

Appendix B – Public Response Documents

Public Response Document 00060

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 003 OF 101

00060



NEPA Compliance Review Office
294 6th Street
Idaho Falls, ID 83401
Tel: (208) 390-5501
Email: NEPA@WesternWatersheds.org
Web site: www.WesternWatersheds.org

Working to protect and restore Western Watersheds

October 11, 2007

Kemmerer RMP and EIS
Bureau of Land Management Kemmerer Field Office
312 Highway 189 North
Kemmerer, WY 83101-9711

RE: Draft Environmental Impact Statement for the Revised Resource Management for the Kemmerer Field Office

To Whom It May Concern:

Enclosed are comments of the Western Watersheds Project (WWP) regarding the Draft Environmental Impact Statement for the Kemmerer Resource Management Plan (hereafter referred to as the DEIS and the RMP).

WWP is a 501c3 non-profit membership conservation organization with offices in California, Idaho, Montana, Utah and Wyoming. WWP, on behalf of all its members, has been working for over a decade to beneficially influence the management of BLM administered lands in the western United States. WWP has a long history of close involvement as an interested public on numerous grazing allotments administered by the BLM in Idaho, Nevada, Utah, Wyoming, eastern Oregon and southwest Montana and, more specifically, the Kemmerer Field Office (KFO).

WWP is submitting these comments and analysis for incorporation into the analysis of Range (Livestock Grazing) issues in the RMP/EIS. We support sustainable multiple use without loss of the potential productivity and diversity of those lands. In accordance with BLM's multiple use mandate, you must include consideration of the intrinsic values of the native biodiversity of these lands and protect those values for the long-term benefit of the American people as described in 43 CFR 1601.0-5(f).

While oil and gas development is taking center stage in the RMP revision process, no other single use has degraded or permanently impaired more acres and more stream miles than livestock grazing, both in the KFO and throughout the 11 western states. Oil and gas development is a serious issue that must be addressed honestly and effectively, but at the same time, attention on the wide-spread impacts of livestock grazing on soil productivity,

Kemmerer RMP DEIS Comments 1

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 004 OF 101

water quality, plant community changes, hydrology, wildlife and fisheries, erosion, soil compaction, soil development, fences, water storage capacity, wildlife migration patterns, artificial wildlife feeding and concentration i.e. elk feedlots, winter range conditions and other impacts must be honestly and thoroughly analyzed and addressed in the RMP revision process.

WWP is knowledgeable of literally hundreds of grazing allotments which are failing the most minimal of environmental health criteria because of livestock grazing on BLM administered lands. The evidence we provide in these comments makes the case that these lands continue to be severely overstocked with livestock. BLM's own data and current management shows this to be the case. The best quantitative and peer-reviewed range science shows that continued emphasis on structural facilities erroneously called "range improvements" is a flawed strategy. BLM typically proposes these projects rather than making the difficult decision to adjust livestock numbers and seasons to be within the current capacity of the land. Without addressing this issue, the productivity and diversity of the land will continue to fall with the result that the land, the public interest and livestock producers will suffer over the long term.

As part of these comments, we refer to voluminous scientific literature and reports that BLM must consider in its analysis. Your review and analysis of these documents and inclusion of them in the RMP/EIS is necessary to provide a "balanced" approach to the issues. Their inclusion is also essential for BLM to comply with NEPA's mandate to take a "hard look" at science and do a thorough and integrated analysis of all disciplines.

Background
The KFO planning area comprises primarily rangeland, with a majority (62 percent) that includes shrublands. Another 21 percent supports forests and woodlands and about 4 percent is considered grassland and meadows, according to GIS analyses of available Gap Analysis Program (GAP) vegetation data (BLM 2007). The remaining areas are covered by riparian habitats; open water; urban, agricultural, mining, and other development; and bare ground (e.g., sparsely vegetated or rock).

The climate of the planning area is classified as semiarid with areas of mid-latitude highland (Trewartha and Horn 1980; Martner 1986). A semiarid continental climate is characterized by seasonal variations in temperature (cold winters and warm summers) and precipitation levels that are low, but sufficient for the growth of short, sparse grass. Summer temperatures average 81-degrees Fahrenheit (°F), while winter temperatures average 4.5 °F (Draft Biological Assessment [hereafter referred to as the BA] p. 3-1).

The planning area includes portions of three regional watersheds—the Green River, Bear River, and Snake River basins. The northern two-thirds of the planning area are characterized by the parallel Salt River Range and the Wyoming Range, which trend generally from north to south. A series of major ridges extend the Wyoming Range to the south, including Commissary Ridge, Oyster Ridge, and the Hogsback. The Salt River Range extends to the south in a series of ridges, the most prominent of which are the Tump Range and the Sillem Ridge, portions of which are popularly known as the Bear River Divide. The extreme southern portion of the planning area includes foothills of the Uinta Mountains, which is an east-to-west trending mountain range

Kemmerer RMP DEIS Comments 2

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 005 OF 101

mostly in northeastern Utah. To the east and northeast of the Uinta foothills is the Bridger basin, a southwestern extension of the Green River basin (DEIS 3-1 through 3-2).

The Bear River Range is the only high elevation forested corridor connecting the Greater Yellowstone Ecosystem and the Northern Rockies to the Southern Rockies. For the integrity of wildlife populations, this is the most critical area of the Rocky Mountains between Canada and Mexico, known as the "Wyoming Gap". This area contains habitat or potential habitat for numerous threatened and sensitive species including Canada lynx, Northern Goshawk, Wolverine, Marten, Fisher, Flammulated Owl, Great Gray Owl, Boreal Owl, Gray Wolf and Bonneville Cutthroat Trout, among others. This area is referred to in the DEIS as the Bear River Divide.

The Bear River Divide and other portions of the planning have been identified by various government agencies (including the U.S. Forest Service) and NGOs as a regionally significant wildlife corridor (http://www.fs.fed.us/r4/wenp/projects/feis/sat_corridor.pdf). This corridor is very important to the continued viability of wide-ranging species such as lynx and wolverine and also provides an important linkage to other ecosystems in the region—allowing these and other species to colonize new habitats and maintain population diversity.

Three important rivers pass through Lincoln County: the Bear River, Snake River, and Green River. The Bear River flows into the Great Salt Lake. The Snake River, which originates in Yellowstone National Park, crosses the northern tip of the county and joins the Columbia River before flowing into the Pacific Ocean. The Green River, which passes the eastern border of the county, flows southward into Utah, where it joins the Colorado River. Fontenelle Reservoir, created on the Green River system, is located in Lincoln County and primarily surrounded by Bureau of Reclamation lands (DEIS 3-3 through 3-4).

The planning area supports seven BLM-sensitive fish species and four federally endangered fish species occurring downstream of the planning area and may be impacted by activities within the planning area (DEIS 3-54). Approximately 30 percent of stream riparian areas where these sensitive fish species occur are in proper functioning condition (BLM 2003a). The other 70 percent are either functional at-risk or nonfunctional, indicating some components are lacking and the stream is susceptible to degradation (DEIS 3-77).

Federally listed Threatened, Endangered, and Candidate Species potentially found in the Kemmerer Planning Area include bald eagles, black-footed ferrets, Canada lynx, gray wolves, Ute ladies'-tresses, and western yellow-billed cuckoo (BA p. 4-1). Recent court decisions have also directed the United States Fish and Wildlife Service (USFWS) to reconsider the listing of the pygmy rabbit and sage grouse—both of which are found in the planning area.

The planning area also contains crucial habitats for big game, including crucial winter range for mule deer, pronghorn, elk, and moose and some of the longest migration routes for big game species in the lower 48 states.

The Woodruff Narrows roost supports one of the largest wintering populations of bald eagles in Wyoming.

Kemmerer RMP DEIS Comments

3

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 006 OF 101

Furthermore, HJM sensitive species found in the area include:

- Pygmy rabbit
- Wyoming pocket gopher
- Idaho pocket gopher
- Ferruginous hawk
- Greater sage-grouse
- Columbian Sharp-tailed grouse
- Burrowing owl
- Sage thrasher
- Loggerhead shrike
- Brewer's sparrow
- Sage sparrow
- Baird's sparrow
- Roundtail chub
- Colorado River cutthroat trout
- Midget faded rattlesnake
- Northern leopard frog
- Great Basin spadefoot
- Boreal toad
- Spotted frog

The importance of habitats in the planning area to these and other species cannot be overstated. The BLM's, and moreover the KFO's continued refusal to consider the needs of these species both at this RMP level and the site-specific level is disheartening to say the least.

Sagebrush communities account for more than 50 percent of the vegetative cover in the Kemmerer Planning Area, with Wyoming big sagebrush representing 1,772,923 acres (45 percent) of the Kemmerer Planning Area. Wyoming big sagebrush is found throughout Wyoming except for in the extreme southeast corner. Mountain big sagebrush is found in more mesic sites than Wyoming big sagebrush and often occurs in mountain parks. Mountain big sagebrush is not found east of the Laramie Range in Wyoming. Total shrub cover within Wyoming big sagebrush and mountain big sagebrush communities comprises greater than 25 percent of the total vegetative cover (Management Situation Analysis [MSA] p. 65).

Ungrazed shrub steppe has been recognized as a "critically endangered ecosystem" due to a loss of more than 98% from historical times.¹ Similarly, the World Wildlife Fund ranked the Columbia Plateau and Wyoming Basin ecoregions, the 2 ecoregions encompassing most of the sagebrush steppe, as endangered and vulnerable, respectively.²

Sagebrush habitats throughout the Kemmerer Field Office (KFO) have been manipulated to increase forage for domestic livestock, and in comparison to other places outside the planning

¹ Noas, R.F., E.T. LaRoe, III, and J.M. Scott. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. USDI National Biological Service Biology Report 28.

