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. You can also raise these concerns during the subsequent EA-EIS comment stage if you failed to comment during the scoping phase and if it appears that the agency has not addressed the scoping concerns below in its EA or EIS document

Sample #1

This first sample comment addresses the procedural requirements that the agency must follow, suggest what topics the agency should deal with, how to deal with such topics, what biases to avoid in addressing such topics, what alternatives should be considered, etc.

Interdisciplinary Team Leader,
New Meadows Ranger District,
P.O. Box J,
New Meadows, ID 83654,
208) 347-0300

RE: Short Grouse Environmental Assessment to analyze continued livestock grazing

We would like to comment on the Project to revise and update Allotment Management Plans to be compliant with Payette National Forest Standards and Guidelines and the Rescission Act (PLI04-19), and to remain compliant with Regulatory Agency consultations.

ISSUES TO CONSIDER IN SCOPING:

? Each alternative must address whether the proposed action is in the long term interest of the American people as required by the Federal Land Policy and Management Act of 1976 (FLPMA). Is the grazing of private livestock on public lands compatible with other uses of the Forest? A livestock grazing suitability analysis should be performed before any grazing permits are granted

? All alternatives developed must analyze and assess the impacts of livestock grazing on native ecosystems and native wildlife health and their long-term viability. For example, the allotments cover elk and moose habitat, with sheep being a direct competitor for forage. Does this violate the multiple-use mandate of Federal laws or the forest management plan?

? All alternatives must include a cost-benefit analysis of continuing

to maintain livestock grazing at any level on each allotment. For example, all alternatives that would continue the authorization of livestock grazing must provide the value of grazing fee receipts to the Payette Forest, as compared with the cost to administer the proposed grazing permit, including, but not limited to, the cost of personnel salaries, equipment and travel expenses. Also costs of restoring areas degraded due to livestock grazing for endangered, threatened or species of special concern. Costs associated with wolf control and protection of livestock from wolves must also be considered.

? A specific alternative must be dedicated to analysis of a no grazing decision for domestic livestock on each allotment.

? All alternatives must address the impacts on ESA listed species such as bald eagles, wolves, lynx, bull trout and Chinook salmon as well as on all Forest designated sensitive or management indicator species. Conflicts of private livestock with Federally protected species such as wolves is bound to be very expensive and difficult to manage. Continued domestic sheep grazing in wolf territory may be a death warrant for the wolves and thus in violation of the endangered species act. A thorough analysis of the future conditions must be performed with respect to potential conflicts between wolves and livestock. Additional stress and possible killing under the umbrella of wolf control and protection of livestock from wolves must also be considered.

? All alternatives must address the impact of domestic sheep grazing on recreation, including hiking, mountain biking and motorcycle trails in the area. For example, domestic sheep often block portions of the trail, create numerous unauthorized trails, raise dust during dry conditions, eat wildflowers, and otherwise interfere with other users' recreation and enjoyment. Also to be considered is the possibility of diseases passed from domestic livestock to wildlife and the spread noxious weeds by livestock.

? Since livestock grazing has many effects on watersheds, erosion and riparian health, these must all be considered in each alternative.

Even though livestock grazing on public lands is historic and widespread, we do not consider this the best use of public lands and urge the Forest Service to objectively analyze the numerous problems associated with public lands livestock production.

Sincerely,

(taken from a comment by Jill Morrow)

Sample #2

Scoping comments for all federal public lands (but especially national forest lands) can also address the suitability question. The agency is required to determine that grazing on a particular piece of land is a "suitable" management activity. In nearly all cases, the agency will not have made that determination, so you can recommend that certain criteria be used to determine whether the lands being analyzed are, in fact, "suitable" to be grazed by domestic livestock. You can use the following content below to craft your own suitability comments at the scoping stage of the NEPA process.

Suitability criteria developed by NWF and EarthJustice:

PROPOSED MODEL FOR CONDUCTING CAPABILITY AND SUITABILITY DETERMINATIONS FOR LIVESTOCK GRAZING

INTRODUCTION:

Historically, the Bureau of Land Management (BLM) evaluated the use of the public lands under its jurisdiction based on whether the lands were capable of supporting livestock use. The factors that are included in the determination of the capability of the lands for grazing included the slope of the land, and the distance to water sources.

We propose the BLM look at both the capability of lands for livestock grazing, and the suitability of those lands to support grazing use, taking into account conflicts with other uses and the economics of livestock grazing on the relevant lands. The BLM would first determine whether the lands were capable of supporting grazing use. The BLM would then determine whether grazing is a suitable use of the public lands in those areas that are capable of supporting grazing.

BLM should stop authorizing grazing on lands that are not capable of supporting of grazing use and/or the lands are not suitable for grazing.

I. CAPABILITY

A. Maximum Slope Accessible

The slope of rangeland dictates not only the ease of access by cattle but also the probability of soil erosion due to disturbance.

We propose that livestock should not be allowed to graze on slopes greater than 20-25% and that vegetative cover should be maximized to keep soil in place.

Since topography can vary over a small area of landscape, it would be impractical to carve the landscape into a myriad of pockets of capable and not capable land based upon a strict application of the slope criteria.Rather, the slope criteria should be applied on an area basis.

If a significant portion of a region being considered for grazing exceeds 20-25% slope, then the area should be deemed not capable to support
grazing.

B. Stable Soils

All land with highly erodible soils (e.g. decomposed granite in the arid Southwest) should be designated not capable for livestock grazing. The natural rate at which erodible soils are lost will be accelerated by thepresence of cattle.

The Soil Conservation Service has surveyed soils in many regions of the country mapping their location and providing an erosion hazard index.

Areas with soils that have a moderate or high erosion hazard should be identified as not capable of supporting livestock grazing.

C. Minimum Perennial Grass Cover

All perennial grasses are desirable both as palatable forage for livestock and wildlife and as a soil anchor. Of all the types of vegetation that might contribute to the total vegetative ground cover in an area, perennial grasses are the most effective at holding soil in place. Hence, the BLM should measure not only the total vegetative cover for each area of the lands but also the fraction comprised of perennial grasses.

The BLM should select a minimum percentage of perennial grass cover that a parcel of land must have before it can be deemed capable for livestock grazing. This minimum cover of perennial grass must guarantee that, in the presence of livestock, enough perennial grass will remain to meet wildlife needs for food and cover, to anchor soil in place despite disturbances, to control surface runoff, to assist infiltration of precipitation, and to maintain its own vigor season after season.

We propose that lands with less than 30% perennial grass cover should be deemed not capable to support livestock grazing.

D. Climate

Annual total precipitation and growing season precipitation vary dramatically over decades and even year to year. First, the BLM should identify the minimum precipitation necessary to maintain perennial grass production at a sustainable level. We recommend severely limiting or eliminating forage use in areas with less than 12 inches of rainfall. Second, the BLM should review the historical precipitation record from a network of rain gauges across the public lands representing different elevations and climatic regions.

Only those lands that receive the minimum precipitation on a regular basis as demonstrated by the historical record should be deemed capable of supporting livestock grazing.

II. SUITABILITY

A. Environment

Environmental suitability is an extension of the capability determination. The capability analysis primarily assesses the intrinsic limitations of the environment to support livestock (e.g. access to a sustainable supply of food). The environmental portion of a suitability determination assesses whether livestock grazing is appropriate given the overall health of the ecosystem.

The exercise of identifying land that is environmentally suitable for livestock grazing requires the BLM to change its management perspective. To date, the BLM has allowed grazing on land that it characterizes as being in unsatisfactory condition because it believes that it can manage livestock in a fashion that will simultaneously allow this land to achieve its potential vegetative and soil condition. The continued degradation of at least some of these unsatisfactory parcels over time proves that the BLM cannot heal damaged land while cows are present.

In order for land to be environmentally suitable for livestock grazing, it must be in good condition (i.e. environmentally healthy) BEFORE livestock are allowed to graze and its environmental health must be SUSTAINED as livestock continue to graze. The following factors and criteria indicate environmentally healthy land:

1. Riparian Condition

Healthy riparian areas will support a diversity of wildlife and plant species and will maintain stream channels during floods. In the arid southwest, riparian areas are the most productive ecosystem yet they comprise a very small percentage of the land area and are dwindling as a result of multiple anthropogenic activities.

BLM has been working for a number of years to define proper functioning condition of riparian habitats. The following criteria should be applied in the assessment of satisfactory riparian condition:

a. Age class of trees in the floodplain: A minimum of three age classes is present. One age class shall be comprised of sprouts, seedlings, and saplings and constitute at least 10% of the stand.

b. A minimum of 70% of the water surface is shaded from 10am to 4pm from May to September.

c. Shrub and tree crown density should be at least 60% during the May through September period.

d. Stream Bank Stability: A minimum of 70 - 90% of the banks in any one mile segment along perennial streams or lake shores will be protected from forces of erosion by vegetation, rocks, or other physical properties.

Additional indicators include the following:

e. The primary flood plain will have 95% herbaceous ground cover with a minimum stubble height of 6-8 inches after the grazing season is over. This cover will keep soil erosion to a minimum in a flood event and trap sediment as the flood recedes.

f. The stream should contain approximately equivalent numbers of pools and riffles.

