Not Read
1989-90	1,837 (L) 0 (WH)	4/1/89-4/17/89 12/21/89-2/28/90	EULA5 57	5/31/90	Not Mapped	N/A	1,773	0.95	1,866	Not Read	Not Read
1990-91	2,041 (L) 0 (WH)	11/12/90-1/20/91 3/5/91-3/31/91	EULA5 47	3/20/91	MODERATE	3/20/91	2,388	0.89	2,683	LATE 52 269 / 240	EULA5 59.0=
1991-92	1,762 (L) 17 (WH)	4/1/91 12/14/91-3/11/92	EULA5 45	5/8/92	Not Mapped	N/A	2,174	0.68	3,197	Not Read	Not Read
1992-93	767 (L) 350 (WH)	11/26/92-1/1/93 3/24/93-3/31/93	EULA5 50	4/22/93	MODERATE	4/22/93	1,229	0.72	1,707	Not Read	Not Read
1993-94	2,024 (L) 392 (WH)	4/1/93-5/4/93 11/20/93-2/28/94	EULA5 63	3/7/94	Not Mapped	N/A	2,054	1.28	1,605	Not Read	Not Read
1994-95	800 (L) 425 (WH)	11/18/94-12/7/94 3/1/95-3/31/95	EULA5 52	6/2/95	Not Mapped	N/A	1,296	0.86	1,507	Not Read	Not Read
1995-96	508 (L) 60 (WH)	4/1/95-4/4/95 12/10/95-1/6/96	EULA5 56	5/24/96	Not Mapped	N/A	558	1.41	396	Not Read	Not Read
1996-97	1,001 (L) 115 (WH)	11/25/96-12/1/96 2/18/97-3/31/97	EULA5 75	5/15/97	Not Mapped	N/A	818	--		Not Read	Not Read
Avg.	1,419 (L) 227 (WH)		56				1,567 ⁶			484 / 435	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 33 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 is 55%.

Subunit C-3

Spruce Allotment

Key Area SP-22

Range Site: Silty Clay 8-10 (28B-71)

Key Species: EULA5

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,066 (L)	1/3/87-2/28/87	EULA5 51	5/7/87	Not Mapped	N/A	1,150	0.61	1,885	Not Read	Not Read
1987-88	1,449 (L)	12/21/87-3/5/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	LATE 52 1,552 / 1,396	EULA5 55.5
1988-89	2,354 (L)	12/12/88-3/31/89	EULA5 61	6/19/89	HEAVY	6/19/89	2,122	1.10	1,929	Not Read	Not Read
1989-90	1,837 (L) 0 (WH)	4/1/89-4/17/89 12/21/89-2/28/90	EULA5 56	5/31/90	Not Mapped	N/A	1,804	0.95	1,899	Not Read	Not Read
1990-91	2,041 (L) 0 (WH)	11/12/90-1/20/91 3/5/91-3/31/91	EULA5 48	3/20/91	MODERATE	3/20/91	2,339	0.89	2,628	LATE 56 694 / 618	EULA5 77.0+
1991-92	1,762 (L) 17 (WH)	4/1/91 12/14/91-3/11/92	EULA5 45	5/8/92	Not Mapped	N/A	2,174	0.68	3,197	Not Read	Not Read
1992-93	767 (L) 350 (WH)	11/26/92-1/1/93 3/24/93-3/31/93	EULA5 40	4/22/93	LT-MOD	4/22/93	1,536	0.72	2,133	Not Read	Not Read
1993-94	2,024 (L) 392 (WH)	4/1/93-5/4/93 11/20/93-2/28/94	EULA5 63	3/7/94	Not Mapped	N/A	2,054	1.28	1,605	Not Read	Not Read
1994-95	800 (L) 425 (WH)	11/18/94-12/7/94 3/1/95-3/31/95	EULA5 40	6/2/95	Not Mapped	N/A	1,684	0.86	1,958	Not Read	Not Read
1995-96	508 (L) 60 (WH)	4/1/95-4/4/95 12/10/95-1/6/96	EULA5 46	5/24/96	Not Mapped	N/A	679	1.41	482	Not Read	Not Read
1996-97	1,001 (L) 115 (WH)	11/25/96-12/1/96 2/18/97-3/31/97	EULA5 73	5/15/97	Not Mapped	N/A	840	--	--	Not Read	Not Read
Avg.	1,419 (L) 227 (WH)		52				1,671 ⁶			1,123 / 1,007	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 33 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 is 55%.

Subunit C-4

Spruce Allotment

Key Area SP-14

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	1,880 (L)	4/1/86-5/7/86 12/22/86-3/31/87	EULA5 52	5/5/87	Not Mapped	N/A	1,988	0.61	3,259	Not Read	Not Read
1987-88	639 (L)	4/1/87-4/13/87 3/6/88-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	MID 27 777 / 700	EULA5 28.5 ORHY 23.5
1988-89	678 (L)	4/1/88-4/27/88 3/9/89-3/31/89	EULA5 31	6/15/89	LIGHT	6/15/89	1,203	1.10	1,094	Not Read	Not Read
1989-90	765 (L) 95 (WH)	4/1/89-4/16/89 3/1/90-3/31/90	EULA5 58	5/30/90	Not Mapped	N/A	816	0.95	859	Not Read	Not Read
1990-91	1,689 (L) 1,403 (WH)	4/1/90-5/1/90 1/21/91-3/9/91	ORHY 35	3/19/91	LIGHT	3/19/91	4,859	0.89	5,460	MID 26 166 / 148	EULA5 16.0- ORHY 27.5=
1991-92	392 (L) 629 (WH)	3/12/92-3/31/92	ORHY 61	5/8/92	Not Mapped	N/A	921	0.68	1,354	Not Read	Not Read
1992-93	1,986 (L) 838 (WH)	4/1/92-5/1/92 1/2/93-3/23/93	EULA5 74	4/22/93	HEAVY	4/22/93	2,099	0.72	2,915	Not Read	Not Read
1993-94	877 (L) 542 (WH)	2/8/94-3/31/94	ORHY 59	5/26/94	Not Mapped	N/A	1,323	1.28	1,034	Not Read	Not Read
1994-95	2,174 (L) 379 (WH)	4/1/94-5/29/94 12/8/94-2/28/95	EULA5 38	6/2/95	Not Mapped	N/A	3,695	0.86	4,297	Not Read	Not Read
1995-96	1,524 (L) 396 (WH)	1/7/96-3/31/96	ORHY 52	5/24/96	Not Mapped	N/A	2,031	1.41	1,440	Not Read	Not Read
1996-97	2,724 (L) 420 (WH)	4/1/96-4/14/96 12/2/96-3/31/97	ORHY 60	3/27/97	Not Mapped	N/A	2,882	--	--	Not Read	Not Read
Avg.	1,393 (L) 658 (WH)		52				2,018 ⁶			472 / 424	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-4

Spruce Allotment

Key Area SP-15

Range Site: Silty 8-10 (28B-13)

Key Species: EULA5

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,880 (L)	4/1/86-5/7/86 12/22/86-3/31/87	EULA5 33	5/5/87	Not Mapped	N/A	3,133	0.61	5,136	Not Read	Not Read
1987-88	639 (L)	4/1/87-4/13/87 3/6/88-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	LATE 53 834 / 751	EULA5 32.0
1988-89	678 (L)	4/1/88-4/27/88 3/9/89-3/31/89	EULA5 41	6/15/89	MODERATE	6/15/89	910	1.10	827	Not Read	Not Read
1989-90	765 (L) 95 (WH)	4/1/89-4/16/89 3/1/90-3/31/90	EULA5 56	5/30/90	Not Mapped	N/A	845	0.95	889	Not Read	Not Read
1990-91	1,689 (L) 1,403 (WH)	4/1/90-5/1/90 1/21/91-3/9/91	EULA5 25	3/19/91	LIGHT	3/19/91	6,802	0.89	7,643	LATE 53 161 / 144	EULA5 19.0-
1991-92	392 (L) 629 (WH)	3/12/92-3/31/92	ORHY 65	5/8/92	Not Mapped	N/A	864	0.68	1,271	Not Read	Not Read
1992-93	1,986 (L) 838 (WH)	4/1/92-5/1/92 1/2/93-3/23/93	EULA5 70	4/22/93	HEAVY	4/22/93	2,219	0.72	3,082	Not Read	Not Read
1993-94	877 (L) 542 (WH)	2/8/94-3/31/94	ORHY 68	5/26/94	Not Mapped	N/A	1,148	1.28	897	Not Read	Not Read
1994-95	2,174 (L) 379 (WH)	4/1/94-5/29/94 12/8/95-2/28/95	EULA5 42	6/2/95	Not Mapped	N/A	3,343	0.86	3,887	Not Read	Not Read
1995-96	1,524 (L) 396 (WH)	1/7/96-3/31/96	EULA5 43	5/24/96	Not Mapped	N/A	2,456	1.41	1,742	Not Read	Not Read
1996-97	2,724 (L) 420 (WH)	4/1/96-4/14/96 12/2/96-3/31/97	EULA5 49	3/27/97	Not Mapped	N/A	3,529	--	--	Not Read	Not Read
Avg.	1,393 (L) 658 (WH)		49				2,200 ⁶			513 / 448	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 is 55%.

Subunit C-4

Spruce Allotment

Key Area SP-16

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,880 (L)	4/1/86-5/7/86 12/22/86-3/31/87	EULA5 46	5/5/87	Not Mapped	N/A	2,248	0.61	3,685	Not Read	Not Read
1987-88	639 (L)	4/1/87-4/13/87 3/6/88-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	MID 30 1231 / 1107	EULA5 29.0 ORHY 39.5
1988-89	678 (L)	4/1/88-4/27/88 3/9/89-3/31/89	EULA5 54	6/15/89	MODERATE	6/15/89	691	1.10	628	Not Read	Not Read
1989-90	765 (L) 95 (WH)	4/1/89-4/16/89 3/1/90-3/31/90	ORHY 51	5/30/90	Not Mapped	N/A	927	0.95	976	Not Read	Not Read
1990-91	1,689 (L) 1,403 (WH)	4/1/90-5/1/90 1/21/91-3/9/91	EULA5 38	3/19/91	LIGHT	3/19/91	4,475	0.89	5,028	MID 35 191 / 170	EULA5 20.0- ORHY 33.5=
1991-92	392 (L) 629 (WH)	3/12/92-3/31/92	ORHY 59	5/8/92	Not Mapped	N/A	952	0.68	1,400	Not Read	Not Read
1992-93	1,986 (L) 838 (WH)	4/1/92-5/1/92 1/2/93-3/23/93	EULA5 70	4/22/93	HEAVY	4/22/93	2,219	0.72	3,082	Not Read	Not Read
1993-94	877 (L) 542 (WH)	2/8/94-3/31/94	ORHY 46	5/26/94	Not Mapped	N/A	1,697	1.28	1,326	Not Read	Not Read
1994-95	2,174 (L) 379 (WH)	4/1/94-5/29/94 12/8/94-2/28/95	EULA5 52	6/2/95	Not Mapped	N/A	2,700	0.86	3,140	Not Read	Not Read
1995-96	1,524 (L) 396 (WH)	1/7/96-3/31/96	EULA5 15	5/24/96	Not Mapped	N/A	7,040	1.41	4,993	Not Read	Not Read
1996-97	2,724 (L) 420 (WH)	4/1/96-4/14/96 12/2/96-3/31/97	ORHY 33	3/27/97	Not Mapped	N/A	5,240	--	--	Not Read	Not Read
Avg.	1,393 (L) 658 (WH)		46				2,557 ⁶			711 / 639	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunit C-4

Spruce Allotment

Key Area SP-17

Range Site: Coarse Gravelly Loam 6-8 (28B-75)

Key Species: EULA5 and ORHY

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	1,880 (L)	4/1/86-5/7/86 12/22/86-3/31/87	EULA5 43	5/5/87	Not Mapped	N/A	2,405	0.61	3,943	Not Read	Not Read
1987-88	639 (L)	4/1/87-4/13/87 3/6/88-3/31/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90		MID 31 1013 / 911	EULA5 47.5 ORHY 35.0
1988-89	678 (L)	4/1/88-4/27/88 3/9/89-3/31/89	EULA5 24	6/15/89	LIGHT	6/15/89	1,554	1.10	1,413	Not Read	Not Read
1989-90	765 (L) 95 (WH)	4/1/89-4/16/89 3/1/90-3/31/90	EULA5 57	5/30/90	Not Mapped	N/A	830	0.95	874	Not Read	Not Read
1990-91	1,689 (L) 1,403 (WH)	4/1/90-5/1/90 1/21/91-3/9/91	EULA5 ORHY 39	3/19/91	LIGHT	3/19/91	4,361	0.89	4,900	MID 42 315 / 280	EULA5 37.5- ORHY 39.5=
1991-92	392 (L) 629 (WH)	3/12/92-3/31/92	ORHY 50	5/8/92	Not Mapped	N/A	1,123	0.68	1,651	Not Read	Not Read
1992-93	1,986 (L) 838 (WH)	4/1/92-5/1/92 1/2/93-3/23/93	EULA5 64	4/22/93	HEAVY	4/22/93	2,427	0.72	3,371	Not Read	Not Read
1993-94	877 (L) 542 (WH)	2/8/94-3/31/94	ORHY 58	5/26/94	Not Mapped	N/A	1,346	1.28	1,052	Not Read	Not Read
1994-95	2,174 (L) 379 (WH)	4/1/94-5/29/94 12/8/94-2/28/95	EULA5 46	6/2/95	Not Mapped	N/A	3,053	0.86	3,550	Not Read	Not Read
1995-96	1,524 (L) 396 (WH)	1/7/96-3/31/96	EULA5 38	5/24/96	Not Mapped	N/A	2,779	1.41	1,971	Not Read	Not Read
1996-97	2,724 (L) 420 (WH)	4/1/96-4/14/96 12/2/96-3/31/97	EULA5 43	3/27/97	Not Mapped	N/A	4,021	--	--	Not Read	Not Read
Avg.	1,393 (L) 658 (WH)		46				2,339 ⁶			664 / 596	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5 and ORHY is 55%.

Subunits D-1,2,3

Spruce Allotment

No Key Area
Independence Valley Seeding

Period of Use: 5/1 - 6/30 and 10/1 - 10/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	733 (L)	6/13/86-7/13/86 10/2/86-12/31/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	729 (L)	6/25/87-7/18/87 10/1/87-11/16/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	1,009 (L)	6/23/88-8/28/88 10/1/88-11/17/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	Not Read	Not Read
1989-90	1,073 (L)	5/3/89-7/1/89 10/1/89-10/30/89	50 (UPM)	N/A	MODERATE	11/7/89	1,288	0.95	1,356	Not Read	Not Read
1990-91	1,154 (L)	6/4/90-7/13/90 10/1/90-10/20/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	1,048 (L) 0 (WH)	6/14/91-7/14/91 10/1/91-11/22/91	50 (UPM)	N/A	MODERATE	11/26/91	1,258	0.68	1,850	Not Read	Not Read
1992-93	1,346 (L) 0 (WH)	5/22/92-7/21/92 9/4/92-11/1/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	1,002 (L) 9 (WH)	6/19/93-8/9/93 9/11/93-11/8/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	1,263 (L) 5 (WH)	6/6/94-8/18/94 9/25/94-10/30/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	1,896 (L) 108 (WH)	5/26/95-7/5/95 9/1/95-11/15/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.41	Not Calc.	Not Read	Not Read
1996-97	1,239 (L) 108 (WH)	6/6/96-10/31/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	1,136 (L) 58 (WH)						1,273 ⁵				

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation). WH use is only incidental in this subunit.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no key area in this subunit.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 60% utilization objective level was used in calculating capacity on this subunit.