² Ricketts, T.H., R. Dinerstein, D.M. Olson, and C.J. Loucks. 1999. Terrestrial ecoregions of North America, a conservation assessment. Island Press, Washington, D.C., USA.

Kemmerer RMP DEIS Comments

4

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 007 OF 101

area, few large, extensive stands of sagebrush remain. Production and vigor of these habitats field-office wide is well below site potential. Due to the regional losses of sagebrush communities, and the wildlife that depend on them, maintenance and improvement of existing sagebrush habitat is important.

We request that the BLM gain public access to the Huff Creek, Little Muddy, and Upper Coal Creek areas.

WWP's comments on the DEIS are as follows:

Purpose and Need

In short, the purpose of the plan is to ensure BLM-administered lands are managed in accordance with FLPMA and the principles of multiple use and sustained yield. (DEIS p. 1-4)

Furthermore, the DEIS states the RMP revision is needed because the existing plan's decisions no longer serve as a useful guide for resource management in the Kemmerer planning area. (DEIS p. 1-5)

First of all, the DEIS, must explain why the current plan is no longer useful, i.e. where the current course of management has been unsuccessful at implementing Multiple Use. When preparing an RMP, the BLM must analyze inventory data and other information available to identify issues and opportunities. This is called the Management Situation Analysis or MSA. The MSA is supposed to provide BLM's current understanding of resources and uses in the planning area; the stuff that shows where these failures occurred.

Then BLM develops goals and objectives and guidelines that will allow it to fulfill its goals of multiple use and sustained yield in accordance with other laws and regulations. This means the BLM needs to take actions **ON THE GROUND** that will enable it to meet the new management direction. The RMP developed from the planning process is the place where the BLM makes a commitment to resource protection for future generations, and complies with the Sec. 102 of FLPMA [43 U.S.C. 1701] (a) which states:

"The Congress declares that it is the policy of the United States that—

(8) the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use;

The language clearly states that BLM must protect the quality of resources within the planning area.

43 CFR 1601.0-5(f) defines Multiple Use as:

"Multiple use means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the lands for some

Kemmerer RMP DEIS Comments

5

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 008 OF 101

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 use of some lands for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources **without permanent impairment of the productivity of the lands and the quality of the environment** with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Therefore, the BLM must show in this analysis that it will management the lands within the KFO in manner that will not harm permanent impairment of the land or the quality of the environment.

The MSA provided for the KFO RMP revision is severely lacking in any inventory or monitoring data that the BLM is required to compile. All we are told is that some resources are degraded. Therefore, the assumptions that are derived from it, and the course of management actions addressed in this DEIS come into question. The BLM are further lacking in scientific and professional integrity as we show later in this document.

Moreover, the RMP contains no real and/or substantial objectives or management actions or direction that would ensure that the area is managed in compliance with the MUSYA and FLPMA. The BLM has completely failed to disclose the current status of resources within the planning area and how past management resulted in those conditions.

For example, the RMP, DEIS, and the MSA have failed to examine the promises of current RMP and other such statements that 75% of streams in the area would be in Properly Functioning Condition (PFC) by 1997. Currently, 68% are non-functional (NF) of functioning at risk (FAR). This is a direct violation of Sec. 102 of FLPMA [43 U.S.C. 1701] (a) which states: "The Congress declares that it is the policy of the United States that— (8) the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values..."

The DEIS must disclose why these and other objectives were not met and propose actions that make this plan different.

Furthermore, the BLM also engaged in the development of numerous Habitat Management Plans (HMPs) throughout the field office over the life of the current RMP in an attempt to address the habitat needs of a variety of wildlife species as it is required to do according to the above mandate of FLPMA. Were any of the recommendations from those HMPs implemented? What were the results? This information needs to be disclosed in order to give an accurate description of current conditions and management in the planning area and to develop adequate standards and guidelines to ensure that this proposed RMP addresses the issues that were lacking in the previous plan.

Kemmerer RMP DEIS Comments

6

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Faa WFP TO: 1 307 828-4539 PAGE: 009 OF 101

Regardless, the DEIS still presents information which indicates previous management of the planning area has resulted in degraded resource conditions and declining wildlife populations—many of these species are imperiled. This fact should be included as an example of “new data and emerging issues and changing circumstances” that demonstrate the need to revise the existing plan. The lack of direction in the current RMP for wildlife habitat needs has resulted in degraded habitat conditions on the KFO and highlights the need for this current plan to require certain mandatory habitat conditions for wildlife, especially the Threatened, Endangered, and Sensitive (TES) species.

Maintaining and improving wildlife habitat and restoring degraded range conditions should be reflected in the purpose and need for the RMP in compliance with both the Taylor Grazing Act of 1934, the Federal Lands Policy Management Act (FLPMA) of 1976, and other laws that govern resource management on public lands. The KFO’s repeated failure to address the needs of sensitive species at the site-specific level, especially in regards to the renewal of livestock grazing permits, is magnified by the failure to consider the habitat needs of these species here at the RMP level. This will ultimately result in further declines of species that are already in peril.

The requirement to focus on improvement of range condition is also explicit in the Public Rangeland Improvement Act (PRIA), which provides that the goal of public land range management is to improve range condition (emphasis added).³ “Range condition” as defined in PRIA means the “quality of the land” as reflected by the ability of specific areas to support the productivity sought by BLM.⁴

Thus, part of the reason for addressing management is to improve the conditions of the land and provide habitat for native species. This direction, based on laws and regulations, should be explicitly stated in the “Purpose and Need for the Plan” in the FEIS and goals and objectives to meet that purpose and need should be developed and implemented into chosen alternative. The selection of any alternative in the DEIS that does not provide direction for meeting those goals violates the intent of the laws and regulations that govern public land management.

Moreover, the direction of these laws and the very definition of “Multiple Use” as it is defined in the statute, highlights the need of the BLM to put resource protection at the forefront in this planning effort. Development and extraction of the resources in the project area should only be done when resources can be protected. This DEIS shows that the KFO seems to have this process reversed, i.e. resources are only protected when extractive industries will not be harmed. This does not fulfill the agencies responsibilities to the statutes or to the public trust.

Alternatives

NEPA regulations require that agencies should “(r)igorously explore and objectively evaluate all reasonable alternatives...”⁵ Furthermore, “NEPA requires that federal agencies consider

³ 43 U.S.C. §§ 1901(b)(2), 1903(b)

⁴ See id. § 1902(d)

⁵ 40 CFR 1502.14(a)

10/11/2007 7:01 PM FROM: Faa WFP TO: 1 307 828-4539 PAGE: 010 OF 101

alternatives to recommended actions whenever those actions “involve [...] unresolved conflicts among alternative uses of available resources.”⁶ Consideration of alternatives is critical to the goals of NEPA even where a proposed action does not trigger the EIS process. This is reflected in the structure of the statute: while an EIS must also include alternatives to the proposed action,⁷ the consideration of alternatives requirement is contained in a separate subsection of the statute and therefore constitutes an independent requirement.⁸

The language and effect of the two subsections also indicate that the consideration of alternatives requirement is of wider scope than the EIS requirement. The former applies whenever an action involves conflicts while the latter does not come into play unless the action will have a significant effect. An EIS is required where there has been an irretrievable commitment of resources, but unresolved conflicts as to the proper use of available resources may exist well before that point.

Thus the consideration of alternatives requirement is both independent of and broader than, the EIS requirement. Recent case law has established that consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA.⁹ As stated in *Idaho Conservation League v. Mumma*, 956 F.2d 1508 (9th Cir. 1992), the existence of a viable but unexamined alternative renders an environmental impact analysis inadequate. “The alternative section is ‘the heart of the environmental impact statement,’ 40 C.F.R. 1502.14; hence, ‘[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate.’ *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985).

While the practicalities of the requirement are difficult to define, NEPA provides that all agencies of the Federal Government shall, to the fullest extent possible, “[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. 4332(2)(E). Whether a particular EIS has met this demand can best be determined by its purpose, which is to “ensure that federal agencies have sufficiently detailed information to decide whether to proceed with an action in light of potential environmental consequences, and [to] provide the public with information on the environmental impact of a proposed action and encourage public participation in the development of that information.” *Kunzman*, 817 F.2d at 492; see also *Citizens for a Better Henderson*, 768 F.2d at 1056. “As a result an agency must look at every reasonable alternative, with the range dictated by the ‘nature and scope of the proposed action,’ *Block*, 690 F.2d at 761, and ‘sufficient to permit a reasoned choice.’ *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987), *rev’d on other grounds sub nom. Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989).”

BLM is required to rigorously explore and objectively evaluate all reasonable alternatives to a proposed action that will accomplish its intended purpose, are technically and economically

⁶ 42 USC 4332(2)(E)[1982]

⁷ 42 USC 4332(2)(C)(iii)[1982]

⁸ See id. 4332(2)(E)

⁹ See *Citizens for Environmental Quality v. United States*, 731 F.Supp. 970, 989 (D. Colo. 1989); *State of California v. Block*, 690 F.2d 753 (9th Cir. 1982)

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Fax WVF TO: 1 307 828-4539 PAGE: 011 OF 101

feasible, and yet have lesser (or no) impacts. 40 C.F.R. §§ 1501.2, 1502.1, and 1502.14; *Headwaters, Inc. v. BLM*, 914 F.2d 1174, 1180 (9th Cir. 1990).

