

What follows below is a selection of scoping comments that address these different types of contributions that you can (and ideally, should, if you are able) submit during the scoping phase of the NEPA review process.

Sample #1

This first sample comment below addresses many procedural and substantive questions raised by a grazing EA. It also incorporates on-the-ground concerns, appropriate grazing utilization standards, and scientific literature concerning adverse impacts of livestock grazing in the western U.S.

January 3, 2002

Mr. Greg Clark, District Ranger
Big Piney District
315 South Front Street
P.O. Box 218
Big Piney, Wyoming 83113

Re: EA for Wyoming Range Allotment Complex

Dear Mr. Clark:

I have reviewed the EA and Appendices for the proposed revised grazing management in the Wyoming Range Allotment Complex. While I appreciate the data that was included in the EA, I found it very difficult to evaluate the information presented. The EA lacked maps of topography, streams, vegetation types and the areas historically used as part of the Wyoming Division Sheep Driveway. This information is necessary to understand the context of the data provided in terms of the location of particular features or landscape attributes. For example, where are the monitoring locations in relation to water sources, capable or non-capable areas, the historically damaged Driveway and its gullies and so on? Do these areas that were monitored represent normal livestock use areas and the conditions around water sources?

My overall conclusions from reading and analyzing the information presented are:

- (a) The vacant allotments should not be re-opened to livestock and should be permanently closed to avoid watershed damage while allowing healing of the past damage to proceed.
- (b) The allotments remaining in use must undergo more intensive, quantitative monitoring so that representative areas are selected within each allotment/pasture/vegetation type at several locations within each. In addition, these areas should represent the conditions in upland areas near water as well as riparian conditions. Windshield surveys performed by Range Cons are inadequate at best because of their inherent conflict of interest in livestock issues. What Range Con is going to survey an allotment at the end of the season and note "Downward Trend". That would be a direct admission that they have not managed the allotment properly. Dr. Thad Box wrote in Rangelands that they have

become “apologists” to the livestock interests¹ instead of looking out for the resource. After 15 years of dealing with Forest Service managers and Range Cons, I can certainly attest to this.

¹ Box, Thad. 2000. Public rangelands without cows? *Rangelands* 22:27-30.

- (c) Monitoring should be used to ascertain a proper stocking rate based on capable and suitable acres only. Suitability must take into account long-term damaged areas, conflicts with bighorn sheep and habitat for other sensitive species. A proper allocation of palatable vegetation should be made within each pasture of each allotment continuing in use. This allocation should include amounts recommended by the range science literature as described below.

The discussion in the EA of lands capable of supporting livestock grazing does little to reassure the interested public that grazing of non-capable areas is not occurring. Information provided in the EA indicates that only about 50% of the land is capable based on the factors mentioned. Capability should be determined by slope, distance to water, ground cover, forage production, soil erosion hazard and the risk of further harming damaged areas. Suitability as described above includes additional considerations of the appropriateness of grazing a particular area. A mapping analysis should be provided in the EA that shows:

- (a) areas with slope >45% for sheep, >30% for cattle
- (b) areas more than one mile from water
- (c) Wyoming Division Sheep Driveway and areas of historical damage and lowered ground cover
- (d) soils, showing erosion hazard of each soil type
- (e) vegetation types

This mapping analysis will provide the public with sufficient information to determine whether the lands are such an intermixture of capable and non-capable lands that sheep will continue to graze areas that are not capable and therefore not sustainable for livestock grazing. In addition, the vegetation production values for palatable species located in capable and suitable areas only, should be used to calculate the potential stocking rate for each allotment. This type of analysis will quickly reveal whether it is practical and sustainable to continue grazing livestock in any particular allotment or pasture.

The precipitation information provided in the Introduction is confusing when compared to discussions later in the EA. The Introduction states that annual precipitation is about 31 inches, most of which falls as snow. While that may be true of the alpine zone, the later discussion is about frequent, intense summer storms. A review of the weather data for LaBarge, Wyoming shows that annual precipitation there averages about 8" with most occurring during the warm months. This data is provided in Attachment A. It is clear from the precipitation data that large variations occur between years, with many years of very low precipitation or drought. This has very important implications for livestock grazing, stocking rates, vegetative production, seasons of use and requirements for long-term rest as discussed below.