2. Water Quality

Areas not meeting the water quality standards established by the US EPA or the Utah Division of Water Quality indicate that the surrounding watershed and/or riparian areas are not healthy. For example, high sediment loads indicate that the surrounding watershed and/or riparian areas are experiencing accelerated erosion. Also, BLM and the State of Utah are currently working on salinity problems in the Colorado River watershed. BLM needs to evaluate the contributions of pollutants and stressors from livestock grazing in the watersheds in conjunction with its broader consideration of salinity in the Colorado.

3. Wildlife and Plants with Special Needs

The BLM typically identifies, with the help of the U.S. Fish and Wildlife Service and state Departments of Fish and Game, all the animals and plants that exist on the relevant public lands. The BLM should identify any native wildlife and plant species whose habitat and diet needs will not be protected adequately by the above perennial grass cover, water quality, and riparian health criteria. For these species, the BLM should ensure that the land in their range is sufficiently meeting their special, additional needs NOW and that the presence of livestock will not detract from the land's ongoing ability to meet these needs.

4. Recreation

Increasingly, BLM lands will become a destination point for outdoor recreation enthusiasts. The BLM must determine if livestock grazing and recreation conflicts occur in allotments under study. Where these conflicts occur, the BLM needs to consider the relative value of all relevant areas for recreation, and potentially close those areas with high recreation use.

5. Review of Lands with Existing Designations

Existing Outstanding Natural Areas, Areas of Critical Environmental Concern, Special Use Areas for recreation, and other special designated lands should be reviewed to determine if grazing is compatible with the values that led to the land designation. We propose the BLM consider Outstanding Natural Areas and any Areas of Critical Environmental Concern which may be designated in the future as unsuitable for livestock grazing.

B. Economics:

The economic consequences of selecting livestock grazing over other uses of BLM lands encompass a wide range of factors and impact multiple entities. A benefit-cost analysis provides a convenient framework for gathering and organizing the breadth of information. A trend analysis can provide context for many of the factors evaluated in the benefit cost analysis.

1. Economic Factors to Examine in a Benefit-Cost Analysis

Multiple entities have an economic stake in the management choices for BLM lands. In the case of livestock grazing, these entities include the BLM, permittees, other economically viable uses of the

public lands, and neighboring communities.

Each entity will derive different benefits and costs from the decision to graze or not to graze. Often an expenditure for one entity is a benefit for another. For example, when the BLM builds a range improvement, the BLM's cost for materials and labor translates into a benefit for the permittee in the form of costs avoided. From a regional perspective, the costs and benefits of resource decisions extend beyond the boundaries of the BLM land affected. Unfortunately, many of the costs of the grazing program will be harder to measure than most of the benefits (e.g. cost of riparian degradation vs. personal income from employment by ranch operations of public land).

The benefit-cost analysis should be conducted separately from the perspective of the BLM, permittee(s), and neighboring communities.

The scope of the benefit-cost analyses should include the region encompassing the Salt Lake Field Office.

2. Economic Criteria - Decisions

Since the BLM should manage our public lands based upon the concept of multiple use management, decisions should not be based solely upon the bottom line of the benefit-cost analyses. But, by seriously thinking about the extent of alternative uses in the absence of grazing and by evaluating the impacts that grazing and other potential uses of the BLM lands will have on the regional economy, the BLM will be evaluating combinations of uses with an eye toward the best interests of the surrounding community. In reviewing the economic criteria proposed above, BLM should find the public lands economically unsuitable for livestock grazing if the followingcriteria are evident:

1. If a grazing operation is precluding other, more economically viable uses of the public lands, taking into account both individual and regional economies, then the lands are not suitable for livestock grazing.

2. If the cost incurred by the BLM to manage grazing on an allotment exceeds the value of the forage to the permittee, then the land is not suitable.

C. The Suitability Determination

Finally, the BLM must weigh the results of the environmental and economic assessments to arrive at an overall suitability designation for the area examined. The BLM must explain precisely how it has determined, in light of its findings regarding environmental and economic considerations that a given area is or is not suitable

for grazing. For example, if an area is deemed suitable for grazing despite adverse environmental consequences, then the BLM must explain how and why it has concluded that the economic benefits of grazing are sufficient to justify the environmental harms. Similarly, if an area is deemed suitable even though grazing is a losing economic proposition -- e.g. where the BLM's costs exceed the permittee's net income -- then the BLM must explain what other factors justify accepting the dismal economic situation.

A determination that an area is unsuitable for livestock grazing is a decision to remove grazing use from this area. The BLM would advise thelivestock permittees currently using the area of the decision to removelivestock grazing use from this area. Implementation of these determinations could be staggered over time. However, the livestock use must be ended within three years of the determination that the area is unsuitable for livestock grazing, based on the above factors.

Prepared by:

Karen C. Bane-Gaston
Research Assistant
EarthJustice Legal Defense Fund

and

Cathy Carlson
Director, Rocky Mountain Natural Resource Center
National Wildlife Federation

Sample #3

This next scoping comment directly critiques an agency scoping proposal. This example uses the agency's own monitoring data to make an argument that the agency's proposal will increase grazing intensity to levels that are likely to generate watershed damage.

Expansion of Grazing in the Wilderness

The Sierra Club believes that the Inyo NF's proposal for Templeton Allotment entails a substantial expansion of grazing utilization on a number of significant meadows. Such expansion is being aided and abetted through an outrageous vegetation classification scheme and a deceptive utilization conversion method. The Sierra Club believes that such an expansion of grazing is not allowed, especially when such an expansion is very likely to have an adverse impact upon

the "wilderness values" of the Golden Trout Wilderness. This section will analyze the methods of proposed expansion and the legal framework that prohibits such expansion.

1. "Desirable" Vegetation

The Sierra Club is very concerned that the Inyo NF is still classifying Douglass sedge (Carex douglassi), Baltic rush, (Juncus balticus), and Nebraska sedge (Carex nebrascensis) as "desirable" plant species in its 1997 vegetation "toe-point" summaries for the Templeton Allotment. The Sierra Club believes that the classification of these species as "desirable" is inaccurate and is contradicted by the best available science (provided most succinctly by Menke, Davis, and Beesley in the Sierra Nevada Ecosystem Project [SNEP], Rangeland Assessment, pp 23-32, or alternatively, pp 923-932). The use of such misclassification is resulting in artificially inflated seral stage values for many of the meadows on the upper Kern Plateau. Based on such artificially inflated values, the Inyo NF is subsequently proposing utilization rates that are higher than the actual meadow conditions warrant.

The most outrageous action by the Inyo NF is to classify Carex douglassi as a desirable species in wet or moist meadows. In fact, this species is one of the least desirable to have in a wet or moist meadow. Its presence in substantial numbers usually indicates that the meadow is in poor condition. The SNEP Rangeland Assessment confirms such a claim: "Carex douglassi is a classic invader species and often indicates severly disturbed, dry, denuded areas, meadow borders, and other semi-moist [soils] . . . (p. 24, p 924, of overall SNEP report)." The meadows on the Templeton Allotment that contain a substantial proportion of Carex douglass relative to total herbaceous vegetation are Freckles Meadow (19/95), Big Dry Meadow (17/80), and Movie Stringer (16/82). Other meadows with a significant proportion include Grouse Meadow (14/87), Templeton Meadow riparian (11/79), Upper Dry Creek (13/72), and Dry Creek (8/82). If the Inyo NF classifies Carex douglassi as it should be classified (as an undesirable species), then the proposed utilization rates for Freckles Meadow, Big Dry Meadow, and Movie Stringer (and perhaps some of the others) must be lowered to comply with the utilization rates prescribed by Inyo NF LRMP Amdt #6. The GTWPL insists that Carex douglassi be reclassifed as "undesirable"; moreover, the GTWPL also insists that the proposed utilization rates for Freckles Meadow, Big Dry Meadow, and Movie Stringer (and perhaps some of the other meadows) be correspondingly lowered to reflect the more degraded, lower seral-stage vegetation condition of these meadows.

The Sierra Club is also concerned that the Inyo NF classifies numerous other "increaser" or "invader" plant species as "desirable" For

instance, both Juncus balticus and Carex nebrascensis are classified by the Inyo NF as "primary" and "desirable", and both are prevalent on a number of Templeton Allotment meadows (especially on the Lewis, Ramshaw, and Dry Creek units.) The SNEP Range Assessment, on the other hand, has this to say about these two : Juncus balticus "is a poor forage value speciesgrowing in dry, dewatered areas . . . [p 25, 925]"; Carex nebrascensis is "a very widespread . . . plant [that] can survive frequent trampling and a degree of dewatering with lowering of a watertable. This capability is supported by the fact that it is still found in grazed dry meadows . . . [It is] particularly well-adapted to withstand abusive grazing (p 23-24, 923-924)."

These "increaser" plants should not be considered "desirable"; moreover, the Inyo NF's continued classification of them as "desirable" is leading to proposed utilization rates that are inappropriate for the meadows in question. These plants should be reclassified and proposed utilization rates subsequently lowered. Special attention should be directed toward the meadows with significant shares of these two plants: Movie Stringer (11/82), Big Dry Meadow (9/80), and Lewis Stringer (25/82). (It should be noted that both Movie and Big Dry also have even higher frequencies of Carex douglassi.) As for the Whitney Allotment, Salt Lick Meadow certainly merits a utilization reduction, as a very high frequency of Carex nebrascensis (39/86) was documented in the Inyo NF 1998 vegetation toe point chart. South Fork Meadow and McConnel Meadows also have substantial amounts of nebraska sedge, and further utilization reductions are appropriate for these meadows as well.