Subunit E-1

Spruce Allotment

Key Area SP-28

Range Site: Mountain Ridge 14+ (28B-38)

Key Species: AGSP and ARARN

Period of Use: 7/1 - 9/30

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	1,665 (L)	5/10/86-11/8/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	1,334 (L)	3/31/87-4/20/87 5/16/87-11/10/87	Not Read	N/A	MODERATE	10/87	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	917 (L)	3/14/88-4/18/88 4/23/88-6/11/88 7/2/88-9/30/88 10/4/88-11/19/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	LATE 74 1178 / 1296	AGSP 29.5 ARARN 59.5
1989-90	810 (L)	5/9/89-9/30/89 10/4/89-11/29/89	50 (UPM)	11/7/89	MODERATE	11/7/89	810	0.95	853	Not Read	Not Read
1990-91	1,667 (L)	3/21/90-4/30/90 5/2/90-6/13/90 7/14/90-9/30/90 10/4/90-10/26/90	ARARN 47	10/3/90	MODERATE	10/3/90	1,773	0.89	1,992	Not Read	Not Read
1991-92	384 (L) 0 (WH)	6/21/91-9/30/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	192 (L) 38 (WH)	6/13/92-9/3/92	AGSP 19	10/22/92	SLIGHT	10/22/92	605	0.72	840	Not Read	Not Read
1993-94	278 (L) 11 (WH)	7/7/93-9/10/93	AGSP 22	10/5/93	LIGHT	10/5/93	657	1.28	513	LATE 69 352 / 451	AGSP 32.0= ARARN 49.5-
1994-95	625 (L) 185 (WH)	6/22/94-9/24/94	AGSP 34	10/19/94	Not Mapped	N/A	1,191	0.86	1,385	Not Read	Not Read
1995-96	614 (L) 180 (WH)	7/1/95-8/31/95	AGSP 42	10/31/95	Not Mapped	N/A	945	1.41	670	Not Read	Not Read
1996-97	453 (L) 180 (WH)	6/28/96-9/30/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	813 (L) 119 (WH)		36				901 ⁶			765 / 874	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² Period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 50% utilization objective level was used in calculating capacity on this subunit.

Subunit E-2

Spruce Allotment

Key Area SP-25

Range Site: Stony Mahogany Savanna (28B-32)

Key Species: AGSP and PUTR2

Period of Use: 7/1 - 9/30

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	833 (L)	5/6/86-5/30/86 6/4/86-10/1/86 11/9/86-12/4/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	507 (L)	4/28/87-5/15/87 6/30/87-9/30/87 11/27/87	Not Read	N/A	MODERATE	10/87	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	653 (L)	7/10/88-9/30/88 10/28/88-11/16/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	MID 41 2299 / 2529	AGSP 34.0 PUTR2 33.5
1989-90	1,235 (L)	4/27/89-5/8/89 6/15/89-9/30/89 10/14/89-11/19/89	STIPA 26	10/16/89	MODERATE	11/7/89	2,375	0.95	2,500	Not Read	Not Read
1990-91	399 (L)	4/12/90-4/30/90 7/9/90-10/1/90	AGSP 41	10/3/90	MODERATE	10/3/90	487	0.89	547	Not Read	Not Read
1991-92	379 (L) 0 (WH)	7/15/91-9/30/91	AGSP 30	10/25/91	Not Mapped	N/A	632	0.68	929	Not Read	Not Read
1992-93	557 (L) 86 (WH)	6/17/92-9/3/92	AGSP 40	10/22/92	LIGHT	10/22/92	804	0.72	1,117	Not Read	Not Read
1993-94	1,029 (L) 66 (WH)	7/9/93-10/6/93	AGSP 6	10/5/93	SLIGHT	10/5/93	9,125	1.28	7,129	MID 47 1352 / 1730	AGSP 52.5+ PUTR2 32.0=
1994-95	580 (L) 0 (WH)	6/23/94-9/24/94	AGSP 11	10/27/95	Not Mapped	N/A	2,636	0.86	3,065	Not Read	Not Read
1995-96	369 (L) 0 (WH)	7/6/95-8/31/95	AGSP 3	11/2/95	Not Mapped	N/A	6,150	1.41	4,362	Not Read	Not Read
1996-97	508 (L) 0 (WH)	6/24/96-9/30/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	641 (L) 76 (WH)		22				2,519 ⁶			1826 / 2130	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 50% utilization objective level was used in calculating capacity on this subunit.

Subunit E-2

Spruce Allotment

Key Area SP-26

Range Site: Calcareous Loam 14-16 (28B-88)

Key Species: AGSP and PUTR2

Period of Use: 7/1 - 9/30

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Spp. Frequency ⁵
1986-87	833 (L)	5/6/86-5/30/86 6/4/86-10/1/86 11/9/86-12/4/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	507 (L)	4/28/87-5/15/87 6/30/87-9/30/87 11/27/87	Not Read	N/A	MODERATE	10/87	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89	653 (L)	7/10/88-9/30/88 10/28/88-11/16/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	MID 42 3,996 / 4,345	AGSP 22.5 PUTR2 37.5
1989-90	1,235 (L)	4/27/89-5/8/89 6/15/89-9/30/89 10/14/89-11/19/89	AGSP 37	10/16/89	MODERATE	11/7/89	1,669	0.95	1,757	Not Read	Not Read
1990-91	399 (L)	4/12/90-4/30/90 7/9/90-10/1/90	AGSP 43	10/3/90	MODERATE	10/3/90	464	0.89	521	Not Read	Not Read
1991-92	379 (L) 0 (WH)	7/15/91-9/30/91	AGSP 42	10/25/91	Not Mapped	N/A	451	0.68	663	Not Read	Not Read
1992-93	557 (L) 86 (WH)	6/17/92-9/3/92	AGSP 36	10/20/92	LIGHT	10/20/92	893	0.72	1,240	Not Read	Not Read
1993-94	1,029 (L) 66 (WH)	7/9/93-10/6/93	AGSP 42	10/5/93	MODERATE	10/5/93	1,304	1.28	1,019	MID 50 1,155 / 1,478	AGSP 19.0= PUTR2 35.5=
1994-95	580 (L) 0 (WH)	6/23/94-9/24/94	AGSP 35	10/19/94	Not Mapped	N/A	829	0.86	964	Not Read	Not Read
1995-96	369 (L) 0 (WH)	7/6/95-8/31/95	AGSP 23	10/31/95	Not Mapped	N/A	802	1.41	569	Not Read	Not Read
1996-97	508 (L) 0 (WH)	6/24/96-9/30/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	--	Not Read	Not Read
Avg.	641 (L) 76 (WH)		37				858 ⁶			2,576 / 2,912	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 50% utilization objective level was used in calculating capacity on this subunit.

Subunit E-3

Spruce Allotment

Key Area DW-2-T-04 (Wildlife Key Area) - Boone Springs

Period of Use: 7/1 - 9/30

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	337 (L)	5/1/86-5/5/86 6/3/86-10/1/86 12/5/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	739 (L)	5/14/87-9/30/87 12/1/87-12/26/87	AGSP 56	11/10/87	MODERATE	10/87	660	0.90	733	Not Read	Not Read
1988-89	456 (L)	7/14/88-9/30/88	AGSP 7	10/28/88	Not Mapped	N/A	3,257	1.10	2,961	Not Read	Not Read
1989-90	742 (L)	6/18/89-9/30/89	AGSP 10	10/16/89	MODERATE	11/7/89	3,710	0.95	3,905	Not Read	Not Read
1990-91	778 (L)	7/14/90-10/15/90 3/11/91-3/31/91	50% (UPM)	N/A	MODERATE	10/3/90	778	0.89	874	Not Read	Not Read
1991-92	341 (L) 70 (WH)	4/1/91-4/24/91 7/12/91-9/30/91	AGSP 16	10/25/91	Not Mapped	N/A	1,284	0.68	1,888	Not Read	Not Read
1992-93	0 (L) 133 (WH)	N/A	50% (UPM)	N/A	MODERATE	10/22/92	133	0.72	185	Not Read	Not Read
1993-94	0 (L) 110 (WH)	N/A	70% (UPM)	N/A	HEAVY	10/5/93	79	1.28	62	Not Read	Not Read
1994-95	0 (L) 233 (WH)	N/A	AGSP 34	10/19/94	Not Mapped	N/A	343	0.86	399	Not Read	Not Read
1995-96	0 (L) 132 (WH)	N/A	AGSP 22	10/31/95	Not Mapped	N/A	300	1.41	213	Not Read	Not Read
1996-97	0 (L) 125 (WH)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	--	Not Read	Not Read
Avg.	566 (L) 134 (WH)						965 ⁵				

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no range key area in this subunit. However, there is a wildlife key area in this subunit.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 50% utilization objective was used in calculating capacity on this subunit.

Subunit E-4

Spruce Allotment

Key Area SP-29

Range Site: Calcareous Mountain Ridge (28B-48)

Key Species: AGSP

Period of Use: 7/1 - 9/30

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ⁴	Key Sp. Frequency ⁵
1986-87	432 (L)	7/4/86-10/1/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88	192 (L)	7/19/87-9/30/87 12/27/88-2/29/88	50 (UPM)	10/87	MODERATE	10/87	192	0.90	213	Not Read	Not Read
1988-89	228 (L)	3/1/88-3/3/88 7/20/88-9/30-88	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	LATE 68 639 / 702	AGSP 73.5
1989-90	0 (L)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.95	Not Calc.	Not Read	Not Read
1990-91	105 (L)	9/12/90-10/15/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	0 (L) 210 (WH)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	429 (L) 21 (WH)	6/15/92-9/3/92	AGSP 78	10/22/92	HEAVY	10/22/92	288	0.72	400	Not Read	Not Read
1993-94	0 (L) 59 (WH)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	MID 35 451 / 577	AGSP 62.5-
1994-95	335 (L) 127 (WH)	7/6/94-9/24/94	AGSP 24	10/19/94	Not Mapped	N/A	1,004	0.86	1,167	Not Read	Not Read
1995-96	0 (L) 24 (WH)	N/A	AGSP 3	10/31/95	Not Mapped	N/A	400	1.41	284	Not Read	Not Read
1996-97	707 (L) 69 (WH)	7/6/96-9/30/96	AGSP 32	10/31/96	Not Mapped	N/A	1,213	--	--	Not Read	Not Read
Avg.	347 (L) 85 (WH)		37				564 ⁶			545 / 640	

¹ Actual use is livestock (L) and wild horse (WH) use from 4/1 - 10/31. Wild horse actual use begins 6/91 with the start of the intensive seasonal flights (see Table 34 in allotment evaluation).

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁵ = No significant change + Significant increase - Significant decrease

⁶ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 10/31 and a 50% utilization objective was used in calculating capacity on this subunit.

Subunit F-1

Spruce Allotment

No Key Area

West Dolly Vardens

Period of Use: 4/1 - 10/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89			Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	Not Read	Not Read
1989-90	0 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.95	Not Calc.	Not Read	Not Read
1990-91	5 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	16 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	168 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	177 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	61 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	48 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.41	Not Calc.	Not Read	Not Read
1996-97	75 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	79 (WH)										

¹ Actual use is wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year. Carrying capacity in this subunit is 75 WH AUMs (11 head) from 4/1-10/31 (summer use area by WH). The carrying capacity is based on the capacity of the winter range. The number of WHs in this subunit is based on the % of horses that occur within the subunit as determined by census flights (see Appendix 3).

² There is no livestock use in this subunit.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no range key area in this subunit.

Subunit F-2

Spruce Allotment

No Key Area
East Dolly Vardens

Period of Use: 4/1 - 10/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89			Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	Not Read	Not Read
1989-90	2 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.95	Not Calc.	Not Read	Not Read
1990-91	159 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	764 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	617 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	415 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	899 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	660 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.41	Not Calc.	Not Read	Not Read
1996-97	767 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	612 (WH)										

¹ Actual use is wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 32 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year. Carrying capacity in this subunit is 396 WH AUMs (56 head) from 4/1-10/31 (summer use area by WH). The carrying capacity is based on the capacity of the winter range. The number of WHs in this subunit is based on the % of horses that occur within the subunit as determined by census flights (see Appendix 3).

² There is no livestock use in this subunit.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no range key area in this subunit.

Subunit G

Spruce Allotment

No Key Area

Bald Mountain Sheep Use Area

Period of Use: 5/1 - 9/11

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	No Data	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.17	Not Calc.	Not Read	Not Read
1987-88	No Data	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.88	Not Calc.	Not Read	Not Read
1988-89	0 (S) 118 (WH)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	1,081 (S) 816 (WH)	5/14/89-9/10/89	50 (UPM)	N/A	MODERATE	10/19/89	1,897	0.94	2,018	Not Read	Not Read
1990-91	921 (S) 816 (WH)	5/16/90-9/11/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.82	Not Calc.	Not Read	Not Read
1991-92	1,139 (S) 593 (WH)	5/2/91-9/24/91	50 (UPM)	N/A	MODERATE	11/7/91	1,732	0.61	2,839	Not Read	Not Read
1992-93	846 (S) 430 (WH)	5/18/92-9/6/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.75	Not Calc.	Not Read	Not Read
1993-94	984 (S) 519 (WH)	5/26/93-9/18/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.42	Not Calc.	Not Read	Not Read
1994-95	911 (S) 532 (WH)	5/25/94-9/10/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.73	Not Calc.	Not Read	Not Read
1995-96	0 (S) 1,032 (WH)	N/A	20 (UPM)	N/A	SLIGHT-LIGHT	11/6/95	2,580	1.71	1,509	Not Read	Not Read
1996-97	0 (S) 1,026 (WH)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	980 (S) 721 (WH)		40				1,897 ⁵				

¹ Actual use is sheep (S) and wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/89 with the start of the intensive seasonal flights (see Table 31 in allotment evaluation). WH actual use for 1988-89 was not included in the average because this use only represented one month for that year.

² The period of use shown is only sheep use. There is no sheep use prior to 1988-89 because Paris did not start his sheep operation until 1989.

³ CAF = Climatic Adjustment Factor (Ruby Lake Weather Station).

⁴ There is no range key area in this subunit.

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. Actual use from 4/1 - 3/31 and a 50% utilization objective was used in calculating capacity on this subunit.

Subunit H

Spruce Allotment
Key Area SP-13

Range Site: Coarse Gravelly Loam 6-8 (28B-75)
Key Species: EULA5, ARSP5, ORHY, and SIHY
Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ²	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (Adj./Unadj.) ³	Key Spp. Frequency ⁴
1986-87	1,578 (L)	4/1/86-5/9/86 11/3/86-3/30/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.96	Not Calc.	Not Read	Not Read
1987-88	1,036 (L)	4/21/87-5/1/87 6/27/87-6/28/87 11/11/87-3/13/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	MID 35 980 / 841	EULA5 40.0 ARSP5 54.5 ORHY 10.5 SIHY 28.5
1988-89	304 (L)	4/17/88-5/3/88 6/12/88-6/13/88 10/20/88-10/21/88	EULA5 41	6/12/89	MODERATE	6/12/89	408	0.63	648	Not Read	Not Read
1989-90	303 (L)	4/29/89-5/1/89 10/3/89-11/29/89 3/14/90-3/20/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1990-91	481 (L)	4/26/90-5/1/90 10/27/90-10/28/90 3/6/91-3/31/91	ORHY 38	5/20/91	Not Mapped	N/A	696	0.70	994	MID 48 591 / 414	EULA5 37.5= ARSP5 38.0= ORHY 7.0= SIHY 6.5-
1991-92	992 (L)	4/1/91-5/2/91 6/21/91-9/30/91 2/29/92-3/31/92	EULA5 ORHY 68	5/8/92	Not Mapped	N/A	802	0.56	1,432	Not Read	Not Read
1992-93	582 (L)	4/1/92-4/21/92 10/29/92-11/12/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.80	Not Calc.	Not Read	Not Read
1993-94	528 (L)	12/1/93 2/23/94-3/31/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.05	Not Calc.	Not Read	Not Read
1994-95	614 (L)	4/1/94-5/1/94 11/9/94-11/22/94	EULA5 38	6/14/95	Not Mapped	N/A	889	0.59	1,507	Not Read	Not Read
1995-96	668 (L)	5/2/95-5/9/95 2/23/96-3/31/96	ORHY 50	5/23/96	Not Mapped	N/A	735	1.62	454	Not Read	Not Read
1996-97	509 (L)	4/1/96-5/1/96 12/5/96-12/6/96	EULA5 ORHY 1	4/18/96	Not Mapped	N/A	27,995	--	--	Not Read	Not Read
Avg.	690 (L)		39				781 ⁵			786 / 628	

¹ Actual use is only livestock actual use from 4/1 - 3/31.