It is established that BLM may eliminate an alternative with obvious disadvantages from detailed consideration. *Sierra Club (on Judicial Remand)*, 80 IBLA 251, 265 (1984).

Section 102(2)(E) of NEPA, 40 U.S.C. § 4332(E) (2000), and the implementing regulations at 40 CFR 1502.14(a) and 1508.9 require an agency preparing an environmental analysis to analyze all reasonable alternatives. Thus, a "rule of reason" approach applies to both the range of alternatives and the extent to which each alternative must be addressed. *Sierra Club Uncompahgre Group*, 152 IBLA 371, 378 (2000); *Southern Utah Wilderness Alliance*, 152 IBLA 217, 223-24 (2000).

Therefore, BLM is required to consider alternatives that are feasible and reasonably related to the purpose of the proposed action. *Howard B. Keck, Jr.*, 124 IBLA 44, 53 (1992). BLM is required by law to evaluate a range of alternatives, but has failed to do so and justifies its action by constraining the purpose and need for this proposal which itself constitutes a violation of NEPA and the APA.

The DEIS asserts the following (p. 2-1):

"Given these principles and the inherent conflicting nature of resource conservation and resource development, alternative formulation occurs within the limits of planning criteria that address the needs of present and future generations, while remaining flexible for periodic adjustments. This approach results in a reasonable range of alternatives that vary by their emphasis on allowable uses and management actions that affect conservation and development."

While this approach *may* result in a reasonable range of alternatives that vary on their emphasis on allowable uses, a reasonable range of alternatives has not been considered in the DEIS for the revised Kemmerer RMP. The BLM admits that it is required to study a full range of alternatives. The DEIS states:

"The multitude of resources within the planning area coupled with the diversity of planning issues and the requirement to manage for multiple use and sustained yield naturally leads to developing alternatives across a continuous spectrum from resource conservation to resource development. For example, overall, Alternative B places more emphasis on resource conservation, whereas Alternative C places more emphasis on resource development. The remaining alternatives (A and D) fall in between B and C on the continuous spectrum, as shown in Figure 2-1. (DEIS p. 2-1)"

The DEIS further identified the issues that drove the development of alternatives that were analyzed in the DEIS. Those issues included energy and mineral development, vegetation and habitat management, landownership adjustments, access to public lands, transportation, and special designations (DEIS abstract).

Furthermore, the DEIS points out the following (p. 1-7):

Kemmerer RMP DEIS Comments

9

10/11/2007 7:01 PM FROM: Fax WVF TO: 1 307 828-4539 PAGE: 012 OF 101

"Emerging issues and changes in local, regional, and national circumstances to consider when revising the existing plan include the following:

- Increasing and conflicting demands on the planning area's resources and resource uses
- Increasing complexity of resource management issues
- Increasing energy prices and interest in energy (including wind) exploration and development
- Changes in the legal status of plants and wildlife potentially occurring in the planning area
- Growing Wildland-Urban Interface (WUI) areas and fire management
- Changes in the National Historic Trail setting as it relates to adjacent development
- Urbanization of rural areas and the WUI
- Addressing habitat fragmentation given BLM's requirement for multiple use management and sustained yield
- Public access to public lands
- Spreading of invasive nonnative species on public lands
- Increasing use of OHVs on public lands
- Increasing interest in travel management and energy related corridors."

The KFO further clarified how alternatives were developed. The DEIS notes:

"During the initial workshop, the ID Team shared their respective knowledge and expertise and collaborated to identify goals and objectives (desired outcomes) representing a full range of alternatives for each resource. The second workshop narrowed the scope of alternatives to a reasonable range bounded by the planning criteria.

The BLM formulated four Action Alternatives from the information gathered during the first two workshops; the ID Team reviewed these Action Alternatives during the third workshop.

The BLM analyzed the potential impacts of the four Action Alternatives and the No Action Alternative. Based on this analysis, the similarity among alternatives became apparent and BLM therefore eliminated two of the four Action Alternatives prior to the fourth workshop. During the fourth workshop, the ID Team considered the No Action (A) and the two remaining Action Alternatives (B and C) and provided the BLM with recommendations for selecting the Preferred Alternative (D). BLM selected the Preferred Alternative based on the following criteria. (p. 2-2)"

The BLM is required by NEPA and the FLPMA planning regulations to analyze minimum and extreme levels of production and/or outputs as well as the no action alternative, i.e. current management according to the 1986 RMP. It is clear from the above citations taken from the DEIS that the BLM only actually developed and seriously considered one alternative. It appears from these statements, and others throughout the DEIS, that the BLM acknowledges that the current Resource Management Plan is outdated and does not comply with existing laws,

Kemmerer RMP DEIS Comments

10

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 013 OF 101

regulations, policies, etc. Furthermore, the BLM acknowledges that Alternatives B & C do not fulfill all of the goals and objectives outlined in the DEIS.

The BLM has admitted that all alternatives it did consider were too similar, and it only seriously developed one alternative. Moreover, the analysis of impacts is biased in favor of supporting the preferred alternative in violation of NEPA and the APA.

The DEIS states that:

"each alternative comprises two categories of land use planning decisions: (1) desired outcomes (goals and objectives) and (2) allowable uses and management actions. These two categories, as well as the Reasonable Foreseeable Development (RFD) scenario for oil and gas and Reasonable Foreseeable Actions (RFAs), are discussed below.

Goals and objectives initially were identified during the first workshop and refined through subsequent collaboration with cooperating agencies. Goals are broad statements of desired outcome, but generally are not measurable. Objectives are more specific statements of a desired outcome that may include a measurable component. Objectives generally are anticipated to achieve the stated goals.

Alternatives were refined to address planning issues, resolve resource conflicts, improve consistency, and ensure resource-specific decisions for the following categories in the RMP revision process: (1) Physical, Biological, and Heritage Resources; (2) Resource Uses and Support; and (3) Special Designations. (pp. 2-2 through 2-3)"

The BLM continues by stating "The range of alternatives reflects the degree of mitigation built into each alternative in the form of avoiding, minimizing, and compensating for adverse impacts. During the implementation stage, additional environmental analyses will be conducted, as appropriate, for site-specific actions, and the BLM will determine on a case-by-case basis what, if any, site-specific mitigation is required at that time." (DEIS p. 2-11) Moreover, "Goals and objectives (desired outcomes) are not described in the alternative narrative because they do not differ among alternatives. (DEIS p. 2-7)"

The BLM has clearly stated that it will manage the area for a certain set of environmental, economic and social conditions (the desired outcomes) instead of evaluating a range of management scenarios with specific mandatory stipulations for any activity proposed on BLM lands that result in an array of future outcomes as NEPA requires.

WWP is particularly concerned that the DEIS failed to take a hard look at domestic livestock grazing and the different levels at which that activity is authorized to occur in the planning area. Specifically, the DEIS states the following:

"Livestock grazing continues to be managed on 224 grazing allotments according to the *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for the Public Lands Administered by the BLM in the State of Wyoming* (BLM 1998a) under Alternative D. The same area available for livestock grazing under Alternative A

Kemmerer RMP DEIS Comments

11

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 014 OF 101

(current management) remains available under Alternative D. The Lost Creek/Ryan Creek acquisition area is managed the same as Alternative A (Wildlife use only good). Issuance of temporary nonrenewable permits for unallotted parcels is a discretionary decision for the BLM under Alternative D. Additional sustained yield forage would be allocated for livestock use on a case-by-case basis. In addition, under Alternative D, the Christy Canyon Allotment is designated as a forage reserve. Alternative D increases the buffer prohibiting livestock salt or mineral supplements to ¼ mile of water sources, riparian areas, aspen stands, or special status plant species. Range-improvement projects are not allowed on special status plant species populations under Alternative D. (pp. 2-30 through 2-31)."

None of the alternatives in the DEIS address different levels of livestock grazing. In fact, the BLM admits "Prohibit or exclude parts or all of the planning area from wind-energy development, oil and gas leasing, all-terrain vehicles/off-highway vehicles (OHV) use, and livestock grazing. The FLPMA requires the BLM to manage public lands and resources according to the principles of multiple use and sustained yield. Alternatives inconsistent with BLM's multiple use mandate were not carried forward. The BLM recognizes conflicts exist between resources and resource uses and considered these conflicts during development of the alternatives. (DEIS p. 2-5)"

BLM incorrectly interprets its own multiple use mandates. FLPMA's multiple-use mandate requires that BLM balance competing resource values to ensure that public lands are managed in the manner "that will best meet the present and future needs of the American people." 43 U.S.C. § 1702(c) (1994). The regulations thus require a site-specific review in which the agency determines whether grazing livestock is appropriate to particular areas, given the value of other uses diminished or foregone (e.g., wildlife, recreation, cultural, etc.). The planning process must show that BLM has balanced competing resource values to ensure that the public lands in the planning area are managed in the manner that will best meet the present and future needs of the American people.

The definition of multiple use in FLPMA is long, but key provisions include the following: (1) Public lands and their resource values must be managed so that they "best meet the present and future needs of the American people;" (2) It is appropriate that some land be used "for less than all of the resources;" and (3) There must be harmonious and coordinated resource management that is done without permanent impairment of the productivity of the land and the quality of the environment with consideration be given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or greatest unit output." 43 U.S.C. § 1702(c). Sustained yield as defined in FLPMA can be achieved either by "high-level annual" or "regular periodic" output of resources, so long as this is accomplished in a way that can be maintained in perpetuity and is consistent with the definition of multiple use. 43 U.S.C. § 1702(h).