The SNEP Rangeland Assessment discussed other plants that are frequent indicators of dewatered, degraded meadow conditions (such as Muhlenbergia richardsonis [p 28, 928] and Aster species [p 31, 931]) that are being used by the Inyo NF to inflate vegetation seral ratings and proposed utilization rates. The use of these other plants to inflate "desirability" values is most pronounced in the case of Gomez Meadow. Combined with nebraska sedge, these plants account for 26/88 (nearly 30%) of the herbaceous total. The Sierra Club requests that these plants be reclassified as "undesirable", and the proposed utilization rate for Gomez Meadow be subsequently lowered.

2. Residual Stubble Height, Percent of Weight, and Conversion Rates

The Inyo NF is proposing to convert the current post-grazing residual stubble height standards of the Templeton Allotment to percent-of-weight utilization standards supposedly based upon the Inyo NF's LRMP Amendment #6. However, in a significant number of cases, the Inyo NF is proposing percent-of-weight utilization rates that will constitute a substantial

expansion over existing RSH standards for Templeton Allotment meadows. To grasp how the Inyo NF's proposed conversion from residual stubble height (RSH) standards to high percent-of-weight standards constitutes a major increase in grazing intensity, we must review a few sources.

First, Clary and Webster (1989, p.9) have provided an estimated range for such conversions, based upon their own study of a mountain meadow ecosystem in Idaho. Grazing that leaves an average six inch RSH is comparable to grazing that defoliates vegetation at an average range of 24-32 percent by weight. A four inch RSH is comparable to a range of 37-44% by weight, and a three inch RSH is comparable to a range of 47-51% by weight.

Moreover, region-specific conversion rates (which the Sierra Club believes are more accurate for the Kern Plateau than Clary and Webster's generalized range of conversion rates) can be established by reviewing some of the Inyo NF's own range monitoring utilization charts from the 1994, 1995, and 1997 seasons. Such rates vary dramatically according to the rate of vegetation growth during the season. To generate conversion rates for high growth meadows, we will review South Fork Meadow (1995), Big Whitney Meadow #1 (1997), Strawberry Meadow (1997), and Stokes Stringer (1995). To generate conversion rates for low growth meadows, we will review Brown Meadow (1997), Big Whitney Meadow (1994) and Volcano Meadow (1994).

High-Growth Meadows: In the very wet year of 1995, South Fork Meadow was grazed at a 52% utilization rate, with a nine inch ungrazed average. This value correlated with a mean of 2.41" RSH (median: 2"; mode: 2"). In 1997, Big Whitney 1 was grazed at a 45% utilization rate, with an eight inch ungrazed average. This value correlated with a mean of 2.98" RSH (median: 2.5"; mode: 3"). Also in 1997, Strawberry Meadow was grazed at a 42.3% utilization rate, with an eight inch ungrazed average. This value correlated with a mean of 3.16" RSH (median: 3"; mode: 4"). Finally, in 1995, Stokes Stringer was grazed at a 41% utilization rate, with a seven inch ungrazed average. This value correlated with a RSH mean of 2.82" (median: 2.5"; mode: 3"). [The 7" ungrazed average also constitutes the border with the moderate-growth range, which is defined by ungrazed averages between 5" and 7".]

Low-Growth Meadows: Brown Meadow was grazed at a 40% utilization rate in 1997, with a five inch ungrazed average. This value correlated with a mean of 1.88" RSH (median: 2"; mode: 1.5"). Big Whitney Meadow was grazed at a 39% utilization rate in 1994, with a four inch ungrazed average. This value correlated with a mean of 1.54" RSH (median: 1.5"; mode: 1.0"). Finally, Volcano Meadow was grazed at a 47% utilization

rate in 1994, with a four inch ungrazed average. This value correlated with a mean of 1.27" RSH (median: 1.0"; mode: 1.0").

Using the Inyo NF's own utilization data, it seems safe to conclude that a 40 to 50 percent utilization range for the higher elevation areas of the Kern Plateau corresponds with average residual stubble heights ranging from 3.6" (40% with high growth) to 1.2" (50% with low growth), depending upon prior moisture and plant growth levels. As we will see in the following meadow analysis section, 40-50% utilization substantially exceeds 6" RSH utilization and will frequently exceed 4" RSH utilization.

3. Expansion of Grazing Intensity and the Wilderness Act

The Sierra Club believes that implementation of the Inyo NF's proposed 50/40 and 40/30 DR use rates for the wet and moist areas of the Templeton Allotment will constitute a violation of national Forest Service policy, the 1964 Wilderness Act, and the 1980 Congressional Grazing Guidelines. This violation will be especially egregious during early season grazing of dry, low, and moderate plant growth years. The authoritative guidance concerning this issue was provided by the Washington Office of the Forest Service on February 7, 1996 concerning an appeal of a Gila National Forest Decision Notice regarding the Diamond Bar Allotment. The discretionary review of the earlier deputy regional forester's appeal decision was authored by Sterling J. Wilcox, reviewing officer for the Chief.

The holding of that decision was, and remains, unambiguous: grazing levels and intensities cannot be increased on lands located within a designated wilderness if wilderness values are likely to be impaired by such increases. The decision that Wilcox reversed was a Gila NF proposal described most aptly by Wilcox himself:

"the basic concept behind the [grazing] strategy seems relatively straighforward. Grazing is eliminated from the eastern part of the DBA because of resource considerations but is substantially increased on the western part of the DBA . . . In effect, the loss of grazing capacity on the eastern part of the DBA is partially offset by the increase in grazing capacity on the western part of the DBA through implementation of an intensive grazing system." [Discretionary Review Decision For Appeal #95-03-00-0028-A251 of the Diamond Bar Allotment Management Plan, Sterling J. Wilcox, 2-7-96, p 18]

The Sierra Club believes that the Inyo NF is proposing a similar strategy, though the method of expansion is much more covert and

insidious. Through the use of artificially-inflated seral stage values and seemingly neutral percent-of-weight conversions, the Inyo NF is in effect, proposing substantial utilization rate reductions for all of the meadows on the Whitney Allotment while proposing utilization rates for many Templeton Allotment meadows that would constitute substantial increases in grazing utilization (and hence AUMs/meadow) relative to current Templeton Allotment utilization standards. The Sierra Club also believes that such a strategy violates the 1964 Wilderness Act and the 1980 Congressional Grazing Guidelines, as increases in grazing utilization on a number of Templeton Allotment meadows are likely to "adversely impact [the] wilderness values" of these Golden Trout Wilderness meadows. What follows will be the meadow-by-meadow empirical analysis that supports these claims.

Freckles Meadow Unit.

Following our analysis of conversion rates for the Kern Plateau, the Sierra Club believes that implementation of the proposed utilization rates for Freckles Meadow would constitute an illegal increase in grazing on a designated wilderness area -- again a violation of the national Forest Service policy, the 1964 Wilderness Act, and the 1980 Congressional Grazing Guidelines. The Sierra Club also believes that such an expansion of grazing on Freckles Meadow will further degrade an already impaired area that is clearly at risk. Such an expansion will violate the Wilderness Act and a number of Standards and Guidelines from the Inyo NF's own Forest Plan

1). Currently, the allowable utilization rate for critical fisheries habitat (i.e., all perennial and intermittent streamwaters, edge to bankfull) in this meadow is a six inch residual use standard. All other wetland areas (i.e. springs and wet meadow) outside of the "Critical Fisheries Habitat" with the potential to grow grasses and sedges to a four inch height have a four inch residual use standard.

Using the general (and overly conservative) information provided by Clary and Webster (see above), one can see that a proposal to change allowable use in critical fisheries habitat from a 6" RSH standard (approximately 28% by weight) to an early-season 50% standard (3" RSH, approximately) is tantamount to a 75% increase in grazing utilization by weight! In addition, a proposed change from a 6" RSH standard to a late-season 40% standard (by weight) is tantamount to a proposal to increase the grazing intensity in critical fisheries habitat by over forty percent! Finally, a change from a 4" RSH standard (for other wet meadow areas) to an early-season 50% (by weight) standard would constitute an increase in allowable grazing intensity

of nearly 25%.

We can view these proposed changes from another perspective by using the region-specific conversion rates generated by the Inyo NF's own utilization data. Using such data, one can see that a conversion from a 6" RSH standard to a 50/40 deferred rate standard will likely result in an allowable decrease in mean RSH of approximately 57% for early season grazing during a wet, high-growth year (assuming an 9" ungrazed mean -- see South Fork Meadow, 1995). The reduction in post-grazing RSH can be expected to reach 63% when the ungrazed mean for this meadow drops to seven inches. (This latter value is derived from the 1995 McConnell Meadow utilization chart. This meadow was grazed at a 50% utilization rate, with a seven inch ungrazed average. The mean RSH was 2.2", the median RSH was 2" and the mode was both 1" and 2".)