² CAF = Climatic Adjustment Factor (Wells Weather Station).

³ Adj. = Production data adjusted to CAF. Unadj. = Production data unadjusted to CAF.

⁴ = No significant change + Significant increase - Significant decrease

⁵ The blocks that are highlighted indicate years that correlate. The average that is highlighted indicates the average for the key area used in determining the final carrying capacity for the subunit. The allowable use level for EULA5, ARSP5, ORHY and SIHY is 55%.

Subunit I

Spruce Allotment

No Key Area
Curtis Spring

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	29 (L)	4/30/86 5/3/86 6/25/86 9/27/86 10/31/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.96	Not Calc.	Not Read	Not Read
1987-88	18 (L)	5/2/87 6/27/87-6/28/87 9/20/87-9/21/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1988-89	18 (L)	5/4/88 6/15/88 10/2/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	28 (L)	5/3/89 10/3/89 10/11/89	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1990-91	22 (L)	5/2/90 6/14/90 10/2/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.70	Not Calc.	Not Read	Not Read
1991-92	14 (L)	5/3/91 7/8/91 11/19/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.56	Not Calc.	Not Read	Not Read
1992-93	33 (L)	4/22/92 10/28/92	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.80	Not Calc.	Not Read	Not Read
1993-94	37 (L)	5/21/93-5/22/93 6/3/93-6/4/93 12/1/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.05	Not Calc.	Not Read	Not Read
1994-95	59 (L)	4/26/94-4/28/94 5/2/94-5/4/94 11/8/94	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.59	Not Calc.	Not Read	Not Read
1995-96	38 (L)	5/3/95 5/9/95 12/19/95	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.62	Not Calc.	Not Read	Not Read
1996-97	39 (L)	4/21/96 4/27/96 5/2/96 12/4/96	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	30 (L)										

¹ Actual use is livestock (L) use from 4/1 - 3/31. Carrying capacity in this subunit was based on average actual use. This subunit is used for trailing.² The period of use shown is only livestock use.³ CAF = Climatic Adjustment Factor (Wells Weather Station).⁴ There is no range key area in this subunit.

Subunit J

Spruce Allotment

No Key Area
Goshute Mountains

Period of Use: 4/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.61	Not Calc.	Not Read	Not Read
1987-88			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1988-89			Not Read	N/A	Not Mapped	N/A	Not Calc.	1.10	Not Calc.	Not Read	Not Read
1989-90	15 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.95	Not Calc.	Not Read	Not Read
1990-91	240 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.89	Not Calc.	Not Read	Not Read
1991-92	155 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.68	Not Calc.	Not Read	Not Read
1992-93	389 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.72	Not Calc.	Not Read	Not Read
1993-94	510 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.28	Not Calc.	Not Read	Not Read
1994-95	779 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1995-96	228 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	1.41	Not Calc.	Not Read	Not Read
1996-97	169 (WH)		Not Read	N/A	Not Mapped	N/A	Not Calc.	--	N/A	Not Mapped	N/A
Avg.	353 (WH)										

¹ Actual use is wild horse (WH) use from 4/1 - 3/31. Wild horse actual use begins 3/90 with the start of the intensive seasonal flights (see Table 33 in allotment evaluation). WH actual use for 1989-90 was not included in the average because this use only represented one month for that year. Carrying capacity in this subunit is 324 WH AUMs (27 head) from 4/1-3/31 (yearlong use by WH). The carrying capacity is based on average actual use (see Appendix 3).

² There is no livestock use in this subunit.

³ CAF = Climatic Adjustment Factor (Montello Weather Station).

⁴ There is no range key area in this subunit.

Subunit K-1

Spruce Allotment

No Key Area
North Valley Mountain

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87	45 (L)	4/1/86-4/2/86 4/29/86 6/25/86 9/27/86 11/1/86-11/2/86	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.96	Not Calc.	Not Read	Not Read
1987-88	21 (L)	5/2/87 6/27/87-6/28/87 9/20/87-9/21/87 11/4/87	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1988-89	37 (L)	5/4/88 6/14/88 10/19/88 11/21/88-11/22/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90	36 (L)	5/2/89 6/14/89 10/12/89 11/30/89 3/13/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1990-91	25 (L)	6/14/90 10/2/90 10/29/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.70	Not Calc.	Not Read	Not Read
1991-92	14 (L)	5/3/91 7/8/91 11/19/91	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.56	Not Calc.	Not Read	Not Read
1992-93	0 (L)	N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.80	Not Calc.	Not Read	Not Read
1993-94	14 (L)	5/20/93 6/2/93	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.05	Not Calc.	Not Read	Not Read
1994-95		N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.59	Not Calc.	Not Read	Not Read
1995-96		N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	1.62	Not Calc.	Not Read	Not Read
1996-97		N/A	Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	27 (L)										

¹ Actual use is livestock (L) use from 4/1 - 3/31. Carrying capacity in this subunit was based on average actual use. This subunit is used for trailing. Between 1994 through 1997, actual use in this subunit was included with Subunit I.² The period of use shown is only livestock use.³ CAF = Climatic Adjustment Factor (Wells Weather Station).⁴ There is no range key area in this subunit.

Subunit K-2

Spruce Allotment

No Key Area
South Valley Mountain

Period of Use: 11/1 - 3/31

Year	Actual use (AUMs) ¹	Periods of Use ²	KMA Util. (%)	Dates read	KMA Use-Pat. Results	Dates mapped	Pre-CAF cap.(AUMs)	CAF ³	Post-CAF cap.(AUMs)	Ecological Stat.&Prod. (adj./unadj.) ⁴	Key Spp. Frequency ⁴
1986-87			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.96	Not Calc.	Not Read	Not Read
1987-88			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.86	Not Calc.	Not Read	Not Read
1988-89	7 (L)	12/23/88	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.63	Not Calc.	Not Read	Not Read
1989-90			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.90	Not Calc.	Not Read	Not Read
1990-91	15 (L)	12/7/90	Not Read	N/A	Not Mapped	N/A	Not Calc.	0.70	Not Calc.	Not Read	Not Read
1991-92			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.56	Not Calc.	Not Read	Not Read
1992-93			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.80	Not Calc.	Not Read	Not Read
1993-94			Not Read	N/A	Not Mapped	N/A	Not Calc.	1.05	Not Calc.	Not Read	Not Read
1994-95			Not Read	N/A	Not Mapped	N/A	Not Calc.	0.59	Not Calc.	Not Read	Not Read
1995-96			Not Read	N/A	Not Mapped	N/A	Not Calc.	1.62	Not Calc.	Not Read	Not Read
1996-97			Not Read	N/A	Not Mapped	N/A	Not Calc.	--	Not Calc.	Not Read	Not Read
Avg.	11 (L)										

¹ Actual use is livestock (L) use from 4/1 - 3/31. Carrying capacity in this subunit was based on average actual use. This subunit was historically used for trailing and currently only receives incidental livestock use on the lower areas.

² The period of use shown is only livestock use.

³ CAF = Climatic Adjustment Factor (Wells Weather Station).

⁴ There is no range key area in this subunit.

APPENDIX 1a.

Wild Horse Carrying Capacity Summary Matrices

Subunit A-2

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-05

Period of Use: 4/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1992-93	0	405 (100%)	44% \uparrow 44% WH	92	13	65	157
1993-94	391 (29%)	974 (71%)	7% --- 2% CA, 5% WH	1,948	277	1,375	3,323
1994-95	0 (0%)	1,116 (100%)	6% --- 6% WH	1,860	264	1,312	3,172
1995-96	580 (40%)	881 (60%)	2% --- 1% CA, 1% WH	8,810	1,252	6,216	15,026
1996-97	0 (0%)	556 (100%)	Not Read	--	--	--	--
Avg.	194 (14%)	786 (86%)	15% --- 1% CA, 14% WH	1,904	270	1,344	3,248

- (1) Years where pre-livestock use data is available.
- (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
- (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
- (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
- (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
- (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
- (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666.
- (8) Column 8 is the total of Columns (5) and (7). The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (8) was used in this case because Subunit A-2 is used yearlong by wild horses.

$$\frac{\text{Act Use}}{\text{Ob ut \%}} = \frac{\text{CC}}{\text{Des Ut \%}} \quad \frac{405}{44\%} = \frac{\quad}{10\%}$$

Subunit A-2

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-06

Period of Use: 4/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1991-92	437 (46%)	522 (54%)	32% 15% CA, 17% WH	307	44	218	525
1992-93	0	405 (100%)	80% 80% WH	51	7	35	86
1993-94	391 (29%)	974 (71%)	30% 9% CA, 21% WH	464	66	328	792
1994-95	0 (0%)	1,116 (100%)	33% 33% WH	228	48	238	576
1995-96	580 (40%)	881 (60%)	55% 22% CA, 33% WH	267	38	189	456
1996-97	0 (0%)	556 (100%)	Not Read	--	--	--	--
Avg.	235 (19%)	742 (81%)	46% 9% CA, 37% WH	304	43	215	519

(1) Years where pre-livestock use data is available.

(2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.

(5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.

(6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).

(7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666.

(8) Column 8 is the total of Columns (5) and (7). The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (8) was used in this case because Subunit A-2 is used yearlong by wild horses.

Subunit A-2

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-24

Period of Use: 4/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1992-93	0	405 (100%)	15% 15% WH	270	38	189	459
1993-94	391 (29%)	974 (71%)	5% 1% CA, 4% WH	2,435	346	1,718	4,153
1994-95	0 (0%)	1,116 (100%)	13% 13% WH	858	122	606	1,464
1995-96	580 (40%)	881 (60%)	3% 1% CA, 2% WH	4,405	626	3,108	7,513
1996-97	0 (0%)	556 (100%)	Not Read	--	--	--	--
Avg.	194 (14%)	786 (86%)	9% 1% CA, 8% WH	1,647	234	1,162	2,809

(1) Years where pre-livestock use data is available.

(2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.

(5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.

(6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).

(7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666.

(8) Column 8 is the total of Columns (5) and (7). The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (8) was used in this case because Subunit A-2 is used yearlong by wild horses.

Subunit A-2

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-27

Period of Use: 4/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1992-93	0	405 (100%)	34% 34% WH	119	17	84	203
1993-94	391 (29%)	974 (71%)	27% 8% CA, 19% WH	513	73	362	875
1994-95	0 (0%)	1,116 (100%)	31% 31% WH	360	51	253	613
1995-96	580 (40%)	881 (60%)	52% 21% CA, 31% WH	284	40	199	483
1996-97	0 (0%)	556 (100%)	Not Read	--	--	--	--
Avg.	194 (14%)	786 (86%)	36% 7% CA, 29% WH	322	46	226	548

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666.
 (8) Column 8 is the total of Columns (5) and (7). The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (8) was used in this case because Subunit A-2 is used yearlong by wild horses.

Subunit A-2

Spruce Allotment
 Wild Horse Carrying Capacity
 Key Area SP-30

Period of Use: 4/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1992-93	0	405 (100%)	70% 70% WH	58	8	40	98
1993-94	391 (29%)	974 (71%)	76% 22% CA, 54% WH	180	26	129	309
1994-95	0 (0%)	1,116 (100%)	61% 61% WH	183	26	129	312
1995-96	580 (40%)	881 (60%)	55% 22% CA, 33% WH	267	38	189	456
1996-97	0 (0%)	556 (100%)	Not Read	--	--	--	--
Avg.	194 (14%)	786 (86%)	66% 11% CA, 55% WH	182	26	129	311

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666.
 (8) Column 8 is the total of Columns (5) and (7). The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (8) was used in this case because Subunit A-2 is used yearlong by wild horses.

Subunit B-2

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-10

Period of Use: 11/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	23 (5%)	457 (95%)	13% 1% CA, 12% WH	381	54	268	649
1991-92	0	372 (100%)	33% 33% WH	113	16	79	192
1992-93	350 (45%)	434 (55%)	44% 20% CA, 24% WH	181	26	129	310
1993-94	0	171 (100%)	27% 27% WH	63	9	45	108
1994-95	470 (51%)	460 (49%)	4% 2% CA, 2% WH	2,300	327	1,623	3,923
1995-96	0	303 (100%)	1% 1% WH	3,030	431	2,140	5,170
1996-97	533 (64%)	303 (36%)	Not Read	--	--	--	--
Avg.	197 (25%)	357 (76%)	20% 3% CA, 17% WH	744	106	525	1,269

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit B-2 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

Subunit B-2

Spruce Allotment
 Wild Horse Carrying Capacity
 Key Area SP-11

Period of Use: 11/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	23 (5%)	457 (95%)	23% 1% CA, 22% WH	208	30	149	357
1991-92	0	372 (100%)	10% 10% WH	372	53	263	635
1992-93	350 (45%)	434 (55%)	32% 14% CA, 18% WH	241	34	169	410
1993-94	0	171 (100%)	5% 5% WH	342	49	243	585
1994-95	470 (51%)	460 (49%)	8% 4% CA, 4% WH	1,150	163	809	1,959
1995-96	0	303 (100%)	2% 2% WH	1,515	215	1,067	2,582
1996-97	533 (64%)	303 (36%)	Not Read	--	--	--	--
Avg.	197 (25%)	357 (76%)	13% 3% CA, 10% WH	526	75	371	897

(1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit B-2 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

Subunit C-1a

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-20

Period of Use: 11/1 - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	168 (80%)	42 (20%)	31% 25% CA, 6% WH	70	10	50	120
1991-92	0	223 (100%)	23% 23% WH	97	14	70	167
1992-93	78 (49%)	82 (51%)	46% 23% CA, 23% WH	36	5	25	61
1993-94	204 (56%)	162 (44%)	44% 25% CA, 19% WH	85	12	60	145
1994-95	276 (47%)	312 (53%)	40% 19% CA, 21% Wh	787	112	556	1,343
1995-96	56 (23%)	190 (77%)	2% <1% CA, 2% WH	950	135	670	1,620
1996-97	31 (14%)	190 (86%)	Not Read	--	--	--	--
Avg.	116 (38%)	172 (62%)	31% 15% CA, 16% WH	260	37	184	444

(1) Years where pre-livestock use data is available.

(2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.

(4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.

(5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.

(6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).

(7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicate the years that were used in determining WH Carrying Capacity. Column (7) was used because in this case, Subunit C-1a is used in the winter by wild horses.

(8) Column 8 is the total of Columns (5) and (7).