In the Purpose and Need, the EA describes 490 acres in unsatisfactory rangeland condition. This seems greatly at odds with conditions described in later sections of the

EA. The gully erosion, stream sedimentation and low ground cover values discussed later on reveal that, in spite of claims that most of the area is in fair to excellent condition, the larger scale landscape is degraded by livestock. The EA also proposes to address a recurrent livestock trespass issue in the Dry Beaver Allotment by rewarding the permittee whose livestock have been in trespass with a larger allotment. Permittees must be held accountable. If their cattle are drifting, either they must herd them or remove them. This is a continuing problem with Forest Service grazing management. Permittees have come to understand that no matter what problems they cause, they will be rewarded with continuation of grazing privileges, ignoring of utilization and other standards, more water developments, fences and so on.

The entire EA is fatally flawed because its central premise revolves around a 70% ground cover value being protective of the watersheds. Yet, the discussion of soils indicates steep slopes, unstable and highly erodible soils with high clay content along with severe gully erosion problems. The EA does not present data representative of the allotments and their various soils, vegetation types and proximity to water. It is incumbent on the Forest Service to determine the risk factors for soils occurring on each soil type and slope. I have provided a report prepared by Dr. Paul Packer, formerly of the Forest Service's Intermountain Research Station in Attachment B. This report shows that at 70% ground cover, soil erosion and runoff on steeper slopes is many times that on lower angle slopes. These runoff and erosion values for different slope values only converge as ground cover approaches 100%, or true potential. Your soils and hydrology team members should calculate the erosion and runoff rates for each soil type for the 45% slope and determine the level of ground cover that provides protection, rather than just stating 70% is adequate. The analysis should use the highest probability storm or runoff intensity for the planning period.

Grazing management plans must include management that ensures areas that are damaged or at risk are not grazed until they recover. This will require more intensive planning and management by both the Forest Service and permittees. There was no alternative that provided livestock grazing stocking calculated in accordance with the principles of range science as described throughout this letter.

The National Forest Management Act requires evaluation of potential and how each alternative compromises or restores that potential, especially as to sustainability and productivity of communities. This includes soils, vegetation and nutrient cycling. Areas already suffering ground cover below potential or plant communities that are altered in terms of an imbalance in species brought about by livestock selection of palatable forage over non-palatable, or lowered production, are at risk of further significant degradation by continued livestock grazing. For example, the continuing loss of soil and its associated microbiological community, nutrients and organic content due to loss of ground cover from past as well as proposed grazing is not sustainable. **It is only when ground cover has returned to potential and the plant community is in balance that a portion of the forage can be removed by livestock with care that ground cover then does not decline below potential and plant communities become unbalanced once**

again. To claim that 70% ground cover and an imbalance in plant communities is adequate to meet these requirements is to avoid the intent of NFMA and NEPA.

Proposals for various rest-rotation schemes presented in the Alternatives have no basis. Without determining forage capacity based on palatable vegetation within capable and suitable acres, there is no evidence that these cycles of rest will achieve any but minimal, temporary benefits. Holechek et al² provided guidance on stocking rate determinations for livestock that include consideration of forage production, distance to water, slope, seasonality and annual variation in rainfall. Holechek et al³ recognized the direct relationship between annual precipitation and vegetation with more plant production occurring in wet years as compared to dry years. They stated that the yearly grazing of livestock at nearly constant numbers superimposed on this variable pattern of plant production subjects the vegetation to severe stress and loss of productivity. They provide examples relating grazing intensity to herbage production which show that heavy use (54%) during drought years results in a 48% reduction in production, while light use (21%) results in a 25% reduction. In a recent paper in *Rangelands*, Galt et al⁴ noted that grazing vegetation during dormancy can result in a reduction of as much as 50% of production in the following year. These authors also recognized that recovery of the plant community from the effects of drought can take decades. Given the frequent occurrence of dry and/or drought years in the project area, past decades of stocking livestock without regard to these factors has no doubt led to a long-term decline in the productivity of these lands that must now be rectified. Further, extending grazing seasons into late summer and fall as is the case here, ensures that most of the grazing season is during dormancy, after active growth and prevents re-growth or seed set of many species.