Moreover, converting from a 6" RSH to a 50/40 deferred rotation rate will amount to an even more massive expansion in allowable grazing during early season dry, short-growth years. The reduction in post-grazing RSH can be expected to reach 80% when the ungrazed mean for this meadow drops all the way to four inches (see Volcano Meadow, 1994).

As for the areas currently grazed at an allowable RSH standard of 4", one can see that a conversion to a 50/40 deferred rate standard will likely result in an allowable decrease in mean RSH of approximately 10% for late season grazing during a wet, high-growth year (assuming an 8" ungrazed mean -- see Strawberry Meadow, 1997). The decrease in mean RSH could easily reach 20-25% with a relatively small drop in ungrazed mean to 7" (see Stokes Stringer, 1995).

Converting the current 4" RSH rate to the 50/40 deferred rotation rate will amount to a massive expansion in allowable grazing during late-season dry, short-growth years. The reduction in post-grazing RSH can be expected to reach 50% when the ungrazed mean for this meadow reaches five inches (see Brown Meadow, 1997) and 60% when the ungrazed mean reaches only four inches (see Big Whitney Meadow, 1994).

The Sierra Club believes that use of 50/40 DR use standards will negatively affect the vegetation and soil resources of Freckles Meadow, especially during drier years.

Concerning vegetation, the 50/40 deferred rotation rate will reduce plant vigor and above ground mass of herbaceous perennials. It will also further degrade the vegetation composition of Freckles Meadow.

Concerning vigor and plant mass, residual stubble heights of individual plants are likely to be reduced way below ecologically prudent levels. To see what the impacts of 50% and 40% grazing utilization are likely to be, we must again look at the documented impacts of some other nearby meadows that were grazed near the 50% and 40% utilization levels in recent years.

In the dry year of 1994, Volcano Meadow was grazed at a 47% utilization rate, with a four inch ungrazed average. The utilization record (UR) documented that 57 of the 100 sampled, grazed vegetation hit points had been grazed to one inch or below in height (and 78 out of 100 had stubble heights of 1.5 inches or below!). In the very wet year of 1995, South Fork Meadow was grazed at a 52% utilization rate, with a nine inch ungrazed average. 54 of 100 grazed vegetated stubble heights were 2" or below. In the very wet year of 1995, McConnel Meadow Meadow was grazed at a 50% utilization rate, with a seven inch ungrazed average. 64% of the grazed, vegetated sampling points were 2" or below.

Big Whitney Meadow was grazed at a 39% utilization rate, with a four inch ungrazed average in 1994. For Big Whitney Meadow, residual stubble heights for sixty eight percent (34/50) of measured, grazed vegetation hit points were 1.5 inches or below. Brown Meadow was grazed at a 40% utilization rate in 1997, with a five inch ungrazed average. For Brown Meadow, residual stubble heights for 69 of 100 vegetated sampling points were two inches or below. In 1995, Stokes Stringer was grazed at a 41% utilization rate, with a seven-inch ungrazed average. For Stokes Stringer, residual stubble heights for 54 of 100 grazed vegetated sampling points were 2.5 inches or below. In none of these cases did 50% or 40% utilization conform to the recommendation of the best available information concerning ecologically prudent post-grazing stubble heights, which calls for a 3"- 4" post grazing RSH as a maximum utilization standard (and beyond which ecological damage is likely to occur.)* As for vegetation composition, the mix in Freckles Meadow is already less than desirable, as over one quarter (25/95) of the plants are "invader/increaser" types such as Douglass sedge (Carex douglassi) and Baltic rush (Juncus balticus) while nearly 30% (28/95) are classified by the Inyo NF as "undesirable" in its toe point data summary. A 50/40 DR use level will likely decrease the proportion of late seral-stage plants in the Freckles Meadow area, especially if drier weather returns during the next decade.

Concerning soil, a 50/40 DR use rate will only aggravate the existing and emerging hydrological problems of the area. In 1996, Catherine Davis documented some of these problems: "This area has been severely

down cut and the channel entrenched in the past, thus creating barren banks highly susceptible to erosion. If cattle graze at all in the channel they move up and down these banks and re-vegetation is impeded." Davis also noted, "Freckles was grazed heavily as were the stringers above Freckles (Davis, 1996, p. 6)." The post-grazing RSH for this meadow in 1996 was 2.85", with an ungrazed mean of 6.5" (for all ungrazed sampling points listed on the utilization chart). This residual stubble height is comparable to a 40% utilization rate on a moderate growth meadow on the Kern Plateau, see Stokes Stringer, 1997). This use rate is also the same as the Inyo NF's proposed late season utilization rate for Freckles Meadow.

In 1997, Casey Shannon of the Inyo NF noted on the Freckles Meadow Watershed Analyisis Field Record Riparian (7-9-97) that "Compaction in any of the bare areas is severe; among the meadow vegetation, compaction is less severe to moderate . . . At the lower end of the meadow, a significant headcut area is active . . . This could worsen easily. Other smaller headcuts are occurring in mid meadow . . . At some of the headcut gully areas, banks are barren and lightly eroding from chiseling/trampling of livestock." (Shannon, Inyo NF, 1997).

These sources clearly document a substantial level of soil and vegetation degradation in the Freckles Meadow area, and they also document the primary role of livestock grazing in aggravating such degradation, even with the restrictive 6" RSH and 4" RSH standards of the last 8 years. Yet the Inyo NF is proposing to expand grazing in this meadow to a 50% utilization level every other year. What will the impacts of such an expansion to 50% look like, in soil and hydrological terms? We can gain a glimpse into the proposed future for Freckles Meadow by looking at the documented impacts of some other nearby meadows that were grazed near the 50% utilization level in recent years.

Soil and Hydrological Impacts Associated with 50% Utilization

Volcano Meadow, 1994: 47%, 4" ungrazed average.
The 1994 post-season utilization record for Volcano Meadow (dated 10-12-94, and prepared by CMR -- Calder Reid) stated that the "upper, drier area [was] well grazed, so are areas near riparian zone . . . noticed the beginnings of bank deterioration."

South Fork Meadow, 1995: 52%, 9" ungrazed average.
South Fork Meadow had a documented trampling and chiseling rate of 40% in 1995. Moreover, the written narrative in the WIN assessment for South Fork Meadow documented and summarized recent and cumulative cattle grazing impacts. J. Anderson of the Inyo NF wrote:

"Fragile springs and seeps are being trampled by grazing cattle. Water channels in these areas are cutting deeper. There are active headcuts and two incised gullies. Some of the drier areas contain bare soil. The central reach of the meadow is very wet and soft. The lush vegetation in this area is trampled by grazing cattle . . . In the lower portion of South Fork Meadows the river channel narrows into an incised gully. The gully is deepening. Vegetative cover is moderate. Bare soil is more prevalent. Streambanks are unstable. There are active headcuts. Along the river to the trail from Tunnel to Bullfrog the banks are trampled in many areas, as are the narrow strips of meadow that follow the river . . . Near the trail, seeps and springs are trampled by grazing cattle. A cattle river crossing is eroding and chiseling banks . . . Cattle grazing in the meadow has been heavy . . . Much of the meadow is trampled . . . Several streambanks are chiseled . . .This is increasing meadow instability (WIN Inventory sheet for South Fork Meadow, 9/25/95."

McConnell Meadow, 1995: 50%, 7" ungrazed average.
The 1995 post-season utilization record for this meadow (dated 10-9-95, and prepared by CMR -- Calder Reid) noted: "McConnel Meadow appears to be very heavily grazed by visual assessment. All areas of meadow except for the extremely marshy areas were well grazed. Areas among the trees appeared damaged and overused too, lots of excrement and topsoil displacement."

McConnel Meadow had a documented trampling and chiseling rate of 34% in 1995. Moreover, the written narrative in the WIN assessment for McConnel Meadow also documented and summarized recent cattle grazing impacts. J. Anderson notes:

"Wet meadow areas are heavily trampled . . . Several wet meadow areas are trampled by grazing cattle . . . The uppermost end of the meadow . . . is heavily trampled by grazing cattle . . . There are many fragile, wet areas in this meadow, including springs and seeps. These wet areas are being destabilized by heavy cattle grazing. Most of these areas are in trampled condition. Several streambanks are being chiseled. Cattle trails are cutting into the meadow. With high water levels, gullying could begin to occur in these trails (9/25/95)."

The Sierra Club believes that the impacts associated with the years in which these three meadows were grazed near a 50% utilization rate may have triggered -- and most certainly aggravated -- declines in riparian condition that ultimately required the Inyo NF to classify a substantial number of stream reaches in these meadows as "functioning at risk, with a downward trend". (See Inyo NF PFC ratings for the

Whitney Allotment, 1998). The Sierra Club also fears that a similar future awaits Freckles Meadow once a 50% utilization rate is allowed.