Subunit C-4

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-14

Period of Use: 11/ - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	699 (44%)	891 (56%)	48% 21% CA, 27% WH	330	47	233	563
1991-92	0	361 (100%)	27% 27% WH	134	19	94	228
1992-93	606 (53%)	539 (47%)	57% 30% CA, 27% WH	200	28	139	339
1993-94	0	282 (100%)	40% 40% WH	71	10	50	121
1994-95	872 (80%)	223 (23%)	51% 41% CA, 10% WH	223	32	159	382
1995-96	0	232 (100%)	5% 5% WH	464	66	328	792
1996-97	283 (55%)	232 (45%)	Not Read	--	--	--	--
Avg.	351 (33%)	394 (67%)	38% 15% CA, 23% WH	222	32	156	378

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicates the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit C-4 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

Subunit C-4

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-15

Period of Use: 11/ - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	699 (44%)	891 (56%)	5% 2% CA, 3% WH	2,970	422	2,095	5,065
1991-92	0	361 (100%)	5% 5% WH	722	103	511	1,233
1992-93	606 (53%)	539 (47%)	33% 17% CA, 16% WH	337	48	238	575
1993-94	0	282 (100%)	7% 7% WH	403	57	283	686
1994-95	872 (80%)	223 (23%)	2% 2% CA, <1% WH	--	--	--	--
1995-96	0	232 (100%)	0%	--	--	--	--
1996-97	283 (55%)	232 (45%)	Not Read	--	--	--	--
Avg.	351 (33%)	394 (67%)	10% 4% CA, 6% WH	563	80	397	960

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicates the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit C-4 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

Subunit C-4

Spruce Allotment
Wild Horse Carrying Capacity
Key Area SP-16

Period of Use: 11/ - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	699 (44%)	891 (56%)	21% 9% CA, 12% WH	743	106	526	1,269
1991-92	0	361 (100%)	44% 44% WH	82	12	60	142
1992-93	606 (53%)	539 (47%)	48% 25% CA, 23% WH	234	33	164	398
1993-94	0	282 (100%)	59% 59% WH	48	7	35	83
1994-95	872 (80%)	223 (23%)	32% 26% CA, 6% WH	372	53	263	635
1995-96	0	232 (100%)	2% 2% WH	1,160	165	819	1,979
1996-97	283 (55%)	232 (45%)	Not Read	--	--	--	--
Avg.	351 (33%)	394 (67%)	34% 10% CA, 24% WH	358	51	253	611

- (1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicates the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit C-4 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

12 KMA
- Wild Horse

Subunit C-4 **Spruce Allotment**
 Wild Horse Carrying Capacity
 Key Area SP-17

Period of Use: 11/ - 3/31

Year (1)	CA Use (4/1-10/31)/ (% of total) (2)	WH Use (4/1-10/31)/ (% of total) (3)	Pre-Lvsk Util. (4/1-10/31)/ (% CA and WH) (4)	Avail. WH AUMs from 4/1-10/31. (5)	# WH (4/1-10/31) (6)	Avail. WH AUMs from 11/1-3/31. (7)	Total Avail. WH AUMs from 4/1-3/31. (8)
1990-91	699 (44%)	891 (56%)	26% 11% CA, 15% WH	594	84	417	1,011
1991-92	0	361 (100%)	48% 48% WH	75	11	55	130
1992-93	606 (53%)	539 (47%)	54% 29% CA, 25% WH	216	31	154	370
1993-94	0	282 (100%)	18% 18% WH	157	22	109	266
1994-95	872 (80%)	223 (23%)	4% 3% CA, 1% WH	2,230	317	1,574	3,804
1995-96	0	232 (100%)	4% 4% WH	580	82	407	987
1996-97	283 (55%)	232 (45%)	Not Read	--	--	--	--
Avg.	351 (33%)	394 (67%)	26% 7% CA, 19% WH	387	55	272	659

(1) Years where pre-livestock use data is available.
 (2) CA (cattle) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (3) WH (wild horse) actual use between 4/1-10/31. Percent of total is for total CA and WH use from 4/1-10/31.
 (4) Pre-livestock use recorded for the period of use between 4/1-10/31. The total use is pro-rated based on % use by CA and WH.
 (5) Column 5 is calculated using the following formula: (3) x 10% / (4). The % use by WH in column 4 is used in this calculation. The 10% is allowable use by wild horses prior to livestock turnout in the common winter use areas as per the Wells RMP Wild Horse Amendment.
 (6) Column 6 is calculated using the following formula: (5) x 30.41666 / 214 days (4/1-10/31).
 (7) Column 7 is calculated using the following formula: (6) x 151 days (11/1-3/31) / 30.41666. The blocks and average that is highlighted indicates the years that were used in determining WH Carrying Capacity. Column (7) was used in this case because Subunit C-4 is used in the winter by wild horses.
 (8) Column 8 is the total of Columns (5) and (7).

- APPENDIX 2. Pre-Livestock Use by Wild Horses
- APPENDIX 3. Livestock Average Actual Use from 1986 through 1997
- APPENDIX 4. Wild Horse Census Results
- APPENDIX 5. Wild Horse Actual Use
- APPENDIX 6. Wild Horse Numbers Within Spruce Allotment
- APPENDIX 7. Bitterbrush Utilization Results
- APPENDIX 8. Climatic Adjustment Factors
- APPENDIX 9. Threatened, Endangered, and BLM State Sensitive Species within the Spruce Allotment.

APPENDIX 2. Pre-Livestock Use by Wild Horses

Key Areas showing HMA, subunit, key area number, season of use, and wild horse utilization prior to livestock turnout from 1990 through 1995. No data was collected in 1996.

HMA	Subunit	KA	Season of use ¹	Date Read	% Use
Mav-Med	A-1 ²	SP-01	I	11/93	21%
				10/94	16%
				11/95	23%
		SP-02	I	11/93	33%
				10/94	14%
				11/95	7%
		SP-03	I	11/93	28%
				10/94	24%
				11/95	6%
		SP-04	I	11/93	33%
				10/94	30%
				11/95	9%
	A-2	SP-05	Y	10/92	44%
				11/93	7%
				10/94	6%
				11/95	2%
		SP-06	Y	10/91	32%
				10/92	80%
				11/93	30%
				10/94	33%
				11/95	55%
		SP-24	Y	10/92	15%
				11/93	<5%
				10/94	13%
				11/95	3%
		SP-27	Y	10/92	34%
				11/93	27%
				10/94	31%
11/95	52%				

Mav-Med (con't)	A-2 (con't)	SP-30	Y	10/92	70%
				11/93	27%
				10/94	61%
				11/95	55%

¹ W = winter use; Y = yearlong use; I = Incidental

² Subunit A-1 is considered as incidental use by wild horses and is outside of the HMA, but is shown here to document the use being made by wild horses.

HMA	Subunit	KA	Season of use ¹	Date Read	% Use
Sp-Peq	B-1	SP-07	W	11/92	35%
				10/93	11%
				10/94	16%
				11/95	1%
		SP-08	W	11/92	17%
				10/93	21%
				10/94	7%
				11/95	9%
	C-1	SP-09	W	11/92	5%
				10/93	2%
				10/94	2%
				11/95	0
		SP-12	W	10/93	26%
				10/94	23%
				11/95	0
		SP-23	W	10/93	7%
10/94	23%				
11/95	4%				

¹ W = winter use; Y = yearlong use

HMA	Subunit	KA	Season of use ¹	Date Read	% Use
Ant Val	B-2	SP-10	W	11/90	13%
				10/91	33%
				11/92	44%
				10/93	27%
				10/94	4%
				11/95	1%
		SP-11	W	11/90	23%
				10/91	10%
				11/92	32%
				10/93	5%
				10/94	8%
				11/95	2%
	C-1a	SP-20	W	10/90	31%
				10/91	23%
				10/92	46%
				10/93	44%
				10/94	40%
				11/95	2%
	C-4	SP-14	W	10/90	48%
				11/91	27%
				11/92	57%
				10/93	40%
				10/94	51%
				11/95	5%
SP-15		W	10/90	<5%	
			11/91	<5%	
			11/92	33%	
			10/93	7%	
			10/94	2%	
			11/95	0	

Ant Val (con't)	C-4 (con't)	SP-16	W	10/90	21%
				11/91	44%
				11/92	48%
				10/93	59%
				10/94	32%
				11/95	2%
		SP-17	W	10/90	26%
				11/91	48%
				11/92	54%
				10/93	18%
				10/94	4%
				11/95	4%
¹ W = winter use; Y = yearlong use					

HMA	Subunit	KA	Season of use ¹	Date Read	% Use		
Goshute	C-3	SP-18	Y	10/93	2%		
				10/94	2%		
				11/95	0		
		SP-19	Y	10/93	0%		
				10/94	0		
				11/95	0		
		SP-21	Y	10/93	16%		
				10/94	13%		
				11/95	0		
		SP-22	Y	10/93	6%		
				10/94	14%		
				11/95	0		
		¹ W = winter use; Y = yearlong use					

APPENDIX 3. Livestock Average Actual Use from 1986 through 1997.

Table 14 in the allotment evaluation has been updated to show average actual use through the 1996-1997 grazing year.

Table 14. Average actual use by livestock from 1986 through 1997 in the Spruce Allotment.						
Year	Von L. and Marian Sorensen (Cattle)	Loyd Sorensen/Kenneth Jones (Cattle)	Kenneth Jones (Cattle)	Von and Loyd Sorensen (Sheep)	Bertrand Paris and Sons (Sheep)	Total
1986-1987	7,768	4,864		4,038		16,670
1987-1988	7,289	3,967		4,182		15,438
1988-1989	7,410	4,623		2,273		14,306
1989-1990	6,698	4,974		2,126	1,081	14,879
1990-1991	7,880	465	2,775	3,741	921	15,782
1991-1992	8,400		3,491	844	1,139	13,874
1992-1993	9,006		3,666		846	13,518
1993-1994	9,232		4,988		984	15,204
Avg. All Years	7,960	4,607 ¹	4,048 ²	3,272 ³	994	14,959
Avg. since 1991-1992	8,879		4,048 ²		990	14,199
1994-1995	9,442		4,438		911	14,791
1995-1996	8,777		4,369			13,146
1996-1997	9,645		4,319			13,964
Avg. All Years	8,322		4,212 ²		980	14,688
Avg. since 1991-1992	9,084		4,212			14,083

¹ Did not include 1990-1991 data because Loyd Sorensen's cattle were still running in common with Kenneth Jones' cattle.

² Did not include 1990-1991 data because Kenneth Jones' cattle were still running in common with Loyd Sorensen's cattle.

³ Did not include 1991-1992 data because sheep only grazed the allotment for about one month before they were sold.

APPENDIX 4. Wild Horse Census Results

Tables 31-34 in the allotment evaluation have been updated to show wild horse census results in the herd management areas through February 1997.

Table 31. Wild Horse Census Results - Maverick-Medicine Herd Management Area			
Mon./Yr.	Total Horses Observed	Total in Spruce Allot.	% of Total in Spruce Allot.
3/89	358	222	62.0%
9/91	507	94	18.5%
3/92	ND	ND	ND
6/92	580 ¹	109	18.8%
9/92	589 ¹	165	28.0%
1/93	610 ¹	439	72.0%
5/93	401 ^{1,2}	267	66.6%
8/93	390 ¹	71	18.2%
1/94	406	238	58.6%
8/94	452	143	31.6%
3/95	375	227	60.5%
9/95	378	79	20.9%
2/97	696	455	65.4%
Avg. % in Allotment		<i>195</i>	43.4%
¹ - West half of formerly designated Cherry Creek HA included in total for HMA. ² - The hard winter of 1993 resulted in some migration out of the HMA and some death loss. ND = No Data			

Appendix 4 (con't).

Table 32. Wild Horse Census Results - Antelope Valley Herd Management Area			
Mon./Yr.	Total Horses Observed	Total in Spruce Allot.	% of Total in Spruce Allot.
3/90	418	200	47.8%
2/91	366	226	61.7%
9/91	350	157	44.9%
3/92	545	287	52.7%
6/92	446 ¹	232	52.0%
9/92	576 ¹	197	34.2%
11/92	543 ^{1,2}	232	42.7%
1/93	327 ^{1,3}	170	52.0%
5/93	312 ¹	140	44.9%
8/93	279 ¹	128	45.9%
12/93	427 ^{1,4}	212	49.6%
3/94	392	263	67.1%
8/94	377	167	44.3%
3/95	310	162	52.3%
2/97	441	303	98.7%
Avg. % in Allotment		<i>154</i>	50.7%
<p>¹ - East half of formerly designated Cherry Creek HA included in total for HMA.</p> <p>² - Pre-gather census. No other HMA was censused at this time.</p> <p>³ - 100 horses were removed during the fertility control project.</p> <p>⁴ - Censused for fertility control study. No other HMA was censused at this time.</p>			

Appendix 4 (con't).

Table 33. Wild Horse Census Results - Goshute Herd Management Area			
Mon./Yr.	Total Horses Observed	Total Horses in Spruce Allot.	% of Total in Spruce Allot.
3/90	229	20	8.7%
9/91	194	0	0%
3/92	303	74	24.4%
6/92	404	16	4.0%
9/92	201 ¹	26	12.9%
1/93	434	196	45.2%
5/93	330	45	13.6%
8/93	251	22	8.8%
1/94	256 ²	137	53.5%
8/94	234	78	33.3%
3/95	281	49	17.4%
9/95	316	3	1%
2/97	382	154	40.3%
Avg. % in Allotment		31	20.2%
<p>¹ - As a result of very different distribution patterns between the 6/92 and 9/92 flights, the number of horses within the Spruce Allotment is much lower.</p> <p>² - Post gather census.</p>			

Appendix 4 (con't).

Table 34. Wild Horse Census Results - Spruce-Pequop Herd Management Area			
Mon./Yr.	Total Horses Observed	Total in Spruce Allot.	% of Total in Spruce Allot.
6/91	193	64	33.2%
3/92	77	33	42.9%
6/92	231	90	39.0%
9/92	129	55	42.6%
1/93	110	28	25.4%
5/93	107	52	48.6%
8/93	171	51	29.8%
1/94	102 ¹	86	84.3%
8/94	69 ²	69	100%
3/95	61	49	80.3%
2/97	190	179	94.2%
Avg. % in Allotment		93	52.0%
¹ - Post gather census ² - Distribution flight only.			

APPENDIX 5. Wild Horse Actual Use

Table 35 in the allotment evaluation has been updated to show total actual use by wild horses from 1989-1990 through 1996-1997.

Table 35. Actual Use Breakdown - Spruce Allotment	
Year	Wild Horses(AUMs)
1989-1990 ¹	2,832
1990-1991 ²	5,358
1991-1992 ³	4,705
1992-1993	6,178
1993-1994	5,727
1994-1995	6,941
1995-1996	5,620
1996-1997	6,052

¹ Maverick-Medicine HMA was the only HMA flown in 1989 (3/89).

² Spruce-Pequop HMA was not flown with the other HMA's during the 3/90 census.

³ Maverick-Medicine HMA was not flown with the other HMA's during the 3/92 census.

APPENDIX 6. Wild Horse Numbers Within the Spruce Allotment.

Table 4 in the allotment evaluation has been updated to show total wild horse numbers within the allotment from 1975-1997.

Table 4. Wild Horse Numbers Within the Spruce Allotment, 1975 through 1997.	
YEAR	NO. WILD HORSES IN SPRUCE ALLOT.
1975	322
1978 ¹	223
1980 ²	149
1981	245
1983 ³	280
1984 ⁴	158
1985	211
1987	412
1988 ⁵	319
1989 ⁶	222
1990 ⁷	220
1991 ⁸	315
1992 ⁸	443
1993 ⁸	540
1994	673
1995 ⁸	390
1996 ⁹	ND
1997 ¹⁰	1,091

1- Spruce Mountain, Pequops, and Wood Hills not flown, thus the allotment total is low.