FLPMA explicitly provides that the alternative plans that are developed need not accommodate all resource uses on all lands. Moreover, FLPMA provides that areas where less than all resource

Kemmerer RMP DEIS Comments

12

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGES: 015 OF 101

uses are allowed should be "large enough to provide sufficient latitude for periodic adjustments" to accommodate changing circumstances. 43 U.S.C. § 1702(c).

Weighing the impacts of resource management practices is consistent with the BLM's mission of providing lands for multiple uses as required by FLPMA and recognized in the Multiple Use Sustained Yield Act (MUSYA). Case law cited in the BLM's guidance concludes that the "multiple use" concept as defined in law and regulations requires "a reasoned and informed decision that the benefits of grazing ... outweigh the costs" and a weighing of "the relative values of the resources" on a site-specific basis. (*National Wildlife Federation v. BLM*, 140, IBLA 85 (1997))

The fact that the DEIS appears to rely exclusively on undisclosed non-NEPA documents to support the conclusions that the entire project area can sustain the current levels of domestic livestock grazing is itself an admission of BLM's failure to comply with NEPA with respect to KFO planning area. See *SUWA v. Norton*, No. 2:04CV574 DAK, 2006 U.S. Dist. LEXIS 53621, at *36-49.

National Wildlife Federation v. BLM, 140, IBLA 85 (1997) not only affirmed the longstanding rule that NEPA requires the BLM to analyze the site-specific impacts of grazing, it must also engage in "reasoned decision-making" on the question of whether to allocate lands and associated resources to this particular use. The DEIS fails to include the required analysis of site-specific impacts of grazing and the required discussion of the balancing of values that will ensure that grazing best meets the present and future needs of the American people. As noted above, this balancing is required so as to meet the requirement that public lands are managed on the basis of multiple use and sustained yield. 43 USC §§1702(c), 1732(a).

The Comb Wash Decision held that this balancing is mandatory, and the plan has failed to reflect both that this balancing was carried out and what its results were, for the planning area. In accordance with the standards and guidelines, the Comb Wash Decision, and provisions in the FLPMA and PRIA, the EIS should have determined the suitability of lands within the RMP area for livestock grazing and then required adjustments accordingly.

There is no doubt BLM has this responsibility and authority. See 43 U.S.C. § 315 (grazing districts must be chiefly valuable for grazing), 315a (BLM can do "any and all things" necessary to manage grazing), 1701(a)(8) (public lands to be managed to protect environmental values), 1702(c) (multiple use management allows for areas to be deemed unsuitable for certain uses and requires consideration of relative resource values), 1712(a)-(c) (land use plans to be based on multiple use), 1712(d) (land use classifications can be modified or terminated), 1712(e) (allowing for elimination of principle or major uses), 1732(c) (revocation of permits authorized), 1752 (allowing discontinuation of grazing permits and a determination in land use plans of whether lands "remain available for domestic grazing"), 1903(b) (allowing for discontinuation of grazing pursuant to land use planning decisions). See also *Public Lands Council v. Babbitt*, 529 U.S.C. 728 (2000) (holding that allocation of forage pursuant to 43 C.F.R. 4100.0-5 does not, on its face, violate the Taylor Grazing Act).

Kemmerer RMP DEIS Comments

13

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGES: 016 OF 101

We agree with BLM that FLPMA does not require a "specific" public interest determination for grazing. However, FLPMA's multiple-use mandate requires that BLM balance competing resource values to ensure that public lands are managed in the manner "that will best meet the present and future needs of the American people." 43 U.S.C. § 1702(c) (1994).

Livestock grazing, like all land uses, should only occur in areas where it has been carefully determined, pursuant to the land use planning process, to be a suitable use of the land. The suitability determination should be made in the RMP at two levels: (1) for the RMP area as a whole and (2) for site-specific areas.

More importantly, 43 CFR Sec. 4100.0-8 states:

"Land use plans shall establish allowable resource uses (either singly or in combination), related levels of production or use to be maintained, areas of use, and resource condition goals and objectives to be obtained. The plans also set forth program constraints and general management practices needed to achieve management objectives. Livestock grazing activities and management actions approved by the authorized officer shall be in conformance with the land use plan as defined at 43 CFR 1601.0-5(b)."

In the case of the Kemmerer RMP and DEIS, the BLM has recognized many times that the quality of the land in the project area is severely diminished. Thus, when the RMP seeks to improve "range condition," as it must, what this really means is that the RMP must provide for improved riparian, upland, and wildlife habitat conditions and include goals and objectives and allowable use standards to achieve those goals and should have analyzed a variety of alternatives regarding domestic livestock grazing that would move toward meeting those goals and objectives as well as the Standards for Rangeland Health (SRH).

More importantly, the KFO has failed to take the required "hard look" at the impacts of domestic livestock grazing. The DEIS fails to scientifically and accurately determine those lands which are capable and suitable for livestock grazing. The BLM has further failed to accurately and quantitatively determine how much forage (i.e. forage capacity) is currently available. On top of this, the RMP DEIS fails to properly allocate that forage to watershed and stream protection, wildlife habitat and food, then to livestock if available.

Furthermore, the RMP fails to provide for long-term rest to facilitate recovery, and any discussion of impacts should have addressed the unwillingness of permittees to use peer-reviewed range science principles for management and their strong opposition to the most minimal standards of performance. Instead they rely on unfounded solutions such as time-controlled grazing and "holistic" management such as advocated by Alan Savory.

For example, the effects of different livestock grazing intensities on forage plant production were studied in a ponderosa pine type in Colorado as early as the 1940's.¹⁰ This study showed that forage consumption at a rate of 57% produced an average of twice as much forage as a rate of

¹⁰ Schwan, H.F., Donald J. Hodges and Clayton N. Weaver. 1949. Influence of grazing and mulch on forage growth. *Journal of Range Management* 2(3):142-148.

Kemmerer RMP DEIS Comments

14

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 017 OF 101

71%. An area left ungrazed by livestock for 7 years produced three times as much forage as the 71% use area. The authors concluded that, as grazing use increased, forage production decreased.

During that same period, Dyksterhuis,¹¹ in a classic paper on the use of quantitative ecology in range management, presented examples of how stocking rates must be adjusted based on precipitation and range condition, which included a rating based on departure from the potential plant community. NRCS¹² considers proper grazing management as that management that sustains the potential plant community.

The effects of conservative (30 – 35%) use vs. heavy (60 – 65%) grazing use on grasses and forbs by cattle were determined in a New Mexico study.¹³ Both of these pastures had experienced conservative use for over 10 years. In 1997, one pasture was changed to heavy use. This study showed that heavy stocking rates resulted in serious declines in productivity in the succeeding year. Perennial grass production was reduced by 57% and forbs by 41% in the heavily grazed pasture compared to the conservatively grazed pasture. The authors cited a number of other studies in arid environments that showed heavy stocking rates were accompanied by decreases in forage production when compared to conservative use. After drought, the ability of forage plants to recover was directly related to the standing crop levels maintained during the dry period. The studies cited showed that grazing during different seasons was less important than grazing intensity.

Five long-term stocking rate studies from three different locations in Arizona, New Mexico and Utah documented similar patterns.¹⁴ In the Desert Experimental Range in Utah, a 13-year study with moderate (35%) and heavy (60%) use by sheep resulted in annual forage production of 198 lbs/acre and 72 lbs/acre. The authors recommended 25 – 30% use of all forage species. A 10-year study at the Santa Rita Range in Arizona demonstrated that perennial grass cover and yield showed an inverse relationship to grazing intensity, while burroweed, an undesirable species, increased with increasing forage use. The authors recommended a 40% use level. A 37-year study at the Jornada Experimental range in New Mexico involving conservative (33%) and moderate (45%) use showed that the lower grazing intensity resulted in greater black grama (perennial grass) cover. Lowland areas with high clay content and periodic flooding grazed at moderate intensity had higher cover of 'ohosa, a perennial grass, than heavily grazed areas. They recommended 30% be used as a stocking intensity with no more than 40% removed in any year. A 10-year study at the Chihuahuan Desert Rangeland Research Center looked at four grazing intensities of 25%, 35%, 50% and 60%. Light (25%) and moderate (35%) use produced 70% more forage than 50% use and more than double that achieved at 60% use. Here, the author recommended conservative stocking at 30 – 35%.

¹¹ Dyksterhuis, E. J. 1949. Condition and management of range land based on quantitative ecology. *Journal of Range Management* 2:104-115.

¹² USDA. 1982. Soil Survey of Rich County Utah. USDA Soil Conservation Service, Forest Service and Bureau of Land Management.

¹³ Galt, Dee, Greg Mendez, Jerry Holechek and James Joseph. 1999. Heavy winter grazing reduces forage production: an observation. *Rangelands* 21(4):18-21

¹⁴ Holechek, Jerry L., Hilton Gomez, Francisco Molinar and Dee Galt. 1999a. Grazing studies: what we've learned. *Rangelands* 21(2):12-16

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 018 OF 101

Hutchings and Stewart,¹⁵ suggested that 25 – 30 % use of all forage species by livestock was proper. They recommended this level because routinely stocking at capacity will result in overgrazing in half the years and necessitate heavy use of supplemental feed. Even with this system, they recognized that complete destocking would be needed in 2 or 3 out of ten years. Holechek et al¹⁶ concluded that the research is remarkably consistent in showing that conservative grazing at 30 – 35% use of forage will give higher livestock productivity and financial returns than stocking at grazing capacity. They also recognized that consumption by rodents and other wildlife must be taken into account as part of this utilization, otherwise, rangeland productivity would suffer even at these levels of use. Galt et al¹⁷ recommended levels of 25% utilization for livestock and 25% for wildlife with 50% remaining for watershed protection. In none of these cases have the scientists recommended 50% utilization by livestock, as the BLM continually authorizes (i.e. take half, leave half) and they are clear that even at the lower use levels recommended, allowance for wildlife use must be included in overall use.