Based on the evidence above, the Sierra Club believes that implementation of a 50% use rate for Freckles Meadow will adversely impact the wilderness values of the Golden Trout Wilderness. Such values include ecological and geological values, plant communities, wildlife populations, fish and wildlife habitat. Moreover, implementation of a 50% use rate is likely to violate the following Management Area Direction from the Inyo NF LRMP:"Allow no increases in grazing where this would significantly degrade fish or wildlife habitat . . . Maintain existing meadows to arrest further degradation (Inyo NF LRMP, pp 236-237)." The Sierra Club believes that the proposal to graze Freckles at a 50% utilization rate contradicts the requirements of the LRMP Management Area Direction: "Amend allotment plans to include needed mitigating measures and take corrective action where grazing is significantly impacting wildlife habitat (p 236)." This proposal will also violate numerous other Inyo NF LRMP

Standards and Guidelines and provisions included in The Federal Land Policy and Management Act, ' 47 F.R. 190 219.2, ' 36 CFR 219.20 and ' Section 219.27. (See conclusion)

(While less dramatic than impacts related to 50% utilization, the Sierra Club also believes that the expansion of grazing on Freckles Meadow that will occur with the use of a 40% utilization standard will have adverse impacts upon the wilderness values of Freckles Meadow especially during low and moderate growth years. Such values include ecological and geological values, plant communities, wildlife populations, fish and wildlife habitat. Moreover, a 40% use rate during low and moderate growth years will likely to violate the Inyo NF LRMP Management Area Direction listed above, as well as numerous other Inyo NF LRMP Standards and Guidelines and provisions included in The Federal Land Policy and Management Act, ' 47 F.R. 190 219.2, ' 36 CFR 219.20 and ' Section 219.27. (See conclusion)

Reference: Clary, Warren P; Webster, Bert F. 1989. Managing grazing of riparian areas in the Intermountain Region. Gen Tech Rep INT-263. Ogden, UT. USDA, USFS, Intermountain Research Station. 11p

Sample #4

This extensive sample is a recent scoping comment from a Sierra Club Grazing Committee member that incorporates scoping comments written by Martin Taylor of the Center for Biological Diversity. The comments explore most thoroughly the numerous laws with which the Forest Service must comply as it progresses through

To John Bridgwater, Ojai District Ranger, and Terry Austin

From Todd Shuman, Interested Public

Re: Piru Grazing Allotments

I wish to thank you for this opportunity to comment on Piru Grazing Allotments during the scoping stage of this NEPA review. Please incorporate the following comments into planning for the proposed grazing activities on the Piru Grazing Allotments.

General comments

To start, I formally request that the Los Padres NF follow the Region 5 planning process as described in the R-5 Range Analysis and Planning Guide, Chpt. 2. One of the key elements of this process concerns time frames. I request that the Los Padres NF provide time frames for the accomplishment of Desired Condition on these two allotments. As a corollary, the Los Padres NF must specify acceptable and non-acceptable rates of change toward the Desired Condition; moreover, target values to be achieved (based upon acceptable rates of change) must be designated for each Condition and Trend monitoring assessment that is planned over the next ten years and beyond. I believe that such time frames are required by Chapter 2 of the R-5 Range Analysis and Planning Guide, as well as Forest Service Manual Section 2201.

Additionally, the R-5 Range planning process requires that the Los Padres NF identify the species composition that should exist upon accomplishment of late seral-stage Desired Condition. I request that the Los Padres NF determine and disclose such identification in this NEPA process.

Furthermore, I must warn the Los Padres NF that it is illegal to use "proper functioning condition" as a proxy for "desired condition". Both the USFS R-5 Handbook and the National Riparian Service Team have stressed that the "proper functioning condition" methodology is a minimum assessment tool concerning basic soil and vegetation characteristics only. Stream areas rated as "PFC" can be severely deficient in other characteristics that are necessary for such areas to function as effective fish and wildlife habitat. Therefore, riparian areas that have attained "desired condition" must incorporate many more features of "habitat" functionality than lands that are only classified as being in "proper functioning condition"

I believe that the Desired Condition for willow stands along streams on these allotments should be late seral stage willow stands along 100% of the stream courses capable of supporting willow stands.

Second, I request that a full-blown Environmental Impact Statement (EIS) be conducted before any decision is made. I believe that the proposal constitutes a "Major Federal Action". To comply with NEPA, a broader, more in-depth level of analysis needs to be done.

Third, I request that the alternative of "no grazing" for a minimum of 10 years be considered and analyzed. I also request that other alternatives which entail fewer numbers than the proposed cow/calf pairs be considered and analyzed. I request an alternative that combines mandatory rest-rotation [e.g., rest each meadow from grazing every other year] with a major cattle stocking rate reduction [40-50 percent]. This would enable rest-rotation without promoting the overgrazing of the other meadows grazed in any particular year. Another alternative that should be analyzed would be one with these features: a 3 year rest period; 1/3 stocking rate reduction; a three year rest-rotation cycle; maximum utilization rates of 30% in wet and normal years; a four inch post-grazing residual stubble height requirement for all wet and moist meadow areas during drier years; rigorous enforcement (including mid-season surveys) of a restrictive streambank disturbance standard.

Fourth, I request a detailed analysis of the costs and benefits to the taxpayer of the different alternatives. Some of the important questions to be asked are listed below: How much does the permittee pay the Federal Government for grazing this area? How much money has been spent by the Los Padres NF over the last 10 years to rehabilitate damage directly attributed to livestock production? How much money will be spent over the next 10 years to mitigate the damaging effects of proposed, on-going livestock grazing? What is the value to the local economy from recreation, fishing, hunting, and backcountry stock use? What have been, and will be, the economic effects of continuing grazing-related habitat degradation on the regional fishing, hunting, and recreation economies? How much do the livestock numbers from the two allotments contribute to the local economy? What is the annual budget to do all monitoring required under the ESA, Clean Water Act, Forest Management Act, Allotment Management Plans, Forest Land and Resource Management Plan? What would be the cost to the public to buy out these allotments (with one estimate based on a buyout price of 175 dollars per AUM)?

Fifth, I believe that the permittees should be responsible for monitoring their own compliance with their permits. I do feel, however, that the Forest Service must conduct annual, thorough utilization/streamside disturbance/permit compliance monitoring to ensure that the permit is not being violated. (Such monitoring must include mid-season use and mid-season streambank disturbance surveys.) Moreover, I feel very strongly that if the Los Padres NF cannot adequately (and annually) monitor the impacts of livestock grazing, then livestock grazing must not be allowed on these two allotments. We request that this requirement for the Los Padres NF to monitor thoroughly (and annually) be incorporated into the permit and the new AMP. Moreover, the Los Padres NF must

initiate immediate and meaningful permit enforcement actions when monitoring information indicates that seasonal utilization or streambank disturbance has exceeded allowable levels. Moreover, all permit violations should follow the new Regional and National Direction for Permit Enforcement. Threshold impact to plants and plant community should be done on a Condition and Trend Analysis, and Endangered Species of plants should be monitored yearly. Condition and Trend data should be compared every 3 years to adjust grazing management through "Adaptive Management."

Sixth, I believe that the fecal coliform and cryptosporidium bacterial agents that are usually present in the cow feces in the riparian areas of these allotments constitute a serious public health menace. I request that the Los Padres NF address this subject in the EIS and develop and consider potential mitigations, including the mitigation of complete cow removal from these areas.

Seventh, I request that the Los Padres NF document and disclose how much grazable acreage exists on each meadow. Furthermore, I request that the Los Padres NF disclose how many cow/calf pairs/per month/ per meadow (i.e. AUMS or stocking rate per meadow per season) will be allowed each year, given the proposed use rates. Such information will allow the public to determine if proposed stocking rates for allotment areas accord with the best available science concerning cattle stocking rates and impacts upon mule deer and willow flycatcher habitat.

Eighth, I request that the Los Padres NF conform to the requirements outlined by BERNARD WEINGARDT, Deputy Regional Forester in a recent Sequoia NF grazing appeal decision (Appeal # 03-05-00-0024-A215). In that April 3, 2003 decision, Weingardt reversed the District Rangers' decision to implement the selected alternative. The selected alternative failed to determine the level of grazing to be authorized on the ten allotments and to identify and ensure that authorized grazing would be managed to meet Sequoia Land and Resource Management Plan (LRMP) objectives and desired conditions. To accomplish this, the alternative selected would need to have disclosed how or where standards and guidelines would be monitored in order to protect certain areas. It would also have needed to describe any mechanisms that would allow for the adjustment of livestock numbers and season of use in order to ensure that proper levels of grazing would be maintained. In the relevant EA there was no disclosure of how or where LRMP standards and guidelines would be monitored to protect those areas other than within one riparian corridor of one stream reach. Weingardt wrote: “A description of Alternative 2 does not include monitoring activities that will influence or trigger changes in livestock numbers or season of use. This discussion is critical in disclosing how the appropriate levels of grazing are to be maintained completing the loop in determining the level of grazing discussed in the purpose and need . . . The main issue is whether key areas were established to monitor the significant issues identified in the EA. In addition to the establishment of the key areas and monitoring protocols, it is important that mechanisms are in place that allow for the adjustment of livestock numbers and season of use to ensure that proper levels of grazing are maintained. As stated in the previous section, only one key area within one allotment was identified. There were no protocols established to monitor standards and guidelines, and finally there was no process

established to allow for re-adjustment of livestock numbers or season of use to ensure that proper grazing levels are maintained." (File code: 1570-1, Appeal # 03-05-00-0024-A215, April 3, 2003)

What follows is specific comments concerning statutory requirements from various, relevant laws with which the Los Padres NF must comply in this Piru Allotments NEPA review.