2- In 1980, the Goshute HMA was not flown thus the allotment total is low.

3- In 1983, a fixed wing aircraft was used for the Mav-Med census. The count was not reliable and thus the allotment total is low.

4- Only the Mav-Med HMA and the Goshute HMA were flown this year, thus the allotment total is low.

5- The Goshute HMA was not flown this year, thus the allotment total is low.

6- Only the Mav-Med HMA was censused in 1989, thus the allotment total is low.

7- Mav-Med not flown in 1990, thus the allotment total is low.

8- Average number of horses observed during several flights.

9- No census flights were completed in 1996 due to lack of funding.

10- Total number of horses is only for one census flight completed on 2/97.

APPENDIX 7. Bitterbrush Utilization Results

Table 39 in the allotment evaluation has been updated to show bitterbrush utilization results between 1987 - 1996.

Table 39. Spruce Allotment Deer Winter Range Bitterbrush Utilization Studies.								
YEAR	DW2T01 Spruce Spring	DW2TO2 Black Forest	DW2TO3 Honeymoon Chaining	DW2TO4 Boone Springs	DW2SP25 Basco Spring	DW2SP26 Black Forest	DW5TO1 Medicine Range	AVE
SPG-87	N/D	N/D	N/D	N/D	N/D	N/D	2	2
FLL-87	28	28	2	52	43	30	N/D	31
SPG-88	36	49	15	63	51	35	N/D	42
FLL-88	18	8	4	7	45	10	N/D	15
SPG-89	50	68	44	62	47	47	N/D	53
FLL-89	20	4	4	4	35	14	N/D	14
SPG-90	66	79	35	47	63	33	N/D	54
FLL-90	9	13	6	18	6	21	N/D	12
SPG-91	47	54	22	49	22	33	N/D	38
FLL-91	2	8	1	9	6	10	N/D	6
SPG-92	*	60	22	25	*	64	N/D	43
FLL-92	8	4	4	4	9	18	N/D	8
SPG-93	8	13	4	19	13	N/D	10	11
FLL-93	1	7	4	2	0	2	1	2
SPG-94	35	83	13	21	41	68	15	39
FLL-94	1	3	3	2	5	4	27	6
SPG-95	42	21	15	32	39	52	28	33
FLL-95	2	5	1	2	0	3	7	3
SPG-96	17	46	11	3	35	33	N/D	21
FLL-96	N/D	N/D	N/D	N/D	N/D	N/D	N/D	N/D
Ave. Annual Lvstk Use	10	9	3	11	17	12	12	11
Ave. Total Use (Lvstk & Deer)	41	53	20	36	39	46	14	34
Ave. Annual Deer Use	31	44	17	25	22	34	2	23
<p>SPG = Utilization recorded in the spring after deer leave the area and prior to start of plant growth and livestock use. The recorded use is total livestock and deer use for the previous years growing season.</p> <p>FLL = Utilization recorded following removal of livestock and prior to influx of migrant deer herds. The recorded use is livestock use of the current years growing season.</p> <p>N/D = No Data</p> <p>* Annual growth and vigor too poor to accurately record meaningful utilization data. Bitterbrush severely drought stressed.</p>								

APPENDIX 8. Climatic Adjustment Factors

Table 45 in the allotment evaluation has been updated to show climatic adjustment factors from 1980 through 1996 in Ruby Lake, Montello, and Wells Weather Stations.

Table 45. Climatic Adjustment Factors (CAF) from 1980 through 1993 from Ruby Lake, Montello, and Wells Weather Stations.			
YEAR¹	RUBY LAKE	MONTELLO	WELLS
1980	1.58	1.69	1.87
1981	0.64	0.43	0.62
1982	1.34	1.06	1.49
1983	1.73	2.00	1.73
1984	1.97	1.62E	2.00
1985	0.98	0.56E	0.75
1986	1.17	0.61	0.96
1987	0.88	0.90	0.86
1988	0.63	1.10	0.63
1989	0.94	0.95	0.90
1990	0.82	0.89	0.70
1991	0.61	0.68	0.56
1992	0.75	0.72	0.80
1993	1.42	1.28	1.05
1994	0.73	0.86	0.59
1995	1.71	1.41	1.62
1996	1.69	1.44	1.14
Avg. 1980-1996	1.15	1.07	1.07
Avg. 1986-1996	1.03	0.99	0.89

¹ The year representing the CAF is actually data from September through June. Therefore, 1980 is representing data from September 1979 through June 1980.

E = Estimate

APPENDIX 9. Threatened, Endangered, and BLM State Sensitive Species Within the Spruce Allotment.

The information presented in Section II.C.7 and 8 in the allotment evaluation is hereby modified to show the changes that have resulted in candidate species. U. S. Fish and Wildlife Service no longer lists candidate species. In April 1997, the Bureau listed the once candidate species as BLM State Sensitive species.

II. Initial Stocking Level

C. Wildlife Use

7. Threatened, Endangered and BLM State Sensitive Species.

The following endangered, threatened, or BLM State sensitive species are known to exist within the Spruce Allotment:

Mammals:

- a. Pygmy Rabbit: uncommon. Status: BLM State Sensitive
- b. Spotted Bat: Status: BLM State Sensitive.
- c. Small-footed myotis: common breeding species.
Status: BLM State Sensitive.
- d. Long-eared myotis: common breeding species.
Status: BLM State Sensitive.
- e. Fringed myotis: Status: BLM State Sensitive.
- f. Long-legged myotis: common breeding species.
Status: BLM State Sensitive.
- g. Pale Townsend's big-eared bat: uncommon breeding species. Status: BLM State Sensitive.
- h. Pacific Townsend's big-eared bat: uncommon breeding species. Status: BLM State Sensitive.
- i. Preble's shrew: Status: BLM State Sensitive.

Birds:

- a. Bald eagle: uncommon - winter resident; spring/fall migrant; uses the Spruce Allotment as foraging habitat and possibly as roosting habitat. Status: Threatened.
- b. Peregrine falcon: uncommon - spring/fall migrant.
Status: Endangered.
- c. Ferruginous hawk: common - summer resident.
Status: BLM State Sensitive.
- d. Northern goshawk: uncommon breeding species; spring through fall migrant. Status: BLM State Sensitive
- e. Western burrowing owl: uncommon breeding species; spring through fall migrant. Status: BLM State Sensitive
- f. Black Tern: Status: BLM State Sensitive.
- g. Least bittern: Status: BLM State Sensitive.
- h. White-faced ibis: Status: BLM State Sensitive.

Fish:

Relict dace: Known to occupy Quilici Spring. Status: BLM State Sensitive.

Plants:

Barren Valley collomia: Status: BLM State Sensitive

8. Birds of Prey

There is significant use of the allotment by birds of prey. A total of 93 known territories (4 golden eagle, 1 prairie falcon, 3 northern goshawk, 82 ferruginous hawk and 3 burrowing owl) are within the allotment boundary.

9. Song Birds

There is significant use of the allotment by song birds during the breeding season, in migration and during winter. Isolation subalpine coniferous and aspen riparian forests provide the highest quality nesting habitat. The following is a list of song birds that occur in the high elevation limber pine, white fire, and bristlecone pine belt within the allotment. Pinyon-juniper woodlands provide critical nesting, migration, and wintering habitat for many bird species. Mountain brush, sagebrush-grassland steppe and salt-desert shrub habitats also provide nesting habitat for many song birds although at lower densities than coniferous forest habitat types.

Common Song Birds on the Spruce Allotment:

Rock Wren	Red-breasted Nuthatch
Mountain Chickadee	Townsend's Solitaire
Common Raven	Common Bushtit
Clark's Nutcracker	Northern Flicker
Cassin's Finch	Mountain Bluebird
American Robin	

Uncommon Song Birds on the Spruce Allotment but present:

Hermit Thrush	Dusky Flycatcher
Hairy Woodpecker	White-breasted Nuthatch
Yellow-rumped	Gray-headed Junco
Warbler	Orange-crowned Warbler
Violet-Green Swallow	Ruby-crowned Kinglet
Pine Siskin	

10. Other

The allotment supports approximately 150 species of birds, 20 species of mammals, and 10 species of reptiles. Formal wildlife inventories have not been conducted for most of the species on the allotment.

APPENDIX 10

Livestock and Wild Horse Carrying Capacity Analysis and Wild Horse AML

APPENDIX 10. Livestock and Wild Horse Carrying Capacity Analysis and Wild Horse AML

Introduction

The following is a summary of the carrying capacity calculations for livestock and wild horses by subunit, appropriate management level (AML), and conversions from sheep to cattle as established for the allotment as a whole. A summary of final numbers by allotment, as proposed to be divided in the selected management actions, is also provided.

Carrying Capacity Analysis

Table 10-1 shows a summary of the calculations. The footnotes listed in the table are explained below.

1. Actual use was calculated annually from 4/1 to 3/31. These 12 months were used because 3/31 is the end of the dormant season. The critical growing season starts 4/1. However, it may start as early as 3/1 depending on the year.

In the spring/summer/fall range (Subunits D-1-3, E-1-4, and G), actual use was calculated from 4/1 to 3/31. However, in calculating carrying capacity, only actual use from 4/1 to 10/31 was used because the utilization collected on the summer range represents use from the start of growth (4/1) through 10/31 (when cattle start moving in the winter range). The actual use (combined livestock and wild horse) for all of the subunits in Table 10-1 represents use from 4/1 to 3/31. The individual data summary matrices for Subunits D-1-3, and E-1-4, and G in Appendix 1 show actual use (combined livestock and wild horse) from 4/1-10/31.

2. Livestock actual use AUMs are based on an average of 8 years from 1986 to 1997, except as follows:

Subunit E-3 - No use was made by livestock from 3/1/92 to 3/31/97.

Subunit E-4 - No use was made by livestock during the 1989, 1991, 1993, and 1995 grazing seasons.

Subunit G - Average actual use was for 6 years (Paris used the Bald Mountain Sheep Use Area between 1989 and 1994).

Subunit I, K-1, and K-2 - Actual use AUMs in these subunits reflect trail use only.

3. The number in parenthesis reflects the number of years averaged to determine wild horse actual use. Actual use for wild horses was calculated beginning with the 1989 seasonal flight census. This was the beginning of the intensive census flights that allowed for separation of wild horses by subunit to determine actual use by subunit. Using the census flight information, wild horse actual use was calculated for 12 months from 4/1 to 3/31 using wild horse numbers from census to census.

Years for which census data was available for only a couple of months during the year or no wild horses were observed, were not included in the average. This is why some years show an average between 5 and 8 years. Tables 31 through 34 in the allotment evaluation were updated and are shown in Appendix 4 of this MASR. These tables show when census flights were conducted and total number of wild horses were observed by year by HMA.

4. The average actual use for Subunits D-1,2,3 and E-1,2,3,4 shown in Table 10-1 reflect average actual use fro 4/1-3/31. Carrying capacity was calculated using actual use from 4/1-10/31, which is shown on the Data Summary Matrices in Appendix 1. This explains the differences in totals on Table 10-1 and Data Summary Matrices.

5. The total carrying capacity on the Spruce Allotment was calculated using the following formula:

Winter Range:

$$\text{C.C.} = \frac{\text{Actual Use (Livestock and Wild Horses from 4/1-3/31)} \times \text{KA Util. Obj. (55\%)}}{\text{Utilization recorded at the KA}}$$

Summer Range:

$$\text{C.C.} = \frac{\text{Actual Use (Livestock and Wild Horses from 4/1-10/31)} \times \text{KA Util. Obj. (50\%)}}{\text{Utilization recorded at the KA}}$$

The total carrying capacity for each subunit was determined for each year in each key area that utilization data was collected. The years used in the average to determine the carrying capacity are highlighted and shown in Appendix 1. If more than one key area was within each subunit, an average of those key areas was used to determine the overall carrying capacity for the subunit.

Carrying capacity for wild horses was calculated for each subunit. Refer to Appendix 1a for Wild Horse Carrying Capacity Summary Matrices for the winter range calculations. The wild horse AUMs were subtracted from the total carrying capacity. The remaining AUMs were allocated to livestock. The two methods for determining AML are described below.

- a. If areas were used in common by livestock and wild horses in the winter range, carrying capacity AUMs were based on 10% use by wild horses prior to livestock turnout. The 10% objective level was identified in the Well RMP Wild Horse Amendment.

In these common use areas, the winter range became the limiting factor. The capacity of the winter range determined the capacity of the summer range.

There is a time of transition between winter and summer when we are calculating pre-livestock use, i.e. we are considering summer use from 4/1 to 10/31 and winter from 11/1 to 3/31. However, wild horses are coming into the winter range prior to 11/1 since we are recording pre-livestock use. A cut-off date of 10/31 was used because season of use for the winter range by cattle is 11/1 - 3/31. If we limit wild horses to 10% prior to livestock turnout, use at the end of dormancy will not exceed objective use levels. The amount of pre-livestock use during the critical part of the growing season is very crucial to long-term survival of the plants.

- b. If areas did not occur within the common use areas by livestock and wild horses on the winter range or wild horses make use of the area yearlong, total carrying capacity AUMs was based on a proportion of the percent of average actual use by wild horses and livestock.

In those areas where only wild horse use occurs, carrying capacity AUMs was based on average actual use.

Tables 10-2 and 10-3 summarize AML for the Spruce Allotment and show how AML compares to the initial herd size identified in the Wells RMP Wild Horse Amendment. Table 10-4 show the range that wild horses will be managed. Establishing a range will ensure that gathers will maintain wild horse numbers at the maximum level.

6. Average actual use AUMs is used as the carrying capacity for Subunits I, K-1, and K-2. Historically, these subunits have received trail use. These AUMs for trail use will continue to be authorized. Trail use in Subunit K-2 was historically by sheep. Also, as in the case of Subunit J, Subunit K-2 receives cattle use on the lower areas. However, this use is insignificant and the total cattle use has been averaged into the use in Subunit A-1. These trail AUMs in Subunit K-2 will be authorized to allow for that insignificant cattle use.
7. Average actual use is used as the carrying capacity for Subunit C-2. This subunit has been grazed in conjunction with the private seedings in Flowery Lake. Actual use reports show total livestock numbers on private and public portions, therefore, it has been difficult to determine how much use is actually made on the public portion. Monitoring will be established in this subunit to determine how much use is actually being made. Upon establishing utilization objectives for this subunit, monitoring will determine if there is a need to fence out the private land to eliminate use on the public land portions.

The recommended livestock carrying capacity for Subunit C-2 is 525 AUMs (1,049 divided by 2). Because of the conjunctive use of private and public land, the recommended carrying capacity for C-2 will be limited to half of the carrying capacity.

8. Two key areas exist within Subunit E-3; key area SP-25 is within the Basco Spring area while SP-26 is within the Black Forest area. The calculated carrying capacity for this subunit is about two times what average actual use has been.

Cattle use at key area SP-25 has declined since 1993 and wild horses have not been seen in this area during census flights since 1994. The decline in cattle use has not been the result of any actions by the BLM, but rather voluntary action by the permittee. Monitoring studies at this key area indicate that range conditions have remained in mid seral and trend is static to upward.

Key area SP-26 receives more cattle use but horse use is still minimal. Monitoring studies at this key area also indicate that range conditions have remained in mid seral and trend is static.