Relying on additional water developments, fences and grazing systems will not alleviate the problem. The use of range improvements and rotation systems is not sufficient to correct over-stocking. Results from 18 western grazing system studies by Van Poolen et al⁵ found that adjustment of livestock numbers, or stocking intensity was more important than implementing grazing systems to improve herbage production. Holechek et al³ recognized that “various rotation grazing systems cannot overcome the rangeland deterioration associated with chronic overstocking.” Holechek et al² have indicated, that depending on topography, areas of severe degradation, or “sacrifice areas” occur around water sources including water developments. These can extend from 1 mile to several miles from these sources and out further if stocking rates are too high. Based on this, a single water development can result in an area of soil compaction, erosion and severe loss of ground cover and vegetation for thousands of acres. They also indicate that installing water developments in locations that have had

² Holechek, Jerry L., Rex D. Piper and Carlton H. Herbel. 1998. *Range Management Principles and Practices*. 542 pp. Prentice-Hall, New Jersey.

³ Holechek, Jerry L., Milton Thomas, Francisco Molinar and Dee Galt. 1999. Stocking desert rangelands: what we've learned. *Rangelands* 21:8-12.

⁴ Galt, Dee, Greg Mendez, Jerry Holechek and James Joseph. 1999. Heavy Winter Grazing Reduces Forage Production: An Observation. *Rangelands* 21(4):18 – 21.

⁵ Van Poolen, H.W. and J. R. Lacey. 1979. Herbage response to grazing systems and stocking intensities. *Journal of Range Management* 32:250-253.

limited access to livestock in the past may increase ecological damage to areas that are important refuges for relict plant communities and wildlife that have not been displaced by livestock. It is critical that the Forest Service not rely on future water developments and other “range improvements” such as fences and grazing systems to correct overstocking as the evidence is clear that these only exacerbate existing problems.

In Chapter 3, an analysis of existing conditions is provided. There are a number of concerns with this analysis, including:

- (a) The 1979 range analysis summary provided does not define what is meant by range conditions of excellent, good, fair or poor. In addition, this analysis only reported results as for capable acres. As mentioned earlier, non-capable lands are being grazed with impunity across the National Forests. Many of these are very sensitive to livestock impacts and failure to evaluate these lands may provide a false acceptance that conditions are better than they actually are – a Type II Error.
- (b) All of the ground cover data provided was collected at single sites in each allotment except for Pickle Pass, which had no data. This data was collected in tall forb communities only. We have no idea where the data is collected in relation to normal use patterns of livestock, proximity to water or accessibility. Further, reliance on a single point for each allotment is very inadequate. What about all the other vegetation types? The interested public cannot possibly accept these data as representative.
- (c) The presentation of trend data, while refreshing to see, is also inadequate and wrongly interpreted. We have no idea for each trend site and date what portion of the ground cover or productivity for each vegetation type is from grasses, forbs and shrubs that stabilize the soil or from litter, which has much less stabilizing ability. There was no documentation of the species of plants used in the species composition analysis. I will discuss each in turn:
 - a. North Horse Creek was described as having an upward trend in ground cover. Yet, in 1985, ground cover was higher than the 2001 data provided.
 - b. In the Dead Cow Allotment, no ground cover data was provided since 1983. We have no idea of current conditions, yet the EA claims a stable trend.
 - c. Prospect Peak ground cover has remained static except for 1996 when it was low, yet the EA claims an upward trend based on the last two data points. The data for 2001 shows that there is no long term up trend when compared to 1967 and 1979.
 - d. For Mule Creek, an upward trend in ground cover is claimed, but only based on selecting the two most recent measurements. There

is no current data and ground cover in 1996 is lower than in 1979.

- e. Dry Beaver ground cover is lower during the 1996 measurement than in 1968, yet an improving trend is claimed. There is no current data.
- f. Corral Creek ground cover is claimed to be stable, but we have no data of current condition. The most current data is 1983.
- g. Upper Grayback/Phosphate is considered on an upward trend, but again there is no current data.