Endangered Species Act

The FS Manual 2670.31(1) gives direction to the Service to place "top priority" on recovery of listed species. The ESA sect 7(a)1 requires recovery of endangered species not merely avoidance of jeopardy.

Fencing, water developments, roads and trails, ATV use for ranching, competition for forage, removal of protective grass cover, altered watershed hydrology, soil erosion, encroachment by weeds and woody species, degradation of native habitats, water pollution, diseases and pathogens carried by livestock, direct persecution of native predators and competitors are all negative impacts on listed or proposed species or their critical habitats among others not listed here, that are documented to result from range livestock production and must be considered in this analysis. A species of particular concern on these Piru allotments is the Arroyo Toad and the Southwestern Willow Flycatcher.

The Forest Service must consider and explain whether and how allowing these impacts to continue at any level can be compatible with giving "top priority" to recovery of listed species.

The Forest Service has a burden of proof to show from empirical data and peer-reviewed science that grazing as proposed has not and will not impede full recovery of all listed species and their habitats that are potentially affected by grazing on the allotments.

National Environmental Policy Act

NEPA requires the agency to "rigorously explore and objectively evaluate all reasonable alternatives. The agency must consider a no grazing alternative.

The no grazing alternative must be constructed in such a way as to be "reasonable" as NEPA requires. This means that the "no grazing" alternative should include restoration measures, such as reintroduction of native fire regimes, to undo the legacies of livestock damage.

Rigorously explore

Negative impacts from livestock grazing to all resource values apart from livestock production are well established by abundant scientific evidence, including studies by the Forest Service such as that of Flather et al. 1994 who found grazing to be the most widespread cause of species endangerment in the southwest. Impacts of grazing must be

evaluated using the most comprehensive review of all available scientific literature, including:

- **trampling and erosive loss of fossil and archaeological remains** (Osborn et al. 1987);
- **degradation of range vegetation, weed invasions, woody plant encroachment, fire suppression and disrupted fire cycle, degradation of soils and cryptobiotic soil crusts** (Ambos et al. 2000; Belnap 1990; Belnap 1993; Belsky and Blumenthal 1995a; Belsky and Blumenthal 1995b; Belsky and Gelbard 2000; Brotherson et al. 1983; Cole 1990; Dunne 1989; Jones 2000; Kleiner 1977);
- **degradation of watersheds, through soil compaction and abrasion resulting in reduced rainfall infiltration, increased runoff, accelerated erosion, degradation and dewatering of streams and riparian ecosystems, lower water quality and water-borne microbial diseases** (Armour et al. 1991; Belsky et al. 1999; Chaney 1990; Krueper 1993; Ohmart 1996; Platts 1981; Platts 1984; US GAO 1988; Atwill 1998);
- **reductions and losses of game, wildlife, migratory bird, threatened and endangered species (TES) through food and shelter competition, degradation of their habitat, entrapment in fences and stockponds, ATV use and other maintence and construction activities, direct persecution of predators and competitors or spread of livestock diseases to wildlife** (Czech and Krausman 1997; Flather et al. 1994; Flather et al. 1998; Johnson 1989; Langner and Flather 1994; Rees 1993; US Fish and Wildlife Service 1997);
- **degradation of scenic quality, Wild and Scenic River, Roadless Area and Wilderness quality, hunting, research and non-motorized recreation quality** (US Bureau of Land Management 1975; US Forest Service 1995; US GAO 1991; US GAO 1992).

Analysis of grazing effects and species occurrences must be allotment and habitat specific, not a generic consideration of effects. Consideration of cumulative effects and effects of inter-related and inter-dependent actions on private BLM or state grazing lands in the same watershed, must go beyond mere listing of possibilities to estimation of relative contributions to overall impacts on each resource criterion.

NEPA requires high scientific integrity and the incorporation of citations to scientific evidence to justify proposed actions or analyses about effects on resources of the management alternatives.

Cumulative impacts, interrelated and interdependent actions

If Forest Service lands comprise the bulk of lands ranched by the permittee then ranching on other lands controlled by the same operator would likely not occur but for the action on Forest lands. In this case, the Forest Service must also analyze the impacts of livestock activities on non Forest Service lands in the entire ranching operation on listed/proposed species and the environment in general as interrelated and interdependent effects of a connected action that would not otherwise occur in the absence the federal grazing permit.

The action as described should not piecemeal related actions but include as part of the action all intended or likely construction or maintenance of range developments, well drilling. road construction or maintenance, ATV or other vehicular use, range reseeding or woody species treatments.

Woody species treatments should only be considered if they result in improvements in habitat for wildlife and listed species and not if intended merely to create more capacity for livestock. The blanket assumption that pinyon juniper is necessarily worse for soil loss is not supported by science -- see Belsky (1996) online at http://www.onda.org/library/papers/JuniperExpansion.pdf

The Forest Service must not assume that climatic conditions are going to remain static. Global warming is an established reality that must also be considered. The Forest Service must consider the impacts to listed species and the environment by ranching in the context of the possible disruptions and loss of habitat that might be expected to result from higher temperatures, altered rainfall, altered fire regimes, and shifting, stressed or dying plant communities that will result from global warming in the Southwest (Southwest Regional Assessment Group, 2000)

Objectively evaluate

To advance a "proposed action" before analysis is complete, as commonly done, predetermines the outcome and violates the requirement for "objective evaluation" as required by NEPA.

The Forest Service must commit to selecting the optimal alternative, not an arbitrarily chosen “preferred” alternative.

The Forest service currently adopts a satisficing rather than optimizing approach to decision making, merely attempting to satisfy minimal regulatory obligations rather than actively seeking out optimal solutions. We do not believe that this satisficing approach is consistent with applicable law and regulation.

The Forest Service must recognise that grazing is likely to be a use of the land that is irrevocably in conflict with other uses that are higher and better uses of these lands, especially protection of listed species.

The Service should instead adopt in advance and follow an optimization approach to decision making using established multi-criteria decision making protocols of Zeleny (1982) or other scientifically credible protocols.

Forest Service decision makers typically employ an implicit but never-stated weighting scheme that is biased to the grazing alternatives.

In spite of the fact that the no grazing alternative is typically shown in the EA/EIS to be superior to the grazing alternatives in all respects except permittee's income, the decision is usually to adopt the sub-optimal grazing alternative. The Forest Service should state clearly how all resource values have been weighed relatively to one another in arriving at a decision.

Socio-economic analysis

A common failing of grazing EAs is reliance on the unproved assumption that local economies depend on public lands grazing. Actual empirical evidence should be obtained and considered concerning the real extent of dependence. In analyzing the presumed benefits of the proposed grazing alternatives the Forest Service must base estimates on actually empirical data for jobs and revenue, not on standard formulae.

According to NEPA, the Service must consider socio-economic benefits not only to permittees and local communities, but also to the entire public now and in future generations, who are the ultimate owners and inheritors of this land. In analyzing the full social and economic costs and benefits of the "no-grazing" alternative, the Forest Service must not under-estimate or fail to estimate the benefits of enhanced ecological services provided by livestock-free and fence-free wildlife habitat, and of enhanced income to local economies from greater visitation by hunters and recreational users as done for example by Souder (1997) who found that hunting and recreation revenues were 167 times greater than the revenue generated by ranching on the western side of the Kaibab plateau.

An accurate projection must be made of enhanced hunting and recreational income and non-monetary ecological and social benefits arising from permanent retirement of all livestock use and devotion of the allotment to wildlife and other unique resources. The analysis must also consider the economic and ecological benefits of redirecting agency resources into habitat restoration.

The analysis must consider the possibly greater income under the no grazing alternative that the current permittee might gain by going into alternative forms of business, and the improvement in the local economy that might result from such a change.

The Forest Service should construct forms of the no-grazing alternative that might involve arranging assistance, transition, or retraining grants or employment preference to help the affected party adjust to the loss of grazing preference and maintain income. Many such programs already exist and analysis of the no-grazing alternative should take them into account as opportunities for permittees under no grazing decisions:

- National Forest Dependent Rural Communities grants $3,822,000
- Business and Industry Guaranteed Loans - $1.556 billion
- Business and Industry Guaranteed Disaster/
- Emergency Assistance - $1.16 billion
- Business and Industry Direct Loans- $50 million
- Intermediary Relending Loan Program - $38.256 million
- Rural Business Enterprise Grant - $40.664 million
- Rural Economic Development Loan - $15 million
- Rural Economic Development Grant - $3 million
- Rural Business Opportunity Grant - $8 million

Conversely, when estimating the costs of the grazing alternatives the Forest Service must factor in the opportunity cost of ecological services, habitat for listed species and hunting/recreation jobs and revenue to local communities that are partly or wholly foregone under the grazing alternatives. Such estimates must be founded in empirical data or published research not formulae.

The EA must include an accurate and complete accounting of the full financial cost to the public of the grazing alternatives including:

- State tax exemptions or rebates for agricultural businesses and products;
- State motor-vehicle registration and fuel subsidies;
- State tax credits and grants for water developments;
- State funded marketing and promotion of livestock products;
- Federal drought relief and emergency feed programs;
- Federal and State predator control services;
- USDA beef buybacks, price supports, and export-promotion programs;
- Federally funded research and extension for range livestock production;
- Full anticipated administrative and staff costs of conducting NEPA, implementing, monitoring policing and possibly litigating the proposed action and constructing range improvements over the life of the permit.