Although range conditions at this subunit are improving, it is difficult to justify increasing use in this subunit when there are apparent livestock distribution concerns. The recommended

carrying capacity for this subunit is based on the calculated carrying capacity for key area SP-26 (858 AUMs), the limiting factor in this case. The recommended carrying capacity is comparable to the average actual use that this subunit has received. Improved livestock distribution in this subunit at this level should allow for attainment of multiple use objectives.

9. No AUMs are reflected in this column for livestock because Subunit G is not suitable for conversion from sheep to cattle. This subunit will remain sheep use only.
10. There are 5 key areas (SP-05, -06, -24, -27, -30) that were used to determine the total carrying capacity for Subunit A-2. The recommended carrying capacity/AML for wild horses is based on three key areas (SP-06, -27, -30). Key area SP-05 receives very little use by wild horses and SP-24 receives only winter use. Heavy to severe resource use has been recorded in the Quilici Spring area (vicinity of SP-06, -27, -30), therefore, using these three key areas as the limiting factor in determining the wild horse use should ensure that wild horse numbers are consistent with other multiple uses.

Monitoring studies in Subunit A-2 indicate that conditions have remained in mid seral and trend is static. Wild horse use in this subunit occurs yearlong and an increase in horse use will not result in attainment of multiple use objectives.

11. This column represents a summary of range conditions by subunit as concluded in the allotment evaluation.

M or L indicates that key areas within the subunit remained in mid or late seral.

M/L indicates that some key areas within the subunit remained within mid seral while others remained in late seral. Refer to the conclusions in the allotment evaluation for specific key areas.

ND indicates no data is available for ecological status or trend for these subunits.

S indicates trend conditions are static. The arrow up or down indicates trend conditions are static to upward or static to downward.

12. No range key area exists in Subunit E-3. However, a wildlife key area does exist. As per the conclusions in the allotment evaluation, condition and trend at this subunit are improving. This is true for most of Spruce Mountain. Mule deer winter range habitat showed a decline in conditions from good to fair. However, the decline was attributed to unsatisfactory age structure of bitterbrush due to prolonged drought and not livestock grazing use.

Table 10-1. Actual Use and Carrying Capacity Summary for the Spruce Allotment.

Subunit	Average Actual Use - 4/1/86-3/31/97 ¹			Calculated Carrying Capacity and AML ⁵				Recommended Carrying Capacity and AML			Conditions ¹¹	
	Livestock AUMs ²	Wild Horse AUMs ³	Total Actual Use AUMs	Livestock AUMs	Wild Horse AUMs	Total CC AUMs	AML	Livestock CC (AUMs)	Wild Horse (AUMs)	AML	Eco-Status	Trend
A-1	1,110	54 (5)	1,164	1,518	Incidental	1,518	Incidental	1,518	Incidental	Incidental	M/L	S to ↓
A-2	888	1,190 (8)	2,078	875	1,487	2,362	124	875	459 ¹⁰	38	M	S to ↓
B-1	1,102	90 (4)	1,192	1,203	Incidental	1,203	Incidental	1,203	Incidental	Incidental	M/L	S
B-2	804	598 (7)	1,402	925	448	1,373	90	925	448	90	M/L	S to ↓
C-1a	502	302 (7)	804	536	184	720	37	536	184	37	M	↓
C-1	1,520	306 (6)	1,826	1,422	370	1,792	74	1,422	370	74	M	S to ↓
C-2	1,005	84 (4)	1,089	1,049	40	1,089	8	525 ⁷	40	8	ND	ND
C-3	1,419	227 (6)	1,646	1,571	256	1,827	21	1,571	256	21	M/L	S to ↑
C-4	1,393	658 (7)	2,051	2,009	270	2,279	54	2,009	270	54	M	S to ↓
D-1,2,3 ⁴	1,136	58 (5)	1,194	1,273	Incidental	1,273	Incidental	1,273	Incidental	Incidental	ND	ND
E-1 ⁴	813	119 (5)	932	824	77	901	11	824	77	11	L	S to ↓
E-2 ⁴	641	76 (5)	717	1,612	77	1,689	11	858 ⁸	77	11	M	S to ↑
E-3 ⁴	566	134 (6)	700	713	252	965	36	713	252	36	L ¹²	S to ↑
E-4 ⁴	347	85 (6)	432	396	168	564	24	396	168	24	L	S to ↑
F-1	0	79 (7)	79	0	178	178	25	0	178	25	ND	ND
F-2	0	612 (7)	612	0	1,095	1,095	156	0	1,095	156	ND	ND
G	980	721 (8)	1,701	1,100	797	1,897	66	0 ⁹	797	66	ND	ND
H	690	0	690	781	0	781	0	781	0	0	M	S
I	30	0	30	30	0	30 ⁶	0	30	0	0	ND	ND
J	0	353 (7)	353	0	353	353	29	0	353	29	ND	ND
K-1	27	0	27	27	0	27 ⁶	0	27	0	0	ND	ND
K-2	11	0	11	11	0	11 ⁶	0	11	0	0	ND	ND
Total	14,984	5,746	20,730	17,875	6,052	23,927	503	15,497	5,024	417		

Table 10-2. Summary of Wild Horse AML for the Spruce Allotment.

HMA	Subunits in HMA	AML & Season of Use	How Determined:	Total AML for the Spruce Allot.
Antelope Valley	B-2	90/Winter	Based on 10% utilization prior to livestock turnout. CC (from App. 1a) / 5 months = #WH Total #WH (181) x 214 days / 30.41666 = AUMs available on the summer range (1,273).	181
	C-1a	37/Winter		
	C-4	54/Winter		
	F-1	25/Summer	Based on the carrying capacity of the winter range. Number of WHs in the subunits is based on % of WHs that occur within the subunits as determined by census flights. Therefore, the 1,273 AUMs is split based on % WH in subunits (14% in F-1 and 86% in F-2).	
	F-2	156/Summer		
Goshute	C-3	21/Yearlong	Based on proportion of average actual use by livestock and WHs. Pre-livestock use in this subunit indicated very low utilization levels prior to livestock turnout. Data shows 86% of total actual use is made by CA and 14% is made by WH.	50
	J	29/Yearlong	Based on average actual use (WH use only)	
Maverick-Medicine	A-1	Incidental	Based on 10% utilization prior to livestock turnout. CC (App. 1a) / 12 months = #WH. Only key areas SP-06, -27, and -30 used.	104
	A-2	38/Yearlong		
	G	66/Yearlong		
Spruce-Pequop	B-1	Incidental	No problems by WHs on the winter or summer ranges have been identified in the Spruce-Pequop HMA. The initial herd size identified in the Wells RMP Wild Horse Amendment will remain as the AML. Number of WHs in the subunits is based on % of WHs that occur within the subunits as determined by census flights. Data shows the following results: E-1 = 13%, E-2 = 13%, E-3 = 44%, and E-4 = 30%.	82
	D-1,2,3			
	E-1	11/Summer		
	E-2	11/Summer		
	E-3	36/Summer		
	E-4	24/Summer		
	C-1	74/Winter		
C-2	8/Winter			
Total				417

Table 10-3. Summary of Adjusted Initial Herd Size by HMA.

HMA (1)	Initial Herd Size (RMP Amend.) (2) ¹	Avg. % of Total WH in the Spruce Allot. (3) ²	No. of WH in the Spruce Allot. (4) ³	Total AML for the Spruce Allot. (from Table 10-2) (5) ⁴	Difference from No. of WH in the Spruce Allot. to calculated AML. (6) ⁵	Adjusted initial herd size by HMA (7) ⁶
Antelope Valley	240	50.7	122	181	+59	299
Goshute	160	20.2	32	50	+18	178
Maverick-Medicine	332	43.4	143	104	-39	273
Spruce-Pequop	82	100	82	82	0	82
Totals	814		379	417	+38	852

¹ This column represents initial herd size for the Wells Resource Area.

² This column represents the average percent of total WHs in the Spruce Allotment based on Tables 31 - 34 as updated in Appendix 4 of this MASR.

³ This column represents the number of wild horses that should be within the Spruce Allotment based on initial herd size and census data.

⁴ This column represents AML for the Spruce Allotment. See Table 10-2.

⁵ This column represents the difference from Column 4 and Column 5. The numbers in this column indicates the number by which initial herd size must be reduced by or increased by to ensure that AML for the allotment is maintained.

⁶ The adjusted initial herd size is calculated by subtracting or adding Column 6 from Column 2.

Table 10-4 summarizes the range that wild horses will be managed. The recruitment rate was calculated for each HMA using census data. The ranged is based on a three year gather cycle.

Table 10-4. Summary of range at which wild horses will be managed within the Spruce Allotment.

HMA	Recruitment Rate	AML - Range to be Managed
Antelope Valley	18%	110-181
Goshute	19.5%	29-50
Maverick-Medicine	17.5%	64-104
Spruce-Pequop	12.7%	57-82
Total		260-417

Table 10-5 shows a summary of the calculated carrying capacity by operator and subunit.

Table 10-5. Summary of Calculated Capacities by Allotment.

Operator	Subunit	Carrying Capacity
Kenneth Jones Winter Operation - Cattle (11/1-3/31)	A-1	1,518
	A-2	875
	B-1	1,203
	B-2	925
	K-2	11
Total for Kenneth Jones		4,532
Von L. and Marian Sorensen Secret Pass Herd - Cattle Winter Operation (11/1-3/31)	C-1a	536
	C-1	1,422
	H	781
	I	30
	K-1	27
Total for Secret Pass Herd		2,796
Von L. and Marian Sorensen Spruce Mountain Herd - Cattle Winter (11/1-3/31)	C-2	525
	C-3	1,571
	C-4	2,009
Total for Spruce Mountain Herd - Winter		4,105
Von L. and Marian Sorensen Spruce Mountain Herd - Cattle Spring/Summer/Fall (5/1-10/31)	D-1,2,3	1,273
	E-1	824
	E-2	858
	E-3	713
	E-4	396
Total for Spruce Mountain Herd - Summer		4,064
Total All Operators		15,497

Table 10-6 shows how the total number of animal unit months of specified livestock grazing use (sheep AUMs) would be converted to cattle AUMs as calculated in this allotment evaluation. One of the selected management actions is to divide the allotment in two. This table shows the total number of AUMs of specified livestock grazing use on the Spruce and Valley Mountain Allotments.

Table 10-6. Summary of Pre- and Post-Evaluation AUMs of Specified Livestock Grazing Use.

Permittee	Pre-Evaluation			Post-Evaluation		
	Total # of AUMs of Specified Livestock Grazing Use. (Sheep)	Susp. (Sheep)	Total # of AUMs of Specified Livestock Grazing Use. (Sheep)	Total # of AUMs of Specified Livestock Grazing Use. (CA) ¹	Susp. (Sheep)	Total # of AUMs of Specified Livestock Grazing Use. (CA) ¹
Valley Mountain Allotment						
Kenneth Jones	13,437	125	13,562	4,532	0	4,532
Spruce Allotment						
Von L. and Marian Sorensen	22,128	395	22,523	10,965	0	10,965
Total	35,565	520	36,085	15,497	0	15,497
¹ All of the total number of AUMs of specified livestock grazing use for Kenneth Jones and Von L. and Marian Sorensen was converted to cattle (CA).						

APPENDIX 11

Grazing System Options and Proposed Range Improvements
for the Spruce and Valley Mountain Allotments

APPENDIX 11. Grazing System Options and Proposed Range Improvements for the Spruce and Valley Mountain Allotments

A. Introduction

Through this evaluation process, it was determined that multiple use objectives for the Spruce and Valley Mountain Allotments are not being attained, therefore, changes in current livestock management practices are needed. The following grazing system has been selected as per selected management action #3. This appendix outlines the proposed grazing systems by allotment and permittee.

Kenneth Jones:

Use on the salt-desert shrub communities (native winter range) from 11/1-3/31 with reduced livestock numbers and reduced use on the winter range. Completion of 3,120 acres of seeding with associated fencing and water developments to improve livestock management.

Von L. and Marian Sorensen:

Use on the salt-desert shrub communities (native winter range) from 11/1-3/31 with reduced livestock numbers and reduced use on the winter range. Completion of 2,412 acres of seeding with associated fencing and water developments to improve livestock management.

Use on the spring/summer/fall range from 4/1-10/31 annually. Completion of 400 acres of seeding within Subunit D-1,2,3.

An additional 3,120 acres of seeding for Kenneth Jones and 2,412 acres of seeding for Von L. and Marian Sorensen may be developed if funding is other than the Bureau.

In all instances, cattle must be removed from the winter range by 3/31. As per the analysis of the available data in this allotment evaluation, it has been determined that changes in the salt-desert shrub communities are mainly caused by variations in climate and selective removal of plant parts by grazing animals.

Long-term studies at the Desert Experimental Range in southwestern Utah have shown that heavy grazing seriously injures or kills desirable forage species, whereas moderate grazing allows substantial increases in desirable species. In addition, desirable species are damaged by grazing in the spring during the critical season of plant growth. Therefore, a wise management policy for grazing salt-desert shrub communities includes moderate grazing during winter dormancy and removal of livestock before the period of active physiological growth (generally 4/1 in this area).

Without the development of seedings, it would be the permittees responsibility to find a place for livestock after 3/31. Kenneth Jones would need a place for livestock from 4/1 through 5/15 and the Secret Pass Herd would need a place to graze from 4/1-5/31.

There are several reasons for why seedings, as a selected management action were considered. Development of seedings would provide for:

1. reduced use on salt-desert shrub communities after the critical part of the growing season.
2. improved range conditions on the native range.
3. forage and habitat diversity for wildlife. Currently, the landscape consists of monocultures of sagebrush with little to no understory.
4. an ecosystem management approach between private and public land, i.e. the problem of use during the critical growing season would not be moved from public land to private land.
5. meeting commitments outlined in the Wells RMP/EIS.

Seedings, as an option, are only being considered for the Secret Pass Herd in the Spruce Allotment and the Kenneth Jones winter cattle grazing operation in the Valley Mountain Allotment. The existing seeding in Independence Valley has been determined to provide sufficient spring and fall forage for the Spruce Mountain Herd. However, approximately 400 acres of seeding are proposed in Independence Valley as a result of a wildfire in 1985. The burned area did not respond and currently the area is comprised of halogeton and cheatgrass. Seeding this area would reduce the presence of halogeton and cheatgrass. Refer to the proposed range improvements section of this appendix for total proposed acres of seeding through this allotment evaluation.

An interim grazing system is outlined the Secret Pass Herd and Ken Jones winter grazing operation. This interim grazing system outlines use on the allotments while the seedings are completed.

In addition to the development of seedings, associated fencing, and stockwater facilities are necessary to ensure proper livestock distribution and control. Refer to the section in this appendix on proposed range improvement projects for a summary of proposed acres of seeding, fencing, and stockwater facilities.

These grazing systems are designed to:

- a. Improve the ecological status and trend of the salt-desert shrub communities in the winter range by eliminating cattle use during the critical growth period which begins around 4/1.
- b. Improve or maintain the ecological status and trend on the summer range on Spruce Mountain by increasing spring and fall use on the existing seeding in Independence Valley, allowing for deferment of summer cattle use on Spruce Mountain until 7/1 annually.
- c. Improve crucial deer winter range in the Boone Springs Area by establishing a rest rotation grazing system with cattle to decrease use of and improve age class of bitterbrush.

d. Improve seasonal antelope habitats by eliminating use during the crucial growing season allowing for increased forage diversity.

e. Improve cattle utilization patterns on the salt-desert shrub winter range by establishing a deferred rotation grazing system and utilizing stockwater facilities to govern use areas. All the stockwater facilities identified in the grazing systems within each subunit will be operable when livestock are scheduled to be in the subunit to ensure optimum livestock distribution.

f. Establish maximum allowable AUMs by subunit.