Clearly, the long-term range studies cited here show that under actual field conditions, light grazing (25% or less by livestock) is most appropriate to meet BLM's mandate for sustainable use. These utilization rates are the minimum needed to ensure proper functioning condition, which is the minimum acceptable condition. The BLM would do well to require at least minimum compliance with these standards in the RMP until these standards can be evaluated at the site-specific level.

Moreover, the Management Situation Analysis (MSA) noted the following:

"Livestock grazing is managed primarily in designated livestock allotments. Legislative acts, federal policies, and other policies specify the Kemmerer Field Office's authorization and management of livestock grazing on public lands. In 1985, BLM established 3 categories for allotments to identify areas where management was potentially needed. At that time all allotments were classified as one of the following: Improve Existing Resource Conditions (I), Maintain Existing Resource Conditions (M), or Custodial Management (C). The final designation of an allotment into one of these 3 categories is based on range condition, resource potential, present management situation, riparian areas, resource conflicts, and economic potential. Within the Kemmerer Planning Area rangeland health assessments have been accomplished on 49 allotments. Rangeland health assessments on the remaining 155 allotments will be completed by 2010. (p. 40)"

The proposed RMP and the DEIS note that these allotment categories are being carried forward into the new RMP. Clearly, the BLM's management has not been successful at improving resource conditions on domestic livestock grazing allotments, especially on those "I" category allotments that were supposed to receive priority for improvement under the old plan. This failure to meet the requirements to protect public resources is one of the reasons this planning process is being undertaken, so the revision should include an alternative that addresses this

¹⁵ Hutchings, S.S. and G. Stewart. 1953. Increasing forage yields and sheep production on Intermountain winter ranges. U.S. Department of Agriculture Circular 925. 63p.

¹⁶ Holechek, Jerry L., Hilton Gomez, Francisco Molinar and Dee Galt. 1999a. Grazing studies: what we've learned. *Rangelands* 21(2):12-16

¹⁷ Galt, Dee, Francisco Molinar, Joe Navarro, James Joseph and Jerry Holechek. 2000. Grazing capacity and stocking rate. *Rangelands* 22(6):7-11.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 019 OF 101

important issue. As we have already pointed out, continuing the same course of action violates the laws and regulations which govern public land management.

This highlights the need for an evaluation of other alternatives. More importantly, the DEIS and associated documents, including the MSA fails to include any current information regarding the condition of resources within allotments that have received assessments. This results in a failure to take a hard look at the impacts associated with the BLM's management activities designed to meet the Standards for Healthy Rangelands (SRH) as well as constitutes a failure to disclose past and cumulative impacts.

In addition, the MSA (p.41) also stated the following:

"Preliminary rangeland management opportunities for allotments within the Kemmerer Planning Area include:

- Continue to improve livestock distribution through water development, salt blocks, fencing, and land treatments.
- Revise stocking rates.
- Combine or divide allotments as necessary.
- Enhance forage conditions through vegetation manipulation.
- Continue to develop and implement AMPs and Coordinated Resource Management Plans.
- Continue coordination with WGFD on herd objective numbers."

Yet, the BLM has continuously refused, both at the planning level and at the site-specific level for numerous allotments, to ever address stocking rates as they apply to forage production, drought conditions, soil productivity, wildlife needs, etc.

Why does the RMP fail to address stocking rates? Why were various levels of livestock stocking rates not analyzed in the RMP in accordance with the multiple use stipulations cited above? WHEN will BLM take a hard look at stocking rates? Why do forage conditions need enhanced? Why is distribution a problem? Without considering these issues and analyzing alternative methods and numbers associated with grazing, the BLM cannot take the "hard" look at domestic livestock grazing that NEPA mandates.

More importantly, the BLM should analyze alternatives that address the resource concerns associated with livestock grazing through means other than more range developments, forage "improvement" actions and the like such as by removing livestock grazing from degraded areas, providing rest, addressing drought, adjusting stocking rates, etc. as the MSA stated. Only then can the true costs and relative impacts be disclosed as required.

The BLM should consider addressing domestic livestock grazing and the impacts associated with that use in a manner similar to the Prineville, OR district of the BLM. In the RMP for the Deschutes Resource Area, the BLM created a formula to estimate the potential for conflict and demand, while considering ecological and social conditions, to help identify areas where problems are likely to occur in regards to livestock grazing (See Attachment 1). This would allow BLM to close, on a voluntary basis, allotments where significant resource or other

Kemmerer RMP DEIS Comments

17

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 020 OF 101

problems exist. It would also provide flexibility in the management actions needed to address factors affecting the Rangeland Health Standards.

Finally, Page 17 of the (MSA) states:

"Additionally, the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management address management goals on a landscape scale. Standards include goals for riparian and wetland structure and function, as well as maintenance of adequate habitat conditions to support diverse plant and animal species. Standards are achieved through a number of plans and agreements, including the Thomas Fork Aquatic Habitat Management Plan, the Bonneville Cutthroat Trout Interagency Five-Year Plan, and the Conservation Agreement and Strategy for Colorado River Cutthroat Trout."

And:

"Management challenges facing livestock grazing in the planning area include balancing multiple resource uses, such as wildlife use of forage and wildlife compatible fences; ongoing coordination with ranchers, the public, and interested stakeholders; the spread of INNS; livestock grazing management strategies that improve "I" category allotments and address long-term monitoring needs; and having sufficient information to analyze resource capabilities to meet active permitted use of each allotment, seasonal use needs of operators, and rangeland health standards. Existing challenges in the planning area also include meeting the standards for rangeland health, controlling livestock access and season of use, limiting soil erosion, maintaining diverse vegetation and sufficient forage, providing sufficient water, managing the relatively small and isolated parcels of public lands, managing the distribution of livestock, managing potential conflicts with recreation and oil and gas development, and enforcement of unauthorized use. Management actions designed to address these challenges are incorporated in the alternatives that are described in more detail in Chapter 2. (DEIS p. 3-121)"

The BLM is well aware that there are a variety of alternatives and management scenarios regarding grazing that would lead to achievement of the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management and that address the management challenges facing livestock grazing, but has failed to consider such alternatives in violation of NEPA and other laws.

This is supported by the fact that "The types of impacts projected to occur to livestock grazing management because of each alternative are similar and include changes in AUM allocations and rangeland health. (DEIS p. 4-184)" And, "Livestock grazing continues to occur within the majority of the planning area under all alternatives. In addition, current allotment categories (M, C, and I) and current livestock trails are maintained under all alternatives. The Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (BLM 1998a) will be applied, regardless of alternative. Vegetation treatment projects designed to benefit rangeland health also are anticipated to occur under all alternatives. (id.)"

Kemmerer RMP DEIS Comments

18

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 021 OF 101

It is important to point out that there are a number of factors to consider in selecting management strategies aimed at meeting resource objectives and standards and guidelines, including timing, duration and frequency of grazing, distribution of livestock, stocking rates, utilization levels and patterns, and pasture design, including topography and seasonal implications of topography.¹⁸

For example, Myers¹⁹ suggests that the duration of grazing often prescribed for uplands (60-75 days) be shortened to 25-30 days. Shortening the duration and providing growing season rest in all pastures lessens animal impacts, provides regrowth, and allows stock to be more selective in grazing.

Proper distribution of livestock can also be an effective and economical tool in managing riparian areas, although in some areas rest may be required, especially where woody species are part of the management objective²⁰ such as willow complexes along streams.

However, no strategy for improving resource conditions in the presence of domestic livestock will work until stocking rates are at an appropriate level for the existing conditions. Even if stocking rates are appropriate, a temporary reduction in stocking rates is sometimes necessary to allow recovery of localized problem areas. This is especially true in rest-rotation strategies where part of the area is removed from grazing for an entire season. The rest may not compensate for increased use until sufficient recovery is achieved.²¹

Furthermore, the SRH are required by regulations governing the BLM's management of livestock grazing. The BLM MUST analyze alternative courses of action for meeting these standards in order to comply with NEPA and the FLPMA planning regulations.

AUMs

The 224 allotments in the planning area provide livestock AUMs for 229 permittees/lessees operating cattle, sheep, and horses on BLM-administered land. Of the 224 allotments, 73 currently allow grazing by sheep, 185 by cattle, and 9 by horses. The 157,249 AUMs currently available in the planning area are divided among cattle (97,190 AUMs), sheep (59,505 AUMs) and horses (554 AUMs) (DEIS p. 3-116).

Currently, 39 allotments are classified as "I" (improve), 115 as "M" (maintain), and 67 as "C" (custodial) (Map 42). Some allotments are not assigned a category. The "I" and "M" category

¹⁸ USDI Bureau of Land Management and USDA Forest Service. 1997. Riparian Area Management: Grazing Management for Riparian-Wetland Areas. TR 1737-14. USDI BLM National Applied Resource Sciences Center Denver, CO.

¹⁹ Myers, L. 1989. Grazing and riparian management in southwestern Montana. Fifteen years experience. Proc., Practical Approaches to Riparian Resource Management an Educational Workshop. Billings, Montana.

²⁰ USDI Bureau of Land Management and USDA Forest Service. 1997. Riparian Area Management: Grazing Management for Riparian-Wetland Areas. TR 1737-14. USDI BLM National Applied Resource Sciences Center Denver, CO.