The Forest Service should develop an explicit budget for implementation, administration and compliance monitoring over the life of the permit for grazing alternatives, to ensure that legal responsibilities under NEPA, NFMA and the ESA will be met. A budget for range improvements alone is inadequate.

Any consideration of the social aspects or "lifestyle and culture" of ranching must be balanced by consideration of the "lifestyle and culture" interests of the far more numerous hikers, hunters, fishers, and professional or amateur mycologists, ornithologists, entomologists, herpetologists, botanists, mammalogists and other zoologists, wilderness lovers and wildlife watchers that frequent and enjoy the biodiversity and landscape of these lands. These are the expressed interests of our 6000+ members and financial supporters. Through appropriate social survey, the Forest Service should estimate the actual demand for these services, and how that might change if the allotments were to be freed of livestock operations and left to return to a natural state.

The analysis must be done in a timely and transparent manner, with regular postings of all survey and deliberative records on internet sites to ensure the maximum possible public awareness and involvement.

Administrative Procedure Act

The APA requires that actions taken not be “arbitrary, capricious or an abuse of discretion.” The Federal grazing program continues to violate the law by charging a fee that is arbitrary and capricious. In 1988 the Secretary of Agriculture promulgated regulations that set the fee according to the temporary formula described by PRIA. IN 1994-1995 the Secretary together with Secretary of Interior proposed to correct a basic flaw in this fee formula that double-counted costs of production, as established in the Rangeland Reform DEIS and supporting documents. The Secretary of Agriculture however failed to introduce this corrected fee formula despite the evidence presented that it the 1988 formula was flawed. By continuing to permit grazing and collect fees based on this formula, the Forest Service is abusing discretion under the APA. No subunit of the FS can claim that an illegal process is outside the scope of the action. Collection of fees using an illegal formula is the action proposed. Your office is constrained to adopt

the no-graziing alternative as the proposed action until the legality of the fee is resolved at the appropriate level.

Multiple Use Sustained Yield Act

Nowhere does MUSYA state that range has a greater value than other uses of the National Forest, nor does it direct the Forest Service to commit such a large percentage of land and resources to this use as is committed to range use in the LRMP.

MUSYA Sec. 4 (a) states, "'Multiple use' means the management of all the various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people;"

The FS must consider if the proposed actions represent a combination that best the American people rather than one or a few permittees.

Sec. 4 (a) continues the definition, "and harmonious and coordinated management of the various resources… without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." MUSYA clearly states that economic considerations should not dominate decisions.

MUSYA also requires the FS to estimate and consider the "relative values of the various resources." Beef or sheep production are not relatively scare resources but rather ones with many alternate means and sites for realization. Public lands are essentially irrelevant to national beef production, supplying less than 2% of cattle AUMs (Joyce 1989). In contrast protection of unique wildlife and listed species habitats, unique archeological resources, unique wilderness and other special areas, unique riparian and water bodies, and unique scenic values on these lands, have no alternate sites or means of realization, are relatively extremely valuable and are all impaired by the relatively valueless range resource. The FS must do a hard quantitative estimation of the relative values of the resources as required by MUSYA.

The act goes on to say that, "making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions" The agency in empowered to cancel allotments in response to changing needs and conditions. How needs and conditions have changed must be determined as part of this analysis and include:- listing of new species and critical habitat, increased demand for hunting, native species, wilderness and Wild and Scenic Rivers enjoyment, growing irrelevance of public lands to national beef production and to rural economies.

National Forest Management Act: Suitability

These lands may have been designated as suitable for grazing in the Enabling Act. NFMA requires that a Range Suitability Analysis be developed as part of the planning process for these lands.

"Suitability" is defined in regulations as

"[t]he appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone." 16 CFR §219.3.

A suitability designation based on capacity/estimation alone is not sufficient. Consideration of alternative uses foregone must also include uses that would be *partially* foregone or diminished by continuing to define these lands as suitable for livestock, including but not restricted to recovery of listed species, hunting, preservation of archeological resources, recreation, wilderness and riparian habitat recovery.

Management indicator species

36CFR219.19(2) states: "In order to estimate the effects of each alternative on fish and wildlife populations, certain vertebrate and/or invertebrate species present in the area shall be identified and selected as management indicator species and the reasons for their selection will be stated."

36CFR219.19(2) states "Planning alternatives shall be stated and evaluated in terms of both amount and quality of habitat and of animal population trends of the management indicator species."

36CFR219.19(6) states: "Population trends of the management indicator species will be monitored and relationships to habitat changes determined."

In a recent Federal District Court decision [1] it was found that a timber sale on the Cibola National Forest violated the National Forest Management Act (NFMA) and implementing regulations through failure to quantify population sizes and trends for Management Indicator Species at the project level.

Per NFMA regs, the FS has to define exactly what management changes are indicated by declines of nominated MIS, has to do quantitative monitoring for species declines and has to specify what management actions will be taken in response to quantitative data showing declines.

Riparian

36 CFR Sec. 219.27(e)requires that "No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment shall be permitted within these [riparian] areas which seriously and adversely affect water conditions or fish habitat. "

Livestock grazing is shown westwide to result in 82% more soil erosion than from ungrazed comparisons on average (Jones 2000). The soil erosion caused by livestock is known to be a a major causative factor in endangerment of aquatic species (Flather1994) in the Southwest. It is unlikely that continued grazing on these lands would be able to meet this restrictive requirement.

Enhancing diversity

[1] Forest Guardians et al. v USFS CIV 00-714 JP/KPM-ACE

36 CFR Sec. 219.27 (g) requires that the FS "to the extent practicable, shall preserve and enhance the diversity of plant and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest... Reductions in diversity of plant and animal communities and tree species from that which would be expected in a natural forest, or from that similar to the existing diversity in the planning area, may be prescribed only where needed to meet overall multiple-use objectives. Planned type conversion shall be justified by an analysis showing biological, economic, social, and environmental design consequences, and the relation of such conversions to the process of natural change."

To my knowledge no such analysis has been done at the LRMP level, and so must be done here.

Clean Water Act

The entire hydrology of southwestern Forests have been changed as a result of livestock grazing (Blackburn, Knight & Wood., 1982; Gifford, 1976; Rauzi, 1966; Rich, 1963; Smeins, 1975) reviewed in Belsky, Matzke & Uselman (1999). It is likely that streams, springs and riparian areas would return to original function if livestock were removed from the entire watershed.

Best Management Practices for achieving CWA compliance for non point sources are not sufficient in law as they have no scientifically established connection to reduction of pollution, they are merely hypotheticals.

Corrals and stock tanks are sites of concentrated impact that may qualify as point sources under the CWA and require an appropriate point source permit.

If any streams are listed as impaired under the CWA due to turbidity it is very likely that livestock grazing is a primary cause. Plans to continue grazing may contravene the CWA.

Likewise, livestock are known to be sources of many pathogens (Atwill 1998) and violations of the CWA by pathogens produced by the proposed grazing actions must be avoided.

National Historic Preservation Act

Scientific studies shows that grazing causes substantial erosion and displacement of archeological sites (eg Osborn et al 1987). Complete surveys must be done before grazing can be reauthorized as there there may be many unsurveyed archeological sites that may be damaged by grazing. The programmatic agreement between the USFS and SHPO of Arizona is not founded in available science, and is likely a violation of NHPA and NEPA. Therefore a full survey of archeological resources and assessment of damage by ongoing and proposed grazing is required for NEPA and NHPA compliance.

Wilderness Act

The Wilderness Act permitted continuance of existing grazing permits in wilderness areas, it prohibited new or expanded grazing operations. In House Committee Report 96-617, Congress made clear that:

"the construction of new improvements should be primarily for the purpose of resource protection and the more effective management of these resources rather than to accommodate increased numbers of livestock."

The Congressional report did not alter the Wilderness Act's fundamental hostility to development in wilderness areas. The committee which drafted the Report declined to recommend amending the Act.

Any proposal to place new range developments in wilderness or "distribute" cattle so they now forage in Wilderness more then they ever did is a new or expanded operation within Wilderness contrary to the Act.

Finally I ask that you keep me personally informed of all further substantive stages in the NEPA process for this action and show in the record my involvement as an "interested public".

Sincerely,

Todd M Shuman
49515 Brett Ave.
Tehachapi, CA 93561
661-823-9369

LITERATURE CITED

All the foregoing references are incorporated by reference into our comments for the project record. If the FS does not have but requires copies of any of the following please contact me and I will supply a copy.

Ambos, N., G. Robertson, and J. Douglas. 2000. Dutchwoman Butte: a relict grassland in central Arizona. Rangelands 22:3-8.

Armour, C. L., D. A. Duff, and W. Elmor. 1991. The effects of livestock grazing on western riparian and stream ecosystems. Fisheries 16:7-11.

Atwill, E. R. 1998. Assessing the link between rangeland cattle and waterborne *Cryptosporidium parvum* infections in humans. Rangelands 18

Belnap, J. 1990. Microbiotic Crusts: Their Role In Past and Present Ecosystems. Park Science: a Resource Management Bulletin

Belnap, J. 1993. Recovery Rates of Cryptobiotic Crusts: Inoculant Use and Assessment Methods. Great Basin Naturalist 53:89-95.