The lack of ground cover data representing current conditions is troubling. The past several years have been drier than normal and if stocking rates and seasons were not reduced to take that into account, then ground cover could well have decreased significantly. In addition, only tall forb communities are represented. There is no data for alpine, riparian, sagebrush, aspen and other vegetation types to ascertain their current condition. We have no idea of actual use for these allotments/pastures in terms of true numbers of livestock and the length of time grazed. An analysis of this data would indicate whether the Forest Service has been adjusting grazing intensity to climatic/plant productivity limitations. There is no presentation of utilization data for these locations over the years to ascertain if utilization criteria are even meaningful to propose. If utilization and actual use have not been monitored and analyzed in the past management of these allotments, it is clear we cannot rely on future monitoring. Further, to propose monitoring every 7 years does nothing to accommodate the need for timely documentation of livestock use or damage and facilitate their movement or removal.

The EA states that forage utilization on upland areas should not exceed 50% or 60% and in riparian areas 55% or 65%, depending on condition. Based on the EA, the Forest Service has no idea what conditions exist across these allotments and their different vegetation types. At the proposed use levels, it is clear that most palatable vegetation will be removed, leaving the non-palatable and weedy species to increase. In addition, this constitutes a heavy use level that cannot be sustained as described in the discussion above. Holechek et al⁶ provide information on total nitrogen in livestock forage. The average is about 1.7%. West⁷ noted that the nutrients consumed by livestock in the form of vegetation are mostly lost through volatilization from the livestock waste. The annual removal of millions of pounds of forage in the project area by livestock results in long-term nutrient loss to the watershed and a resulting lowering of productivity and loss of sustainability that has not been taken into account. Further, as the references above have pointed out, no rotational grazing system can compensate for overstocking. Holechek et al² recommended levels of 25%

⁶ Holechek, Jerry L., Rex D. Pieper and Carlton H. Herbel. 2001. Range Management Principles and Practices Fourth Edition. Prentice Hall. 587p.

⁷ West, N.E. 1981. Nutrient cycling in desert ecosystems. Arid Land Ecosystems: Structure, Functioning and Management, Volume 2. Cambridge University Press. Pages 301-323.

utilization for livestock and 25% for wildlife with 50% remaining for watershed protection. How many pounds of forage will be removed by livestock? How many deer, elk, bighorn sheep, sage grouse and other animals is this equivalent to?

The EA has not taken into account the effects of livestock on forest health, including aspen and conifer forests in regard to accelerating succession of aspen and increasing the fire hazard in conifer forests. Belsky and Blumenthal⁸ reviewed the literature and showed that livestock grazing plays a key role in removing the herbaceous vegetation from the forest floor and disturbing the soil resulting in accelerated establishment of conifer seedlings. This results in thickets of saplings and a dense forest with a reduced herbaceous component and increased risk of high-intensity fires. A study by Kreuger and Winward⁹ showed that forest stands suffered “*retrogression*” when grazed by cattle and big-game, but big-game grazing alone did not result in significant effects. Cattle grazed areas suffered a loss of grasses. Zimmerman and Neuenschwander¹⁰ showed that livestock grazing in Douglas-fir communities in Idaho caused increased tree numbers, decreased production, cover and frequency of major palatable grasses, and altered dominance of shrub and forb species. Grazing resulted in increased accumulation of downed woody fuel in every size class, increased forest floor duff and decreased herbaceous fuels. The consequences were “*fuel distribution and composition were slightly less favorable to frequent surface fires, highly conducive to vertical spreading of fire and potentially more capable of major conflagrations.*” They noted these conditions make use of prescribed fire a greater risk to cause high-intensity fires. Dodge¹¹ predicted in 1972 that this growing fuel accumulation would place forests at higher risk. Rummell¹² studied densities of trees and herbaceous understory vegetation on ungrazed Meeks Table and grazed Devils Table in Washington. Herbaceous vegetation ranged from 183% to 254% greater on the ungrazed site and had 850 pounds of air-dry herbage per acre compared to 240 pounds per acre in the grazed site. “*While the timbered overstories on the two Tables were similar, Meeks Table had only a very few small trees, but Devils Table had 3291 small trees per acre.*” Madany and West¹³ studied grazed and ungrazed Ponderosa pine forest in Zion National Park and found that, “*Heavy grazing by livestock and associated reduction of the herbaceous ground layer promoted the establishment of less palatable tree and shrub seedlings. Fire, however, played an important secondary role in maintaining savanna and woodland communities.*” Smith et

⁸ Belsky, A.J. and Dana M. Blumenthal. 1997. Effects of livestock grazing on stand dynamics and soils in upland forests of the interior West. *Conservation Biology* 11(2):315-327.