²¹ Ibid.

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 022 OF 101

allotments contain approximately 1,361,104 acres of BLM-administered land, or 96 percent of the total acreage in the planning area. (DEIS p. 3-119)

Comparison of range condition data from surveys completed in the 1950s and 1960s and surveys completed in the 1980s and 1990s indicates the condition of public lands in the planning area has improved due to improved livestock management. 3-119 If conditions have improved, then why are the "I" category allotments still listed as needing improvement 20 years later?

Moreover, approximately 10 percent of the public lands in the planning area are assessed annually for rangeland health. By the end of FY 2004, 50 allotments totaling 477,824 acres were evaluated. Twenty-six allotments (280,238 acres) were found to meet rangeland health standards. The remaining 24 allotments (197,586 acres) did not meet one or more standards. In 2 of the 24 allotments not meeting standards, livestock were determined not to be the primary factor causing degradation of rangeland health. In the remaining 22 allotments not meeting rangeland health standards, past or present livestock use was determined to be the contributing factor. It is important to note that only specific areas (e.g., 15% or less of the allotment) of public land within the 22 allotments were failing rangeland health standards. (DEIS p. 3-120). This may be true, but this statement is misleading because the BLM failed to state that almost ALL of this is riparian areas that are most important to wildlife and ecological functions.

For example, the DEIS states "The rangeland health standards most often not met were Standard #2, which addresses riparian and wetland areas, and Standard #3, which addresses upland plant communities. In upland communities, INNS, poor plant vigor, and composition of plant communities are contributing factors for not meeting Standard #3. (DEIS p. 3-120)." This highlights the fact that further developments in the uplands are not warranted and a reduction in livestock use and AUMs is in order.

The BLM seriously contradicts itself by claiming that "Over the last 40 to 50 years, an improvement in range condition has occurred due largely to improved grazing management practices; development of range improvement projects, such as fences and water developments; and, in some cases, reduction in livestock numbers or change in kind of livestock...INNS is one factor that may adversely impact the improving trend. (DEIS p. 3-121)" If this is true then why are the "I" category allotments still listed as needing improvement? Why are almost half of all allotments failing to meet SRH? Why are over half of all riparian areas not meeting PFC? Why are upland plant communities in a state of poor vigor and composition? The BLM CANNOT assert with the given data that conditions will improve. Moreover, all alternatives have the same impact because grazing with the same numbers, AUMs, etc. is the same under all alternatives in violation of NEPA.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WFF TO: 1 307 828-4539 PAGE: 023 OF 101

Furthermore, the DEIS states "Over the life of the plan, it is estimated that to achieve or maintain the desired future condition (DFC) for rangelands, mechanical and chemical treatment and prescribed fire need to occur in the planning area. Mechanical treatment of rangeland includes the mowing of sagebrush and the mowing or shredding of limber pine and juniper. **This treatment is done to increase forage production and improve forage quality**, as well as to facilitate grazing management activities (e.g., moving livestock between pastures). **Chemical treatments are implemented to thin stands of sagebrush for improved forage production** and to facilitate grazing management objectives, as well as to supplement INNS control activities in specific areas of the planning area. Prescribed burns are used to attain DFC, such as maintaining rangeland in a specific seral condition and to achieve wildlife, livestock, and watershed management objectives. (p. 4-184)" Besides failing to address the impacts of such efforts on native plant communities and wildlife, particularly sensitive species, these statements highlight the need for the RMP DEIS to evaluate the current levels of soil and vegetative production and adjust AUMs accordingly. A thorough analysis of alternatives must consider adjusting AUMs without the widespread use of vegetation treatments aimed to increase forage for domestic livestock at the expense of other resources.

The BLM acknowledges that changes in AUM allocations within the planning area may be warranted, but are expected to be limited to specific allotments and to be relatively small changes compared to the total AUM allocations for the planning area. "In many cases, a change in AUM allocations reflects a change in management of livestock within an allotment, or a change in management of another resource that affects livestock. For example, if grazing management and (or) range improvement projects have increased the overall productivity of an allotment, then it may be appropriate to increase the number of AUMs permitted under the grazing lease or permit for that allotment. Conversely, if forage productivity changes due to surface disturbances, fire, wildlife (e.g., elk, prairie dogs) use, INNS increases, and (or) if monitoring indicates a downward trend in rangeland health, the number of AUMs permitted in an allotment may decrease. **The number of AUMs permitted in an allotment also may decrease if it is discovered that the number of AUMs originally permitted over-allocated the forage resource.** This may occur in allotments where features, such as rock outcrops, steep slopes, rock or bare ground, or other factors limiting forage utilization by livestock, were not adequately accounted for when AUMs were originally allocated. (DEIS p. 4-185)."

However, the BLM and the KFO in particular ALWAYS fail to address the site-specific issues regarding forage production during allotment level analysis. Moreover, in order to take a hard look at livestock grazing forage production and carrying capacity of the planning area should be justified now then updated at the allotment level. This is especially true since the BLM acknowledges that productivity of many of the allotments has decreased.

The DEIS claims that "Any potential changes to AUM allocations are based on the amount of available forage in an allotment as determined through monitoring or other means (43 CFR 4110.3-2[b]). (p. 4-185), but has failed to disclose this monitoring data and to update the AUM allocations in the project area. This is particularly important given the above referenced citations

Kemmerer RMP DEIS Comments

21

10/11/2007 7:01 PM FROM: Pam WFF TO: 1 307 828-4539 PAGE: 024 OF 101

regarding the loss of productivity of uplands and riparian areas as well as by the enormous amount of vegetation manipulation being proposed to address forage productivity as well as the invasion of noxious weeds and non-native plants.

The DEIS acknowledges that "One of the primary indirect impacts of surface disturbance affecting rangeland health and productivity is the spread of INNS. INNS displace native vegetation and, because they typically are unpalatable to livestock and wildlife, remain ungrazed. This places more strain on remaining native vegetation to support grazers, giving INNS an additional advantage over native vegetation in their competition for water, nutrients, and light. (p. 4-187)" Therefore, it is important that the BLM address productivity in a meaningful way and to ensure that the current level of AUMs and associated numbers of livestock are sustainable in compliance with FLPMA, MUSYA, and other laws and regulations.

The entire planning area currently is available for livestock grazing, with the exception of a few small parcels under Alternative A. Temporary nonrenewable permits have not been issued for unallotted parcels. Under Alternative A, grazing system and range improvements are implemented to achieve management objectives for livestock and serve as a primary means of improving range conditions on category I and maintaining M and C category grazing allotments (see Glossary). The trend of continued improvement in rangeland productivity in the planning area is expected to continue under current management. Native ungulates are anticipated to have similar adverse impacts as livestock in areas where they concentrate. Short- and long-term adverse impacts to grassland and shrubland communities are anticipated under Alternative A. (DEIS p. 4-62)

As we have previously stated, there is no information given in the DEIS, MSA, or other supporting documents to support the assertion that rangeland productivity has improved. In fact, the majority of the statements contained throughout the DEIS and these comments indicate otherwise. Furthermore, the BLM has a NEPA obligation to disclose the information it has which indicates that native ungulates have the same impacts to resources as introduced, noxious, keystone species such as cattle.

The claims that grazing is somehow beneficial, deal exclusively with grassland communities, very few of which occur in the project area. The BLM is simply ignoring facts and grasping at straws when it attempts to justify further degradation of the project area by actually claiming domestic livestock grazing increases diversity. Vast acres of Wyethia, coneflower, or crested wheatgrass hardly constitute diverse native communities. To what extent are these altered communities present in the project area?

While grazing of domestic livestock may increase diversity of grasses, Wyethia, coneflower, and non-native Kentucky bluegrass hardly constitute an increase in species diversity that native

Kemmerer RMP DEIS Comments

22

Appendix B – Public Response Documents

animals use or need. Mueggler and Campbell²² suggest that the Aspen/Kentucky bluegrass community type is one of the poorest aspen community types for value as wildlife habitat because of the lack of plant species diversity.

Furthermore, grazing affects species composition of plant communities in essentially two ways: 1) active selection by herbivores for or against a specific plant taxon, and 2) differential vulnerability of plant taxa to grazing.²³ Decreases in density of native plant species and diversity of native plant communities as a result of livestock grazing activity have been observed in a wide variety of western ecosystems.

Grazing also can exert great impact on animal populations, usually due to indirect effects on habitat structure and prey availability.²⁴ Deleterious effects of grazing have been observed in all vertebrate classes. Response of native wildlife to grazing varies by habitat. Bock et al.²⁵ reviewed the effect of grazing on Neotropical migratory landbirds in three ecosystem types, and found an increasingly negative effect on abundances of bird species in grassland, riparian woodland, and Intermountain shrubsteppe (almost equal numbers of species with positive and negative responses to grazing in grassland; six times as many with negative as positive responses in shrubsteppe).

Furthermore, some range managers and the DEIS maintain that livestock are actually necessary for ecosystem health, that "grass needs grazing."²⁶ These claims are rooted in a scientific debate on the consequences of herbivory on grassland ecosystems. As the "herbivore optimization" hypothesis goes, loss of tissue to herbivores can actually increase total productivity of the grazed plant. Such a response to herbivory is referred to as "overcompensation" by the plant.²⁷

²² Mueggler, Walter F.; Campbell, Robert B., Jr. 1986. Aspen community types of Utah. Res. Pap. INT-362. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station.

²³ Szaro, R.C. 1989. Riparian forest and scrubland community types of Arizona and New Mexico. Desert Plants 9 (3-4): 69-138.