B. Grazing Systems

1. Valley Mountain Allotment - Kenneth Jones Winter Cattle Operation - Proposed Seedings - Reduced Use on Native Winter Range.

The grazing system outlined in Table 11-1 allows for livestock grazing use from 11/1 to 5/15 annually with a maximum of 703 head of cattle and 4,532 AUMs. Approximately 3,120 acres of seeding would be developed.

Table 11-1. Grazing system for Kenneth Jones winter cattle operation (with proposed seedings and reduced use on the native).					
Subunit	Maximum AUMs Allowed	Stockwater Facilities to be used:	1998	1999	2000
A-1	1,851	Butte Valley Road Well Little Ruby Well Murphy Well Christiansen Well Frenchy Well Quilici Spring (private) Basque Well Medicine Spring (private) Ruby Wash Well	11/1 - 1/19	11/1 - 11/15	R e p e a t C y c l e
A-2				1/26-3/31	
K-2					
B-1	1,641	South Spruce Well Gulf Well East Railroad Well Cordano Well	1/18- 3/31	11/16-1/25	
B-2					
Proposed Seeding	1,040	Proposed water development	4/1 - 5/15	4/1 - 5/15	
Total	4,532				

This grazing system allows for rotation of calving on the east and west sides of Highway 93. Spring use would be on the proposed seedings from 4/1 - 5/15 annually.

An additional 3,120 acres of seeding may be developed with funds other than from the Bureau. This would allow for cattle to use half of the seeded area one year, and resting the other half in order that "old feed" will be available for early spring use the next year. Cattle would be allowed to enter the seeded area as early as 3/15.

This grazing system allows for reduced livestock numbers and reduced use on the salt-desert shrub winter range. The reduced use on the native range would allow for multiple use objectives to be attained sooner and allow for improved plant vigor. The drought that has affected this area since about 1987 has resulted in poor plant vigor and reduced species diversity (Professional Judgement).

Interim Schedule

The grazing system outlined in Table 11-2 allows for livestock grazing use from 11/1 - 5/15 with a maximum of 703 head of cattle and 4,532 AUMs. This grazing system is an interim schedule that could be used while the proposed seedings are completed.

Table 11-2. Grazing system for Kenneth Jones winter cattle operation (interim schedule).					
Subunit	Maximum AUMs Allowed	Stockwater Facilities to be used:	1998	1999	2000
A-1	2,404	Butte Valley Road Well	11/1-2/6	11/1-11/15	R e p e a t C y c l e
A-2		Little Ruby Well			
K-2		Murphy Well			
	Christiansen Well	5/10-5/15	2/16-5/15		
	Frenchy Well				
	Quilici Spring (private)				
	Basque Well				
	Medicine Spring (private)	2/7-5/9	11/16-2/15		
B-1	South Spruce Well				
B-2	Gulf Well				
	East Railroad Well	4,532			
	Cordano Well				
Total					

This grazing system would allow for spring use by cattle from 4/1 - 5/15 until the seedings were developed. Upon developing the seedings there is a two year rest period to allow the seeding to establish. During the interim, use on the native salt-

desert shrub winter range would be alternated between Ruby Valley (Subunits A-1, A-2, and K-2) and Steptoe Valley (Subunits B-1- and B-2).

2. Spruce Mountain Allotment

a. Von L. and Marian Sorensen Winter Cattle Operation - Secret Pass Herd Proposed Seedings - Reduced Use on Native Winter Range.

The grazing system outlined in Table 11-3 allows for livestock grazing use from 11/1 to 5/31 annually with a maximum of 401 head of cattle and 2,796 AUMs. Under this option, approximately 2,412 acres of seeding would be developed.

Table 11-3. Grazing schedule for Von L. and Marian Sorensen Winter Cattle Operation - Secret Pass Herd (with proposed seedings and reduced use on the native).					
Subunit	Maximum AUMs Allowed	Stockwater Facilities to be used:	1998	1999	2000
I K-1 H	598	Government Spring Curtis Spring Deep Well Middle Well	11/1-12/15	11/1-11/15 3/2-3/31	R e p e a t C y c l e
C-1 C-1a	1,394	Gravel Pit Well East Highway Well Tom Eagar Well Lower Spruce Well Crane Well Warehouse Well Goshute Well Old Mizpah Well Mizpah Point Well	12/16-3/31	11/16-3/1	
Proposed Seeding	804	Gravel Pits Well East Highway Well Spruce Well South Well	4/1 - 5/31	4/1-5/31	
Total	2,796				

This grazing system option allows for winter use between Clover and Steptoe Valleys with spring use on the proposed seedings from 4/1 - 5/31 annually.

An additional 2,412 acres of seeding may be developed with funds other than from the Bureau. This would allow for cattle to use half of the seeded area one year, and

resting the other half in order that "old feed" will be available for early spring use the next year. Cattle would be allowed to enter the seeded area as early as 3/15

As with the Ken Jones winter grazing operation, not only would livestock numbers be reduced, but also livestock use on the salt-desert shrub winter range would be reduced. The reduced use on the native range would allow for multiple use objectives to be attained sooner and allow for improved plant vigor. The drought that has affected this area since about 1987 has resulted in poor plant vigor and reduced species diversity (Professional Judgement).

Interim Schedule

The grazing system outlined in Table 11-4 allows for livestock grazing use from 11/1 - 5/31 with a maximum of 401 head of cattle and 2,796 AUMs. This grazing system is an interim schedule that could be used while the proposed seedings are completed.

Table 11-4. Grazing schedule for Von L. and Marian Sorensen Winter Cattle Operation - Secret Pass Herd (interim schedule).					
Subunit	Maximum AUMs Allowed	Stockwater Facilities to be used:	1998	1999	2000
I K-1 H	838	Government Spring Curtis Spring Deep Well Middle Well South Well Spruce Well	11/1 -12/27 5/25 - 5/31	11/1 - 11/15 4/13- 5/31	R e p e a t C y c l e
C-1 C-1a	1,958	Gravel Pit Well East Highway Well Tom Eagar Well Lower Spruce Well Crane Well Warehouse Well Goshute Well Old Mizpah Well Mizpah Point Well	12/28 - 5/24	11/16 - 4/12	
Total	2,796				

This grazing system would allow for spring use by cattle from 4/1 - 5/31 until the seedings were developed. Upon developing the seedings there is a two year rest period to allow the seeding to establish. During the interim, use on the native salt-desert shrub winter range would be alternated between Clover Valley (Subunit H) and North Steptoe Valley (Subunit C-1) and Mizpah Point (Subunit C-1a).

b. Von L. and Marian Sorensen Yearlong Cattle Operation - Spruce Mountain Herd

Spruce Mountain Herd

The grazing system is outlined in Table 11-5 below. Because of the differences in capacities between the spring/summer/fall range and the winter range, the maximum number of livestock that can graze from 5/1 to 10/31 can vary annually. In even number years, when Subunit E-3 (Boone Springs) is rested, the maximum number of AUMs allowed on the spring/summer/fall range is 3,351 with a maximum of 554 head of cattle.

In odd number years when Subunit E-4 (Ninemile Canyon) is rested, the maximum number of AUMs allowed on the spring/summer/fall range is 3,661 with a maximum of 605 head of cattle.

This grazing system allows for spring and fall use on the seedings in Independence Valley (Subunits D-1 and D-2). Spring and fall use will be rotated annually between the two subunits. Use in Jasper Well (Subunit D-3) is mostly trail use between winter and spring/fall areas.

The seedings are scheduled for use in October. However, cattle may start drifting down from the summer range (Spruce Mountain) as early as 9/1. By the first of October, all livestock should be off of the summer range. After calves are shipped, cattle move into the winter range, which is about 11/1. On odd number years, Subunit D-1 is scheduled for fall use. However, during shipping, use of Feedlot Well (in Subunit D-2) will be allowed as the corrals nearby are used for shipping. Without any cross fencing within the seeded area, livestock use will continue to be controlled by water. Cross fencing is proposed in the section on proposed range improvement projects in this appendix.

The winter use area (Subunits C-2, 3, & 4) in Goshute and Antelope Valleys is from 11/1 to 3/31 annually with a maximum of 827 head of cattle and 4,105 AUMs. On even number years, cattle will rotate in counter clockwise direction (C-2, C-4, C-4). On odd number years, cattle will rotate in a clockwise direction (C-3, C-4, C-2).

Crane Well, Lower Spruce Well, Warehouse Well and Goshute Well will be used for trailing purposes only when cattle are moving from C-4 to C-2 (odd number years). The primary use of this wells is by the Secret Pass Herd.

Table 11-5. Grazing schedule for Von L. and Marian Sorensen Yearlong Cattle Operation - Spruce Mountain Herd					
Subunit	Max. AUMs Allowed	Stockwater Facilities to be used:	1998	1999	2000
Spring/Summer/Fall Range (4/1 - 10/31)					R e p e a t C y c l e
Private Seedings - Flowery Lake			4/1 - 4/30	4/1 - 4/30	
D-1	1,273	East Spruce Well Latham Spring Pipeline	5/1 - 6/30	10/1 - 10/31	
D-2		Ninemile Well Feedlot Well	10/1 - 10/31	5/1 - 6/30	
D-3		Jasper Well	Trail use between spring and fall use. One week allowed in the spring and one week allowed in the fall.		
E-1	824	All	7/1 - 9/30	7/1 - 9/30	
E-2	858	All	7/1 - 9/30	7/1 - 9/30	
E-3	713	All	REST	7/1 - 9/30	
E-4	396	All	7/1 - 9/30	REST	
Total	4,064		3,351	3,661	
Winter Range (11/1 - 3/31)					
C-2	525	Windmill Well (private) Warehouse Well Crane Well Lower Spruce Well Goshute Well	11/1 - 11/19	3/13- 3/31	
C-3	1,571	Shafter Well No. 3 Basque Well Black Point Wells Itcaina Black Point Well	2/2 - 3/31	11/1 - 12/28	
C-4	2,009	Antelope Well Dolly Varden Well Dolly Varden Spring Well	11/20 - 2/1	12/29 - 3/12	
Total	4,105		4,105	4,105	
Total Spruce Mtn. Herd	8,169		7,456	7,766	

B. Proposed Range Improvement Projects

1. Acres of Proposed Seeding

Table 11-6 shows the amount of seeding required as per the grazing systems described above for Kenneth Jones, the Secret Pass Herd, and the Spruce Mountain Herd. The development of the seedings would result in reduced livestock numbers and reduced use on the native salt-desert shrub communities to help attain multiple use objectives sooner and allow for improved plant vigor (Professional Judgment).

Table 11-6. Acres of Proposed Seeding on the Spruce and Valley Mountain Allotments (reduced use on the native).				
Allotment/Herd	# Lvsk.	Pd. of Use	Forage Demand (AUMs)	Seeding Required (Acres)¹
Valley Mountain/ Ken Jones Winter	703 Cattle	4/1 - 5/15	1,040	3,120 ²
Spruce Allotment/ Secret Pass Herd	401 Cattle	4/1 - 5/31	804	2,412 ²
Spruce Allotment/ Spruce Mtn. Herd				400 ³
Total			1,844	5,932

¹ Estimated acres for seeding is based on an assumed carrying capacity of 3 acres/AUM. This total represents the total the Bureau will fund.

² Acreage may be doubled to ensure half of the seeded area can be rested annually so that "old feed" will be available for early spring use the next year. Funding for this additional acreage must be someone other than the Bureau.

³ Proposed seeding in Subunit D-1 (West Independence Valley) as a result of a wildfire in 1985.

2. Summary of All Range Improvement Projects Proposed

Tables 11-7 through 11-9 below summarize all of the proposed projects for the Spruce and Valley Mountain Allotments and estimated cost for development. All proposed projects will be completed in consultation, cooperation, and coordination with the permittees and interested public as outlined in the grazing regulations and Bureau policy.

Table 11-7. Proposed Range Improvement Projects on the Valley Mountain Allotment.		
Allotment	Type of Improvement	Estimated Cost for Project Development
Valley Mountain	Seeding (3,120 acres) ¹	\$130,000
	Seeding Protection Fences (~4 miles) ²	\$16,000
	Seeding Wells/Pipeline (1) ²	\$56,000
	Pipeline on existing well for Sdg (2) ² Liza Jane Butte Valley Road Well	\$28,000
	Currie Canyon Well	\$30,000
	Quilici Well	\$30,000
	South Medicine Well	\$30,000
	Delcer Buttes Well	\$30,000
	Total Cost	\$350,000

¹ An additional 3,120 acres of seeding may be completed if funding other than the Bureau.

² When the seedings are developed, associated fencing and water developments will be constructed simultaneously. A minimum of two years rest will be made on the seedings prior to authorizing grazing use to ensure establishment.

are present acreages of 3,120 acres of Valley all, 24,120 AC Spruce Allot. proposed seeding included in overall carrying capacity of 14,568 ANMS? was adjustments made? 0?

Table 11-8. Proposed Range Improvement Projects on the Spruce Allotment.				
Allotment	Type of Improvement	Secret Pass Herd	Spruce Mtn. Herd	Estimated Cost for Project Development
Spruce Mountain	Seeding (2,412 acres) ¹	✓		\$100,000
	Wildfire Seeding (400 acres)		✓	\$17,000
	Seeding Protection Fences (~4 miles) ²	✓		\$16,000
	Pipeline on existing well for Sdg (3) ² East Highway Well South Well Spruce Well	✓		\$87,000
	Sprucemont Pipeline for Seeding ²	✓		\$50,000
	Basco Spring Pipeline Extension ³	✓	✓	\$26,000
	Spruce Spring Pipeline Extension ³		✓	\$35,000
	Latham Spring Pipeline Extension ³		✓	\$26,000
	Independence Valley Seeding Fences (~15 miles)		✓	\$60,000
	Whitesage Well		✓	\$30,000
	Sweet Sage Well		✓	\$30,000
	Total			\$477,000

¹ An additional 2,412 acres of seeding may be completed if funding other than the Bureau.

² When the seedings are developed, associated fencing and water developments will be constructed simultaneously. A minimum of two years rest will be made on the seedings prior to authorizing grazing use to ensure establishment.

³ The three pipeline systems in the Spruce Allotment (Basco, Spruce, and Latham Spring Pipelines), will be completed before the pipeline extensions are authorized.

TTL \$827,000.
 65,000 fencing
 17 miles Spruce Mtn.
 \$895,000
 was a cost/benefit
 through EA approved.

Table 11-9. Proposed Range Improvement Projects on the Spruce and Valley Mountain Allotments.		
Allotment	Type of Improvement	Estimated Cost for Project Development
Both Allotments	Spruce Division Fence (~17 miles)	\$68,000
The Spruce Division Fence is essential for livestock control in Steptoe Valley and ensure the multiple use objectives are attained.		

Goshute Valley Well will be evaluated and equipped by the permittee for use in Subunit C-3 (East Goshute Valley).

The proposed wells in both allotments will help improve livestock distribution within the allotment. Also, the wells will also provide water for wildlife and wild horses.

Refer to Maps 7 and 8 for location of existing and proposed range improvement projects. These locations are very general and will not be finalized until completion of a site specific environmental assessment for each proposed range improvement project.

APPENDIX 12

Summary of Conversion from Sheep to Cattle

*BLM's conversion rate
ratio is 5 sheep/1 cow = 5 AUM*

APPENDIX 12. Summary of Conversion from Sheep to Cattle.