⁹ Kreuger, William C. and A. H. Winward. 1974. Influence of cattle and big-game grazing on understory structure of a Douglas-fir Ponderosa Pine- Kentucky bluegrass community. *Journal of Range Management* 27(6):450-453.

¹⁰ Zimmerman, G. Thomas and L.F. Neuenschwander. 1984. Livestock grazing influences on community structure, fire intensity and fire frequency within the Douglas-fir/Ninebark habitat type. *Journal of Range Management* 37(2):104-110.

¹¹ Dodge, Marvin. 1972. Forest fuel accumulation – a growing problem. *Science* 177:139-142.

¹² Rummell, Robert S. 1951. Some effects of livestock grazing on Ponderosa pine forest and range in central Washington. *Ecology* 32(4):594-607.

¹³ Madany, Michael H. and Neil E. West. 1983. Livestock grazing-fire regime interactions within montane forests of Zion National Park, Utah. *Ecology* 64(4):661-667.

al¹⁴ point out that loss of nutrients from logging is principally replaced by soil weathering, but is much less depletive than grazing. Barnes et al¹⁵ found in studies of grazed and ungrazed woodlots that the highly compacted soils of the heavily grazed woodlot had lower moisture content and much lower infiltration rates than the ungrazed soils. Soil disturbance has far-reaching consequences on forest health, including reduced production and increased susceptibility to insects and disease. The direct, indirect and cumulative impacts of these interactions must be evaluated.

In the Watershed section of the EA, historical accounts hammer away at the severe erosion and degradation suffered in the Wyoming Range from livestock grazing. These degraded habitats have yet to recover. The discussion of the no grazing alternative is clear that removal of livestock will allow these areas to recover. Given the severe degradation and gulying present, it is evident that a very long-term recovery process will be needed. Livestock removal is the only way to recover these systems. Documentation of sediment levels in streams that should support healthy, reproducing populations of salmonids is further evidence that watersheds are still degraded and require rest to recover. Given these issues, the suitability of continued grazing should be determined.

No water quality data was provided to show that when livestock are present, state water quality criteria are met. The documented sediment problem is an indication that livestock grazing is creating sediment loads above what would be normal for the area. The lack of water quality data is used to imply that livestock grazing is not causing pollution or impairment of streams, yet that is contradicted by the sediment data. The science is clear that the deposition of manure, combined with grazing-induced erosion of watersheds and riparian areas can impair stream water quality. The attached report¹⁶ provides a review of the effects of livestock on watersheds, riparian areas and water quality. The EA has offered no plan to monitor water quality in the streams and springs in the project area to determine and correct livestock-caused impairment of water quality. Further, no analysis was provided for the presence of public and private water supplies and their relationship to watersheds in the project area. Watersheds for public water supplies should not be considered suitable for livestock grazing due to impairment of water quality and quantity by watershed effects described.

Seeps, springs and wetlands were not addressed. These habitats typically become sacrifice areas as watering sources for livestock. What is the condition of these habitat features? How many acres of wetlands and wet meadows have been converted to uplands or eliminated due to historical and current grazing practices or water developments?

The EA admits that closing the northern three allotments would greatly improve watershed conditions and result in benefits to salmonids. This is an admission

¹⁴ Smith, David M., Bruce C. Larson, Matthew J. Kelty and P. Mark S. Ashton. 1997. *The Practice of Silviculture: Applied Forest Ecology*. John Wiley & Sons, New York. 537p.

¹⁵ Barnes, Burton V., Donald R. Zak, Shirley R. Denton and Stephen H. Spurr. 1998. *Forest Ecology*. John Wiley & Sons, New York. 774p.

¹⁶ Carter, John G. 2001. *Livestock and Water Quality*. Western Watersheds Project Report.

that continued grazing will allow watershed conditions to remain in a deteriorated state. It is clear from statements such as these that large areas at the watershed level are dysfunctional in spite of claims otherwise.