²⁴ Jones, K.B. 1981. Effects of grazing on lizard abundance and diversity in western Arizona. Southwestern Naturalist 26: 107-115.

Mosconi, S.L., and R.L. Hutto. 1982. The effect of grazing on the land birds of a western Montana riparian habitat. In T. Nelson, J.M. Peek, and P.D. Dalke, editors. Proceedings of the wildlife-livestock relationships symposium. Forest, Wildlife, and Range Experiment Station, University of Idaho, Moscow, Idaho.

Quinn, M.A., and D.D. Walgenbach. 1990. Influence of grazing history on the community structure of grasshoppers of a mixed-grass prairie. Environmental Entomology 19: 1756-1766.

Szaro, R.C., S.C. Belfit, J.K. Atkin, and J.N. Rinne. 1985. Impact of grazing on a riparian garter snake. Pages 359-363 in R.R. Johnson, C.D. Ziebell, D.R. Patton, P.F. Ffolliott, and F.H. Hamre, technical coordinators. Riparian ecosystems and their management: reconciling conflicting uses. General Technical Report RM-120. Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

Wagner, F.H. 1978. Livestock grazing and the livestock industry. Pages 121-145 in H.P. Brokaw, editor. Wildlife and America. Council on Environmental Quality, Washington, D.C.

²⁵ Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993b. Effects of livestock grazing on Neotropical migratory landbirds in western North America. Pages 296-309 in D.M. Finch, and P.W. Stangel, editors. Status and management of Neotropical migratory birds. General Technical Report RM-229. Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

²⁶ DEIS 4-12

²⁷ Dyer, M.I., J.K. Detling, D.C. Coleman, and D.W. Hilbert. 1982. The role of herbivores in grassland.

When different levels of ecological hierarchy and a wide diversity of ecosystem types, geographic settings, and degrees of management intensity are lumped together into one generalized theory, clarity is lost. Much of the evidence for overcompensation comes from highly productive and intensively managed systems, not from arid rangelands.²⁸ Few studies have demonstrated overcompensation in western North America,²⁹ where much of the rangeland resource is not grassland. Observations of native herbivores lend no support to the idea that compensatory growth has any relevance at the community level in western rangelands.³⁰ According to Vicari and Bazely,³¹ "there is little evidence that the act of grazing per se increases the fitness of grasses, or any other plant species, except under highly specific circumstances."

The majority of the planning area was never a grassland. The native steppe vegetation of much of the Intermountain West, characterized by caespitose bunchgrasses and a prominent microbiotic crust, reflects the absence of large numbers of large-hooved, congregating mammals. These steppe ecosystems have been particularly susceptible to the introduction of livestock; microbiotic crusts are easily damaged by trampling, and they perform important ecological functions like controlling water infiltration and erosion, and fixing nitrogen.³² The impacts of the loss of these crusts and the subsequent erosion and disruption of nutrient cycling is lacking in the DEIS.

The KFO has acknowledged that it is obligated to rely on the best available information. In the Executive Summary (ES) for the DEIS, the BLM states that it "will consider current scientific information, research, new technologies, and the results of resource assessments, monitoring, and coordination to determine appropriate local and regional management strategies to enhance or restore impaired ecosystems. (ES-3)"

Moreover, the DEIS states that "Monitoring, availability of new information, and advances in science and technology provide new data to consider in the revision of the existing plan. (DEIS p. 1-5)" WWP is concerned that the list of documents containing this new information and advances in science and technology does not address livestock grazing as it pertains to lands within the Kemmerer Field Office (KFO). The only document mentioned in the list of information containing such data is the Management Situation Analysis (MSA). However, that document does not contain any information, let alone new information regarding the status of lands within the KFO where livestock grazing occurs.

Pages 225-261 in J.R. Estes, R.J. Tylr, and J.N. Brunken, editors. Grasses and Grasslands. University of Oklahoma Press, Norman, Oklahoma.

Owen, D.F., and R.G. Wiegert. 1976. Do consumers maximize plant fitness? Oikos 27: 488-492.

²⁸ Bartolome, J.W. 1993. Application of herbivore optimization theory to rangelands of the western United States. Ecological Applications 3: 27-29.

²⁹ Painter, E.L., and A.J. Belsky. 1993. Application of herbivore optimization theory to rangelands of the western United States. Ecological Applications 3: 2-9.

³⁰ Patten, D.T. 1993. Herbivore optimization and overcompensation: does native herbivory on western rangelands support these theories? Ecological Applications 3: 35-36.

³¹ Vicari, M., and D.R. Bazely. 1993. Do grasses fight back? The case for antiherbivore defenses. Trends in Ecology and Evolution 8: 137-141.

³² Conservation Biology, Volume 8:3, September 1994, pages 639 - 644

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 027 OF 101

NEPA requires that agencies "insure the professional integrity, including scientific integrity, of the discussions and analyses... They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions relied upon in the statement..."³³ The record lacks any indication that the BLM conducted any type of scientifically sound analysis of the appropriateness of the project area for domestic livestock grazing or the appropriate level of such use. The only conclusion is that the BLM arbitrarily and capriciously decided that the current levels of domestic livestock grazing are appropriate across the planning area, and that decision led to the omission of many reasonable alternatives to the proposed action as well as resulted in a NEPA failure to rely on the best available information in this case the fact that the BLM has admitted productivity has declined on many areas.]

[When were the current levels of AUMs and stocking rates developed? What were the conditions of resources such as forage production, soil productivity, and wildlife populations at that time? These questions deserve an answer if the BLM intends to comply with FLPMA, MUSYA, and NEPA as it must.]

Furthermore, NEPA "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision."³⁴ In other words, it "prohibits uninformed—rather than unwise—agency action."³⁵ Yet, in the case of determining the appropriateness of domestic livestock grazing within the project area it appears that the BLM simply arrived at a predecisional conclusion that such use was appropriate, an action which NEPA and the APA forbid.]

[Given the fact that productivity has declined across the planning area as the above citations from the DEIS point out, it is critical that the RMP EIS address the allocation of AUMs and from there, stocking rates.]

The animal unit month (AUM) has historically been used as a unit of forage consumption and the basis of permits and grazing fees for grazing public lands. This report provides a brief review and update of forage consumption rates for grazing animals and clarifies the definition of an AUM.

It is important to ensure that forage consumption rates by livestock are based on the size of animals present on the allotment. This is to insure that stocking rates and grazing periods are more closely balanced with available forage and also provide forage and cover for wildlife and watershed protection. It is also to ensure that grazing fees accurately represent the forage consumed by livestock to ensure the public trust is not violated by undercharging for the actual weights and forage consumption of livestock being grazed.

³³ 40 C.F.R. 1502.24

³⁴ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989)

³⁵ *Custer County Action Ass'n v. Garvey*, 256 F.3d 1024, 1034 (10th Cir. 2001)

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 028 OF 101

FLPMA [Sec. 4100.0-5] defines an AUM as "the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month." FLPMA [Sec. 4230.8-1(c)] states that "For purposes of calculating the fee, an animal unit month is defined as a month's use and occupancy of range by 1 cow, bull, steer, heifer, horse, burro, mule, 5 sheep, or 5 goats over that age of 6 months at the time of entering the public lands or other lands administered by the Bureau of Land Management, by any such weaned animals regardless of age; and by such animals that will become 12 months of age during the authorized period of use. No charge shall be made for animals under 6 months of age at the time of entering the public lands or other lands administered by the Bureau of Land Management; that are the natural progeny of animals upon which fees are paid, provided they will not become 12 months of age during the authorized period of use, nor for progeny born during that period."

This definition in FLPMA avoids dealing with the actual weight and forage consumption of the various animals listed and ignores forage consumption by calves and lambs entirely. Other requirements in FLPMA stress grazing within the carrying capacity of forage within the allotment, the variability of forage production and the need for sustainable use [Sec. 4130.3-1(a); 4100.0-5]. In order to achieve the requirements for sustainable use without impairment, it is critical to align available forage with livestock stocking rates. BLM, for example, has typically used 800 lbs/month of forage as the consumption rate for a cow/calf pair while designating a cow/calf pair as an AUM, in conflict with the definition under FLPMA³⁶. BLM also does not clarify if this is air dry or oven dry weight.

Furthermore, the BLM's own planning guidance states "The BLM must analyze available inventory data and other information to characterize the resource area profile, portray the existing management situation, and identify management opportunities to respond to identified issues. (H-1601-1 p. 19)"

NRCS, in its National Range and Pasture Handbook, defines an Animal Unit (AU) as one mature cow of approximately 1,000 pounds and a calf as old as 6 months, or their equivalent, then states, "An animal unit month (AUM) is the amount of forage required by an animal unit for one month"³⁷. NRCS further defines the actual forage consumption as 26 pounds of oven-dry weight or 30 pounds of air-dry weight per day as "the standard forage demand for a 1,000 pound cow (one animal unit)". This is 2.6% of body weight for oven-dry weight and 3% of body weight for air-dry weight of forage. Note that there is no forage allowance for the calf in this consumption rate. The same would be true for lambs, when considering sheep grazing.

The Society for Range Management (SRM) in 1974 defined an Animal Unit "to be one mature (1000 lb.) cow or the equivalent based upon average daily forage consumption of 26 lbs. dry matter per day."³⁸ SRM also defined an Animal Unit Month as "The amount of feed or forage

³⁶ U.S. Dept. of Interior. 2006. Draft Pocatello Resource Management Plan and Environmental Impact Statement.