Belsky, J., and D. M. Blumenthal. 1995a. Ecological Assessment of Livestock Grazing in Forests of the Western Interior States. Oregon Natural Resources Council.

Belsky, J., and D. M. Blumenthal. 1995b. Effects of livestock grazing on stand dynamics, and soils in upland forests of the Interior West. Conservation Biology 11:315-327. online at http://www.onda.org/library/papers/standdynamics.pdf

Belsky, A.J. and J. L. Gelbard. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon Natural Desert Association. Online at http://www.onda.org/library/papers/WeedReport.pdf

Belsky, J., A. Matzke, and S. Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. Journal of Soil and Water Conservation 54:419-431. online at http://www.onda.org/library/papers/BelskyGrazing.pdf

Brotherson, J. D., S. R. Rushforth, and J. R. Johansen. 1983. Effects of Long-term Grazing on Cryptogam Crust Cover in Navajo National Monument, Arizona. Journal of Range Management 36:579-581.

Chaney, E., W. Wilmore and W.S. Platts. 1990. Managing change: Livestock grazing on western riparian areas. Environmental Protection Agency.

Cole, D. N. 1990. Trampling Disturbance and Recovery of Cryptogamic Soil Crusts in Grand Canyon National Park. Great Basin Naturalist 50:321-325.

Czech, B., and P. R. Krausman. 1997. Distribution and Causation of Species Endangerment in the United States. Science 277:1116.

Dunne, J. 1989. Cryptogamic soil crusts in arid ecosystems. Rangelands 11:180-182.

Flather, C. H., L. A. Joyce, and C. A. Bloomgarden. 1994. Species endangerment patterns in the United States. Pp. 42. USDA Forest Service, Ft Collins.

Flather, C. T., M. S. Knowles, and I. A. Kendall. 1998. Threatened and endangered species geography:characteristics of hotspots in the coterminous United States. Bioscience 48:365-276.

Johnson, A. 1989. The Thin Green Line, Riparian Corridors and Endangered Species in Arizona and New Mexico. Pp. 11. Defenders of Wildlife. Defenders of Wildlife, Washington D.C.

Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. Western North American Naturalist 60:155-164.

Joyce, L. (1989). An Analysis of the Range Forage Situation in the United States: 1989-2040., pp. 136. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Range and Forest Experiment Station., Ft Collins CO.

Kleiner, E. F., and Harper, K.T. 1977. Soil properties in relation to cryptogamic groundcover in Canyonlands National Park. Journal of Range Management 30:202-205.

Kovalchik, B. L. a. W. E. 1992. Effects of cattle grazing systems on willow dominated plant associations in central Oregon. USDA Forest Service.

Krueper, D. J. 1993. Effects of land use practices on Western riparian ecosystems. Pp. 281-301 *in* D. M. Finch and S. P.W., eds. Status and management of neotropical migratory birds. US Forest Service, General Technical report RM-229, Ft Collins, CO.

Langner, L. L., and C. T. Flather. 1994. Biological diversity: status and trends in the United States. Pp. 24 pp. US Forest Service., Ft Collins.

Ohmart, R. D. 1996. Historical and present impacts of livstock grazing on fish and wildlife resources in western riparian habitats. Pp. 245-279 *in* P. R. Krausman, ed. Rangeland Wildlife. Society for Range management, Denver.

Osborn, A., S. Vetter, R. Hartley, L. Walsh, and J. Brown. 1987. Impacts of Domestic Livestock Grazing on the Archeological Resources of Capitol Reef National Park, Utah. Pp. 1-136. Midwest Archeological Center Occasional Studies in Anthropology.

Platts, W. S. 1981. Effects of sheep grazing on a riparian-stream environment. Pp. 6. USDA Forest Service.

Platts, W. S. a. R. F. R. 1984. Impacts of grazing on wetlands and riparian habitat. National Research Council/National Academy of Sciences. Westview Press, Boulder, CO.
Rees, E. 1993. Threatened, Endangered & Sensitive Species Affected by Livestock Production: A Preliminary Survey of Data Available in Ten Western States. Portland Audubon Society, Portland, OR.
Souder, J. A. 1997. Valuing resources and uses in the Central Winter ecosystem Management Area, North Kaibab Ranger District. Pp. 23. USDA Forest Service, Kaibab National Forest, Flagstaff AZ.
Southwest Regional Assessment Group, 2000. Preparing for a changing climate. The potential consequences of climate variability and change: Southwest. Pp. 60. Institute for the Study of Planet Earth, University of Arizona., Tucson, Arizona.
Torell, L. A. & Drummond, T. W. (1997). The economic impacts of increased grazing fees on Gila National Forest grazing permittees. Journal of Range Management 50, 94-105.
US Bureau of Land Management. 1975. Effects of livestock grazing on wildlife, watershed, recreation and other resource values in Nevada. Pp. 96. USDI Bureau of Land Management, Washington, DC.
US Fish and Wildlife Service. 1997. Biological Opinion on the Safford Resource Area. United States Department of the Interior Fish and Wildlife Service, Albuquerque, NM.
US Forest Service. 1995. Southwestern Region. Wilderness Management Activity Review. Pp. 15.
US GAO 1988. Public Rangelands: Some Riparian Areas Restored but Widespread Improvement Will Be Slow. U.S. General Accounting Office.
US GAO 1991. Rangeland Management: Bureau of Land Management's Hot Desert Program Merits Reconsideration. U.S. General Accounting Office.
US GAO 1992. Wilderness: Effects of Designation on Economy and Grazing in Utah. U.S. General Accounting Office, Washington D.C.
Zeleny, M. 1982. Multiple criteria decision making. McGraw Hill, New York.

#5

This last bit of information may also be of use to you in your scoping comments. It concerns range recommendations for allowable livestock utilization in meadows and associated riparian areas.

Utilization Guidelines for Riparian Areas

Clary, Warren P; Webster, Bert F. 1989. Managing grazing of riparian areas in the Intermountain Region. Gen Tech Rep INT-263. Ogden, UT. USDA, USFS, Intermountain Research Station. 11p

On p. 8 is this quote:

“Ratliff and others (1987) suggested that for site protection the herbage remaining after grazing should equal the proportion of production that decomposes annually. This translated into utilization rates of 35 to 45 percent on excellent condition meadows down to 20 to 30 percent on poor condition meadows”

Excellent condition should be a condition near potential natural community, or plant species constituting around 70-75 percent or more of that would exist in a community that is PNC, based on the Alma Winward Appendix 3 included in the Clary and Webster paper.

Clary and Webster (1989, p.9) have provided an estimated range for residual stubble height / percent weight utilization rate conversions, based upon their own study of a mountain meadow ecosystem in Idaho (approximately 6000-6500 feet). Grazing that leaves an average six-inch Residual Stubble Height is comparable to grazing that defoliates vegetation at an average range of 24-32 percent by weight. A four-inch RSH is comparable to a range of 37-44% by weight, and a three-inch RSH is comparable to a range of 47-51% by weight.

They state “However, additional stubble height, such as six inches or more, may be necessary to protect riparian ecosystem function (Myers 1989)” on page 9

The Ratliff reference is Ratliff, Raymond D; George, Melvin R; McDougald, Neil K, 1987. Managing livestock grazing on meadows of California’s Sierra Nevada: a manager-user guide. Leaflet 21421. Berkeley, CA University of California Division of Agriculture and Natural Resources Cooperative Extension, 9 pages. These authors have a definite bias in favor of livestock grazing on public lands, so remain aware of the bias in considering these recommendations.

The Myers reference is: Myers. Lewis H. 1989 Grazing and Riparian Management in southwestern Montana. In Gresswell, Robert E; Barton, Bruce; Kershner, Jeffrey L. editors Practical approaches to riparian resource management; and educational workshop, 1989 May 8-11; Billings MT, USDOI, BLM: 117-120

Important studies concerning recommended residual stubble heights to maintain adequate plant vigor have been conducted by Warren Clary, and these studies strongly recommend maintenance of at least a four inch post-grazing residual plant stubble height minimum for sedge/rush communities. [See Clary, W. P. 1995. Vegetation and Soil Responses to Grazing Simulation on Riparian Meadows. Journal of Range Management 48(1) pp 18-25.]

In fact, Clary's more recent study ["Stream channel and vegetation responses to late spring cattle grazing", Journal of Range Management, May 1999 (52:218-227)] documents that moderately-positive riparian response features associated with the grazed study areas were strongly linked to post-grazing residual stubble heights of riparian plants that are even higher than four inches. In the study, season-end streamside residual stubble heights were 5.1 inches for areas with a moderate grazing stocking rate

and 6.5 inches for areas with a light grazing stocking rate. Clary concluded his article by noting that "early season grazing practices that leave 10 to 14 cm [4.1 to 5.5 inches] of residual forage stubble height provide an avenue for riparian habitat improvement . . . (p 225)."

A 1998 literature review distributed by Ron Wiley, of the National Riparian Service Team (BLM), shares the same conclusion: "For the sedge/rush and associated species key areas . . . a stubble height of from 4 to 6 inches provides the best overall results in terms of sediment capture and retention." (Literature Review, Residual Herbaceous Stubble Height and the Maintenance / Restoration of Riparian/Aquatic Habitat Conditions, unpublished, undated).