The continued grazing of domestic sheep in the Wyoming Range and particularly, the reopening of closed allotments poses a significant hazard to bighorn sheep. The Forest Service must address the problem of separation of domestic and bighorn sheep. Certainly the effects of continued sheep grazing include competition for forage with prey for Lynx and goshawk as well as bears, deer, elk, sage grouse and other wildlife. As the EA points out, grizzly bears will be adversely affected by the continued presence of domestic sheep. The discussion provided above regarding livestock effects on forested habitats includes effects on lynx prey. There is no assurance that either the forested habitats or forest openings upon which lynx and their prey depend will be protected from degradation or even monitored to ensure that proper conditions exist.

The analysis for impacts to Ute ladies'-tresses is not complete enough to determine areas of potential habitat and overlap with areas subject to sheep grazing. Without this analysis and in the absence of survey data, the Forest Service can't claim that there is no risk to the plant species.

The lack of population and trend data for the sensitive species listed in the EA is cause for concern. All species listed have potential conflicts or suffer impacts from livestock grazing. A more thorough analysis of the areas of potential habitat for these species, their needs for food and cover should be provided and related to the areas proposed for grazing. These attributes should be evaluated in relation to the various alternatives and trends for each sensitive species' habitat. For example, northern goshawk have home ranges of 6000 acres. Reynolds et al¹⁷ recommended only 10% utilization of herbaceous species within the home range of northern goshawk. Potential goshawk habitat as well as known goshawk home ranges should be mapped and excluded from forage allocations for livestock and livestock grazing management should be planned to ensure these criteria are met.

Finally, we are incorporating by reference the comments submitted by the Greater Yellowstone Coalition and Wyoming Outdoor Council.

Yours truly,

John Carter, PhD
Utah Director
Western Watersheds Project

¹⁷ Reynolds, Richard T., Russel T. Graham, M. Hildegard Reiser, Richard L. Bassett, Patricia L. Kennedy, Douglas A. Boyce, Jr., Greg Goodwin, Randall Smith and E. Leon Fisher. Management Recommendations for the Northern Goshawk in the Southwestern United States. Rocky Mountain Forest and Range Experiment Station and Southwestern Region Forest Service, USDA.

Cc Greater Yellowstone Coalition
Wyoming Outdoor Council
Western Watersheds Project, Hailey Office

To see an more extensive EIS comment by the same author (who is also a Sierra Club grazing committee member) click on
<http://rangenet.org/directory/carterj/NorthRichEISComment.pdf>

To see other excellent EA-EIS Comments, click on
<http://www.onda.org/library/comments/index.html>

#2

The EIS comment below includes elements of recommended grazing policy that is consistent with existing Sierra Club grazing policy. It includes recommendations based on the existing condition of the land. It discusses monitoring protocols and includes a detailed section at the end concerning stocking rate recommendations

Jan. 31, 2002

Dwayne Sykes, RMP Team Leader
BLM - Lakeview District Office
HC 10 Box 337
Lakeview, OR 97630
Fax: (541) 947-6399

Re: Comments on the Lakeview Resource Management Plan and Environmental Impact Statement

To: Dwayne Sykes, Bureau of Land Management
From: National Sierra Club Grazing Committee

Thank you for this opportunity to comment on the Lakeview Resource Management Plan and Environmental Impact Statement. The opportunity for public comment is an essential component of a functioning democracy, and the Sierra Club applauds the Lakeview District Office of the BLM for its forthright disclosure of information concerning current and past resource conditions on the Lakeview District area.

A fundamental mission of the Sierra Club is to protect the wild places of the earth and to enlist humanity in efforts to protect

and restore the quality of the natural and human environment. The Sierra Club relies on sound, biological principles to guide its policy goals and decision-making, with a particular emphasis on conservation biology. The Sierra Club currently has over 700,000 members.

On September 24, 2000, the Sierra Club Board of Directors adopted a new "Federal Public Lands Grazing Policy"(PLGP). The Sierra Club recently created a national level committee (titled the National Sierra Club Grazing Committee) to address this policy within the context of both Sierra Club internal affairs and to aid in the creation of a Club wide campaign to address the environmental degradation caused by grazing. The following comments on the Lakeview RMP/EIS are presented on behalf of the members of National Sierra Club Grazing Committee.