*ratio of
sheep to CC
AUMs*

Subunit	Adjudicated Sheep AUMs	Livestock Suitability	Converted Cattle AUMs
Kenneth Jones Winter Grazing Area (Proposed Valley Mountain Allotment)			
A-1	4,190	CA/SH	1,518
A-2	4,062	CA/SH	875
B-1	1,277	CA/SH	1,203
B-2	1,850	CA/SH	925
F-1	302	SH	0
G	1,369	SH	0
K-2	387	SH	11
Total	13,437¹	2047 Sheep AUMs converted to Cattle	4,532
Von L. and Marian Sorensen (Spruce Mountain and Secret Pass Herds)			
C-1a	1,168	CA/SH	536
C-1	2,492	CA/SH	1,422
C-2	784	CA/SH	525
C-3	2,991	CA/SH	1,571
C-4	1,797	CA/SH	2,009
D-1,2,3	1,273	CA/SH	1,273
E-1	1,297	CA/SH	824
E-2	1,577	CA/SH	858
E-3	1,155	CA/SH	713
E-4	1,711	CA/SH	396
F-2	1,111	SH	0
H	2,924	CA/SH	781
I	390	CA/SH	30
J	945	SH	0
K-1	513	SH	27
Total	22,128²	19,559 SH AUMs converted to Cattle	10,965
Total for Allotment	35,565	30,949 SH AUMs converted to Cattle	15,497

*2.76
4.64
1.04
2.0
35.18
2.51*

*2.18
1.75
1.49
1.90
+0.89
straightness
1.57
1.84
1.62
4.32
0
3.74
13.00
0
2.02
2.00*

¹ An adjustment factor of 0.575855 was used in prorating adjudicated sheep AUMs to current active use on the new proposed Valley Mountain Allotment.

² An adjustment factor of 0.5818106 was used in prorating adjudicated sheep AUMs to current active use on the newly defined Spruce Allotment.

5,545 AUMs proposed on stub grazing allotment CC. 14,568 AUMs presently

15,497 / 20,113 AUMs at above conversion rate

4,616 SH AUMs remaining 4,616 SH AUMs remaining

The following calculations show the conversions from sheep to cattle:

$$\frac{35,565 \text{ Sheep AUMs - as per adjudication of the allotment}}{15,497 \text{ Cattle AUMs - as calculated through this allotment evaluation process}} = \frac{2.3 \text{ sheep AUMs}}{1 \text{ cattle AUM}}$$

$$2.3 \text{ sheep AUMs} \times 5 \text{ sheep:1 cow} = \mathbf{11.5 \text{ sheep : 1 cow}}$$

If we divide 15,497 Cattle AUMs by 35,565 Sheep AUMs, we get 44%. What this indicates is that 44% of the original sheep AUMs will be converted to cattle AUMs.

BEM standard
is 5 sheep = 1 AUM
vs 1 cow + calf + 6 mos = 1 AUM

only 30,949 sheep AUM are converted to
cattle AUMs : 2.3 = 13,456 cattle AUMs
in above calcs is correct

4616	SA AUMs still in use
18,072	TT AUMs
14,568	TT AUM CC
3,504	TT AUMs, overstocked
6,190	cow AUMs
4616	retained SA AUMs
10,806	AUMs by AUM

30,949 ÷ 5 sheep to 1 cow AUM = 6,190 cow AUMs

XX yearly monitoring of allotment critical to determine if adjustments in stocking rates are necessary to meet objectives

Policy

correct cal

APPENDIX 13. Allotment Management Objectives for Spruce and Valley Mountain Allotments

The following allotment management objectives apply to both Spruce and Valley Mountain Allotments:

1. Standards for Rangeland Health developed for Northeast Great Basin Area

Standard 1. Upland Sites:

Upland Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, and land form.

Standard 2. Riparian and Wetland Sites:

Riparian and wetland areas exhibit a properly functioning condition and achieve state of water quality criteria.

Standard 3. Habitat:

Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

Standard 4. Cultural Resources:

Land use plans will recognize cultural resources within the context of multiple use.

2. General Land Use Plan (LUP) Objectives

a. Provide for livestock grazing consistent with other uses.

b. Manage wild horses outside of checkerboard areas where land ownership patterns are not a problem for management.

c. Manage wild horses within HMAs and maintain a thriving natural ecological balance consistent with other resource needs. *+ eliminate fencing for seasonal movement.*

d. Conserve and/or enhance wildlife habitat to the maximum extent possible.

e. Eliminate all of the fencing hazards in crucial big game habitat, most of the fencing hazards in non-crucial big game habitat.

f. Eliminate all of the high and medium priority terrestrial riparian habitat conflicts in coordination with other resource uses.

g. Prevent undue degradation of all riparian habitat due to other uses.

h. Manage public lands in the Wells Resource Area on a sustained yield basis to support elk populations at a level consistent with other resource need, while minimizing impacts to adjacent private and public land resources.

i. Lands with woodland products will be managed under the principle of the sustained yield, maintaining an allowable harvest to provide a permanent source of wood products for future generations.

3. Antelope Valley Habitat Management Area Plan (HMAP) Objectives

a. Habitat Objectives

1. Vegetation

Manage for the most appropriate seral stages to provide for desired quantity, quality, and density of forage in order to meet the requirements of the wild horses and other foraging animals. In general, utilization levels will be maintained at approximately 45% shrubs and 55% on grasses or as identified in the allotment specific utilization objectives, which is in accordance with the recommended utilization levels in the Nevada Rangeland Monitoring Handbook (1984).

2. Distribution and Water Availability

Improve distribution and provide water yearlong for wild horses throughout the HMA where possible.

b. Wild Horse Objectives

1. Multiple Use

The objective in the Antelope Valley HMA is to maintain a healthy, viable population of wild horses in a thriving natural ecological balance with all other resources and users.

2. Appropriate Management Level (AML)

When the allotment evaluations are complete, a total AML for the HMA will be determined. The number of horses will be maintained within a range of \pm 15% of AML. Removals will be scheduled so that each HMA is gathered once every three years.

AML will be maintained using one or more of the following options: periodic removals with no selectivity, selective removals targeting specific age groups, or fertility control.

3. Free-Roaming Characteristics

The wild horses within the Antelope Valley HMA will be managed in a manner that maintains their wild free-roaming characteristics.

Allotment Specific Objectives for Spruce Allotment:

a. Range:

1. Improve livestock distribution in Steptoe, and Antelope Valleys (winter range) and Spruce Mountain (summer range).
2. Manage rangelands to achieve or exceed a late seral stage of ecological condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) where appropriate to site potential.
3. Manage grazing on native rangelands so as not to exceed utilization objectives for key species as measured at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) as follows:
 - obtain an average utilization of 55% on all of the native grasses and salt-desert shrubs on the winter range.
 - obtain an average utilization of 50% on all of the native grasses while never exceeding 55% in any single year on the summer range.
 - maximum allowable use by livestock on bitterbrush is 25% on the summer range.
 - maximum allowable use by wild horses on the common use areas of the winter range is 10% prior to livestock turnout (11/1).
4. Manage grazing on non-native rangelands (crested wheatgrass seedings) so as not to exceed utilization objectives for crested wheatgrass as measured at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) as follows:
 - obtain an average utilization of 60% on crested wheatgrass while never exceeding 65% in any single year.

b. **Wildlife:**

1. Improve or maintain all seasonal big game habitat in the Spruce Allotment to good or excellent condition at existing key area monitoring locations (or additional key area monitoring locations selected in consultation with affected interests) to provide forage and habitat capable of supporting the following reasonable numbers and forage demands¹:

- 8,838 Mule Deer (6,510 AUMs)
- 180 Antelope (432 AUMs)
- 120 Bighorn Sheep (288 AUMs)
- 340 elk²
- 220 elk³

*are these identified
AUM's adjudicated in
allot. process*

¹ The reasonable numbers and forage demands are based on total numbers for the Spruce Allotment before splitting into two allotments.

² The number of elk was derived from the Wells RMP Elk Amendment which lists 340 elk as the target population level for the Spruce-Pequop Management Area of which a portion occurs within the Spruce Allotment.

³ The number of elk was derived from the Wells RMP Elk Amendment which lists 220 elk as the target population level for the Cherry Creek Management Area of which a portion occurs within the Spruce Allotment.

2. Improve crucial mule deer winter habitat by:

- cutting (thinning) within 16,000 acres of the pinyon-juniper forest type.
- chaining or burning and seeding 2,500 acres of sagebrush.

*if not more overutilization
of cc. will occur
also the Horse AUMs
included in total adjudication
process*

W H O A
WILD HORSE ORGANIZED ASSISTANCE
P.O. BOX 555
RENO, NEVADA 89504
(702) 851-4817



In Memoriam
LOUISE C. HARRISON
VELMA B. JOHNSTON, "Wild Horse Annie"
GERTRUDE BRONN

FILE COPY

November 19, 1997

Mrs. Helen Hankins, District Manager
Bureau of Land Management-Elko
3900 East Idaho Street, Box 831
Elko, NV 89801

Re: MASR Spruce Allotment

Dear Mrs. Hankins:

When the Elko District sought WHOA's assistance with the horse issue in Rock Creek, we were more than happy to lend support despite the fact that the necessary documents were not in order. It was our attempt to show good faith and build a working relationship with the District. Receipt of the Spruce Allotment MASR has reversed any notion that the Elko District will protect a thriving natural ecological balance for wild horses.

Application of the Wells Resource Management Plan Amendment to wild horses of 10% of winter forage prior to livestock use is absurd and your own Appendix states that 40% use of a key area can wipe out the entire herd. We cannot discern the affects of domestic sheep on the Spruce allotment from your management action report. We don't understand the conversion rate between sheep and cattle and we can't locate any explanation of why the adjustments came from total preference rather than from actual available forage on the allotment.

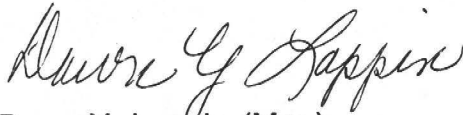
The MASR leaves no doubt that you intend to increase actual use for livestock at the expense of a viable herd in Spruce. Furthermore you are willing to threaten this herd based on range improvement funding of over three quarters of a million dollars. Nowhere in this document does it

state these monies are available, now or in the near future.

It is my opinion that the sheep conversion to cattle has significantly increased the demand and therefore the BLM is willing to pay three quarters of a million dollars for seedings, and willing to reduce again the wild horse population.

WHOA is at the end of our patience with Elko and the Spruce-Pegoup shenanigans at the horses' expense. Despite the District's having escaped all our past legal arguments, this war is far from over.

Sincerely,



Dawn Y. Lappin (Mrs.)
Director

cc: Maitland Sharpe
Mr. Bob Abbey
Mr. Terry Woosley
AHPA
HSUS

11/18/97

November 18, 1997

Ms. Helen Hankins, District Manager
BLM-Elko District Office
Box 831 3900 East Idaho St
Elko, NV 89801

RE: ~~Spruce Allotment~~ MASR

Dear Ms. Hankins,

The Commission for the Preservation of Wild Horses remains concerned with the determination of appropriate management levels for wild horse herds affected by the Wells Resource Management Plan Amendment. Application of the land use plan's forage allocation of 10% of key winter forage vegetation prior to livestock use is an arbitrary action and not based upon sound science. Legal procedures to contest your actions are contrary in nature and the District has escaped any argument before IBLA or a hearing officer over the merits of our appeals. It is now apparent that the land use plan amendment failed the District in providing an appropriate management level to meet their discretionary choice, and now exercises further discretion to abandon monitoring studies in favor of the initial numbers of the amendment. Furthermore, the determination of carrying capacities and allocation of forage to livestock is beyond our comprehension.

From our extensive review of the allotment evaluation and management action report, the authorizations and affects of domestic sheep on the Spruce Allotment are extremely confusing. Contrary to the land use plan, cattle were authorized on the allotment since 1986 and domestic sheep joint use existed until 1994. During these years domestic sheep use averaged about 4,000 AUM's and cattle averaged 13,000 AUM's. The conversion decisions did not consider a livestock carrying capacity or proportional allocation of forage to meet resource needs. As explained by the District, the conversion was an exercise in total preference adjustments and not allocation of available forage.

Helen Hankins, District Manager
November 18, 1997
Page 2

In your efforts to distinguish use and allocate forage, we can conceptionally support an allocation of proper allowable use levels for key forage. However, the arbitrary choice for 10% use of key forage prior to livestock does threaten the viability of the Spruce Wild Horse Herd. As exhibited in the Appendix, utilization of over 40% of a key area can abolish an entire herd. However, the data showed less than 10% utilization can greatly inflate the appropriate management level above your pre-conceived number for this herd. The most confusing factor of management action is the discretionary choices and combinations do not have sound rationales in regard to the land use plan stipulations.

In simple facts, the selected management actions include a real increase in actual use for livestock at a considerable reduction of wild horses from the allotment. Any livestock grazing system is solely dependent upon three quarters of a million dollars of seedings and range improvement projects. It is disturbing to find that the District had promised approximately four times the acreage of seedings to make the conversion from domestic sheep to cattle over 10 years ago. Funding for these projects do not appear imminent.

Given the information provided by the allotment evaluation, land use plan and management action report, we would encourage the District to re-design more accurate and accountable monitoring studies and decision making criteria. Justification of arbitrary and discretionary judgements with the amount of data collected is futile to the affected parties.

We can only support what can be understood and justified. We fail to find any assurances that a thriving natural ecological balance will be achieved or that significant progress has been made in achieving the Standards for healthy rangelands.

Sincerely,

CATHERINE BARCOMB
Administrator

cc: Terry Woosley
Brad Hines

11/19/97
Cathy
R.F.
Ave

TOIYABE CHAPTER OF THE SIERRA CLUB POBOX 8096 RENO, NV 89507

Nov. 19, 1997

Ms. Helen Hankins, Manager
BLM/Elko District
PO Box 831
Elko, NV 89801

VIA FAX
COPY

Re: Spruce Allotment MASR

Dear Manager Hankins,

On behalf of the 4,400+ members of the Toiyabe Chapter of the Sierra Club, many of whom recreate on public lands in the Elko District, I am submitting this comments objecting to BLM proposals in the Spruce Allotment. The Sierra Club has had a long-standing interest in improving grazing management on this allotment. Please incorporate by reference here all of our previous comments on this allotment. These include our appeal dated June 4, 1993, letter to Bill Baker, dated Oct. 15, 1993, memo and meeting with Bill Baker, dated 11/2/93, letter to Bill Baker, dated DJan. 26, 1995, and letter to Bill Baker, dated May 31, 1995. To our disappointment, current BLM plans appear to have rejected all of the concerns we have previously raised about livestock management and numbers on this allotment.

Specifically, we question:

1. the lack of a carrying capacity analysis. It appears from the document that BLM is granting a substantial increase in livestock numbers to the permittee, based on two proposed actions which violate BLM rangeland and wild horse policies.

- a. BLM is removing wildhorses due to its perception that the horses are causing resource damage and then replacing the wild horses with sheep and cattle, apparently in the belief that greater cattle and sheep numbers will not cause or further exacerbate resource damage.

- b. The proposed number of permitted livestock appears to be depend on an enormous amount of proposed range improvements, costing nearly one million dollars. Since BLM does not have the budget to construct these costly range improvements, basing a large increase in livestock numbers

on range improvements that have not been built is not justifiable, is not rational, and will probably result in permanent damage to public lands from livestock overgrazing.

2. Why is BLM showing preference for domestic livestock use over wild horse and wildlife use of this allotment? There is no legal justification for these BLM proposals on this allotment.

We recommend that BLM consult with all affected interests and come up with a more sound economic and environmental livestock management proposal and one which does not discriminate against uses of the public lands other than livestock grazing.

Thank you for considering our comments.

Sincerely,

/s/

Rose Strickland, Chair
Public Lands Committee