To start, we concur completely with the comments, arguments, and recommendations submitted by the Juniper Group of Sierra Club's Oregon Chapter. The Juniper Group comments constitute the formal Sierra Club comments on behalf of over 700,000 Sierra Club members. We have reviewed the Juniper Group comments and believe that they conform with the Sierra Club's "Federal Public Lands Grazing Policy".

Moreover, we want to reiterate our strong support for the Juniper Group recommendations that the BLM seriously consider permanent removal of livestock from areas now rated in unsatisfactory condition, as well as livestock removal from all sage-grouse leks, related sage-grouse habitat, Areas of Critical Environmental Concern, Wilderness Study Areas, and grazing allotments documented as not meeting Standard 5 for T & E species.

Given that two-thirds of the total Lakeview Resource Area acreage under BLM management currently exhibits unsatisfactory resource conditions, 67 percent of sagegrouse leks occur on those grazing allotments with unsatisfactory resource conditions, and sage grouse have experienced a 30% decline over the past 30 years on Lakeview Resource Area lands, we believe that the Juniper Group recommendations, if implemented, will help promote the primary goal of the Sierra Club federal public lands grazing policy, which is "to protect and restore native biodiversity and achieve functional and self-sustaining ecosystems" (PLGP).

Because these arid BLM lands in question have also experienced significant water quality degradation, we believe that the Juniper Group recommendations are consistent with the Sierra Club priority to "work toward ending commercial grazing on federal public lands where . . . average annual precipitation [is] 12 inches or less . . . Associated activities (e.g., water developments, predator control, vegetation manipulation)

are occurring in such a manner that native plant and animal species are significantly impacted. Grazing is causing degradation of habitat necessary for threatened, endangered or sensitive native plant and animal species. Grazing is causing significant degradation of water quality " (PLGP). In short, the National Sierra Club Grazing Committee recommends that the BLM adopt and implement the Juniper Group management prescriptions discussed above

The Juniper Group comments also raise some serious questions about the BLM's intention and ability to use "adaptive management" to meet the goals and objectives of this RMP. If extensive use of adaptive management is necessary to protect and promote the health of the lands in question but the BLM does not have (or is not likely to get) the financial or human resources necessary to accomplish any aspect of adaptive management on a continuous basis, then we believe that the BLM should seriously consider removing these lands from livestock grazing. Sierra Club policy is very clear on this point:

- the Sierra Club will work toward ending commercial grazing on federal public lands where . . . [t]he public land management agencies have insufficient funding, staff, and determination to create and administer monitoring systems that will provide reasonable assurance that adverse impacts will be minimized and opportunities for restoration taken advantage of" (PLGP).

We wish to elaborate more fully concerning the question of grazing-related monitoring on the Lakeview RMA in general. The grazing allotment assessments appear to be far below what a reasonable person would expect in terms of frequency and quality. The 'cursory' character of assessments described in the RMP/EIS would not meet the expectations of a business manager conducting quality control studies on his product.

Aside from the infrequency, the Bureau of Land Management often makes two kinds of errors in range assessments. First, the allotment is often discussed in terms of permitted or allowed AUMs. In practice the number of AUMs allowed in a permit vary greatly from the actual number of AUMs stocked on the allotment. While a few allotments may occasionally be overstocked, it is more likely the allotment will be under-stocked. In either case the result is a complete loss of monitoring integrity. If an allotment permits stocking with 1200 AUMs over a three month time period but is only stocked with 300 cows or cow-calf pairs for the three months, that means only 900 AUMs were actually used. Should an allotment assessment indicate over-utilization of forage in the allotment the BLM might reasonably require a 20 per cent reduction in stocking rates. Thus the BLM would reduce the stocking level by 240 AUMs, leaving 960 AUMs in place. This reduction would not make any impact on the actual stocking level and thus make no impact on forage utilization. In order to reduce stocking by 20 per cent, the

number of AUMs should have been reduced from the actual stocking level by 180 AUMs with a resultant stocking level of 720 AUMs. In order to move towards management objectives, the stocking level should have been reduced to 60 per cent of the permitted stocking level rather than the misleading 20 per cent reduction. The foremost requirement to manage grazing would be an accurate measurement of stocking levels. The RMP/EIS should clearly delineate how stocking levels will be measured and the frequency of measurement. Without this information no adaptive management system or any other system will result in improved range conditions.

The second major error in allotment assessments comes from the way forage availability is predicted and forage utilization is measured. Available forage is generally derived from analysis of soil types and vegetative cover with a predicted plant density for various grasses, forbs and shrubs. Often this is combined with average precipitation for an allotment or region. When this analysis is used in determining stocking levels, a number of problems can arise. Forage utilization measurements come from cursory visual assessment. There is seldom an attempt to rectify on-the-ground, objectively measurable forage with predicted forage. Some of the assessment sites which actually are measured are remote from areas where grazing actually occurs. Thus the sites where forage is somewhat objectively measured may have no relationship to actual grazing utilization. It is important that all forage measurement plots lie within areas that are actually grazed and reflect the range of forage utilization. It makes no sense to use upland hillside forage measurement plots to determine forage availability or utilization if most of the grazing is within the riparian zone or immediately adjacent lands. Since the predicted forage is based on soil type, vegetative type cover and average rainfall, the adjustments to grazing generally lag far behind actual forage availability. That is, the stocking level remains too high through the first years of a drought or even remains high in a period when average annual rainfall falls well below average without the apparent drastic signs of drought.

Currently the BLM has a framework for estimating forage availability and utilization. Unfortunately the data is scattered over various forms with little of it correlated with crucial information on other forms. None of this is readily available in databases and plotted in a GIS layer. Thus, no means for adequate analysis is readily available. Usually forage availability is strictly determined from the soil, vegetation, and rainfall analyses on a theoretical level. Rarely is there any objective measurement of actual forage available. It would be a simple step to sample plot cuttings to determine the weight of actual forage available from grasses, forbs, and shrubs and compare this with predicted availability from modeling soil type, predicted vegetation, and average rainfall. Allison Jones,

lead researcher, and Jim Catlin of the Wild Utah Project are currently researching this exact problem (personal communication). Ms. Jones will soon be publishing a peer-reviewed article addressing these very problems. The managers of the BLM Lakeview Resource Area should be following current research and incorporating the best science into grazing management.

In any case, current research should have an impact on grazing management and economic analysis of grazing within the community. The actual costs of doing acceptable management needs to be incorporated into the economic model for continued grazing. The Lakeview RA managers should know the true value of its inventory or resources offered (actual forage availability), the actual reduction of inventory (true stocking levels), and the resultant ability of the inventory to recover. The Lakeview RA should be managed for the long-term ecological gain of all Americans and not the short-term financial gains of a few people. The United States can find a better means of looking after the welfare of its citizens than short term subsidies for destructive practices which can only lead to continued deterioration of our last great places -- the public lands that we now know are a part of our heritage and responsibility.

Finally, we request that the BLM provide a more balanced perspective concerning its discussion of the "no grazing" alternative (Alternative E). The supposed negative economic consequences of such an alternative are likely to be balanced by positive improvements in ecosystem condition that will support substantial economic activity related to improved hunting, fishing, and wildlife/native flora-associated recreation opportunities. It is also likely that adoption of any such alternative would be accompanied by congressional action to mandate the government purchase of grazing permit privileges at terms that would be generous to any affected grazing permittees. We, therefore, request that the BLM assess the economic consequences of a "no grazing" alternative which includes provisions to enable government purchase of affected grazing allotment permit privileges at a fixed rate of 175 dollars per animal unit month. Again, such analysis should not discount the positive economic effec

ts that are likely to be generated by the more rapid rates of ecological recovery associated with implementation of such a "no grazing" alternative.

Again, we wish to thank you for this opportunity to comment.

On behalf of the National Sierra Club Grazing Committee,

Wayne Y. Hoskisson, Interim Chair, National Sierra Club Grazing Committee

Todd M. Shuman, National Sierra Club Grazing Committee

John G. Carter, National Sierra Club Grazing Committee

George Wuerthner, National Sierra Club Grazing Committee