³⁷ USDA Natural Resources Conservation Service. 2003. National Range and Pasture Handbook Revision 1, Chapter 6. Grazing Lands Technology Institute.

³⁸ Society for Range Management. 1974. Glossary of terms used in range management.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 029 OF 101

required by an animal-unit for one month.” In its second edition, SRM revised this definition to include an *Animal-unit (AU)* as the forage consumption on the basis of one standard mature 1,000-pound cow, either dry or with calf up to 6 months old as consuming 26 pounds of air-dry forage per day or 780 pounds per month.³⁹

Comparing the definitions between NRCS and SRM it appears that SRM has confused air-dry and oven-dry forage amounts. The later SRM definition also clouds the distinction between cow and calf forage consumption, making it appear as if the forage consumed by the calf is included in the daily or monthly amount. A careful reading shows that no forage is included for the calf. A review of some history provides some further insight into animal units and forage consumption.

The University of Nevada Agricultural Experiment Station published a report on cattle production in 1943⁴⁰. That report analyzed 14 years of ranch operation for eleven ranches in northeastern Nevada. At that time, a mature cow was considered one unit and a branded calf or weaner as ½ cow unit, for a combined total of 1.5 cow units per cow/calf pair. Bulls were considered 1.5 cow units. For the period 1938 – 1940, the average turnout weight (when they left the range) of mature cows was 959 pounds, calves were 381 pounds and bulls were 1222 pounds. This means that in the 1930's, a cow/calf pair was 1340 pounds. With breeding, supplements and hormones, weights have increased over time, for example, Anderson et al (ca 2000) calculated a 35% increase in dressed weights per animal between 1975 and 1995.⁴¹

The 1964 Forest Service R-4 Range Analysis Handbook⁴² provided a detailed summary of forage consumption for cattle and sheep as air-dry amounts. This is reproduced in Table 1 of Attachment 2 to this document.

USDA market statistics⁴³ give the average weights of slaughter cattle for the week ending August 14, 2004 as 1251 pounds. The estimate for the same week in 2005 for slaughter cattle average weight was 1260 pounds. The USDA National Agricultural Statistics Service data for average live weight of cattle slaughtered in 2004 was 1242 pounds compared to 1187 pounds in 1995, or an increase of nearly 8.5% in those 10 years⁴⁴. The Livestock Monitor is a newsletter produced by the North Dakota State University Extension Service Livestock Marketing Information Center in cooperation with USDA State Extension Services⁴⁵. The Livestock Monitor shows for the week ending August 6, 2005, live weights of slaughter cattle averaged 1258 pounds.

³⁹ Ortmann, John, I. Roy Roth, and F.T. Bartlett. 2000. Glossary of Range Management Terms No. 6. 105. Colorado State University Natural Resource Series.

⁴⁰ Brennan, C.A. and Fred B. Harris. 1943. Fourteen Years Cattle Production and Ranch Earning Power in Northeastern Nevada 1928 to 1941. University of Nevada Agricultural Experiment Station, Reno, Nevada.

⁴¹ <http://agecon.uwoy.edu/RiskMgt/markotriak/TheCattleCycle.pdf>

⁴² USDA Forest Service. 1964. Forest Service Handbook – R4 Range Analysis Handbook.

⁴³ http://www.ams.usda.gov/mnreports/SJ_LS712.txt

⁴⁴ <http://www.usda.gov/nass/pubs/agnr05/acro05.htm>

⁴⁵ <http://www.ug.ndsu.nodak.edu/agninfo/ismk/monitor.htm>

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 030 OF 101

The potential weights of mature cows can be even larger than these numbers. For example, NRCS in its National Range and Pasture Handbook, referenced above, defines body condition scores in a range of 1 to 9. A body condition score of 6 which is described as “*Good, smooth appearance throughout. Some fat deposits in brisket and over the tailhead. Ribs covered and back appears rounded.*” This body condition score relates to a pregnancy percentage of 88%, which is important as a goal for cow/calf operations as dry cows are usually culled and replaced because the weight gain of calves is important for income. Mature cow weight varies approximately 7 to 8 percent for each unit change in Body Condition Score (range 1 to 9), and extremes in muscling can cause weight to vary as much as 10 percent.⁴⁶ Frame size (height) scores show that cows at maturity can weigh much more than 1,000 pounds⁴⁷. Table 3 in Attachment 2 is reproduced from the North Dakota State University publication cited. These figures were for average condition cattle (body condition score of 5). Actual weights will vary due to differences in muscling, body length, condition and other factors. These figures were adapted from a 1991 publication, so represent weights from nearly two decades ago.

Holechek et al (2001) summarized the weaning weights of calves grazed on various types of rangelands at different stocking rates⁴⁸. The data for the period since 1990 produced an average weaning weight of 430 pounds and a range of 382 – 475 pounds. Ray et al (2004) gave a weaning weight of 480 pounds for calves⁴⁹. Using the current market statistics for slaughter cattle at about 1250 pounds and assuming a calf weight of 300 pounds to allow for weight gain during the grazing season, an estimate for the average weight of a cow/calf pair during the grazing season of 1,500 pounds appears reasonable.

As pointed out above, the NRCS used 26 lbs/day of oven dry weight for a 1,000 pound cow and stated this was equivalent to 30 pounds per day air-dry weight. The NRCS Range and Pasture Handbook value of 30 pounds air-dry weight would be 3% of body weight for a 1,000 pound cow. Applying this to the estimate of a current weight of 1,500 pounds for a cow/calf pair, the daily forage consumption would be 45 lbs of air-dry forage per day, or for a month (30.4 days), 1368 pounds of forage per AUM. It appears BLM's 800 pound/month figure for a cow/calf pair is oven-dry weight (26 lb/day). If this is corrected to the 30 lb/day air-dry rate, the forage consumption for BLM's 1,000 pound cow would be 912 lb/month. **When this is compared to the 1,368 lb/month above, BLM is understating forage consumption by cow/calf pairs by a nominal 50% based on the average body condition and frame scores.**

The implication of this on stocking rates is obvious. Based on forage consumption alone, not considering proper utilization, forage capacity and capability factors, BLM is over stocking allotments 33% based on failure to take into account current cattle weights and calves.

⁴⁶ Hammack, Stephen P. and Ronald J. Gill. 1997. Frame Score and Weight of Cattle. Texas Agriculture Experiment Station, Texas A & M University System.

⁴⁷ John Dhuyvetter. 1995. Beef Cattle Frame Scores. North Dakota State University Agriculture and University Extension Publication AS-1091 (<http://showsteers.com/Frame%20Score%20Chart.htm>).

⁴⁸ Holechek, Jerry L., Rex D. Pieper and Carlton H. Herbel. 2001. Range Management: Principles and Practices, Fourth Edition. Prentice-Hall, New Jersey. 587p

⁴⁹ Ray, D.E., A.M. Lane, C.B. Roubicek, and R.W. Rice. 2004. Range beef herd growth statistics. In: Arizona Rancher's Management Guide. Arizona Cooperative Extension, College of Agriculture, University of Arizona.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 031 OF 101

The forage needs for domestic sheep must also be determined. Based on current USDA published weights for ewes and lambs, adult domestic sheep weigh from 165 to 440 pounds,⁵⁰ and lambs about 129 pounds.⁵¹ Data downloaded from USDA NASS⁵² for Idaho, Utah, Nevada and Wyoming for the period 2000 – 2006, show that the average lamb crop is 1.1 lambs per ewe, ranging up to 1.3. According to the American Sheep Industry Association, selective breeding is able to increase lamb birth rates by about 1 – 2% per year, leading to a possible 20% increase in the number of lambs per ewe over 10 years by increasing the number of ewes having twins. Twin survival rates are 1.63 lambs per set of twins.⁵³

If the low end weight of a sheep at 165 pounds and a lamb at 100 pounds were used and considering that the average lamb crop is 1.1 lambs per ewe, the weight of sheep for a forage consumption calculation would be 275 pounds for the ewe and lambs. The forage consumption rate for sheep given in the 1964 R4 Range Analysis Handbook was 3.3% of body weight per day consumed as air dry forage weight⁵⁴. Thus, the 275 pounds of sheep would consume 276 pounds of air-dry forage per month. As defined in FLPMA above, an AUM consists of 5 sheep, leading to a calculated forage consumption of the sheep permitted by BLM of 1380 pounds of air dry forage per month.

In order to rely on the best available information as NEPA requires and the KFO has stated is its intent in the RMP planning process, the BLM should recalculate its stocking rates, permitted numbers and grazing seasons based on this updated research. Alternatively, actual counts of animals when entering the allotment combined with body condition scoring and frame sizes could be used to calculate an allotment specific average animal weight and forage consumption for permit adjustments.

Disclosure of Impacts

NEPA's disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) "to insure that the public has sufficient information to challenge the agency."⁵⁵ By focusing the agency's attention on the environmental consequences of its proposed actions, NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast."⁵⁶ And, the publication of a NEPA document, both in a draft and final form, provides a springboard for public comment, and assures the public that the agency has considered the environmental concerns in its decision making process.⁵⁷

⁵⁰ http://www.wildlifeprairiestatepark.org/animalpages/domestic_sheep.htm

⁵¹ http://www.usda.gov/nass/pubs/agr04/04_ch7.pdf

⁵² <http://www.nass.usda.gov/index.asp>

⁵³ Bradford, G. E. 2007. Selection for Reproductive Efficiency. American Sheep Industry Association, Sheep and Goat Research Journal.

⁵⁴ USDA Forest Service Intermountain Region. 1964. R-4 Range Analysis Handbook

⁵⁵ Idaho Sporting Congress. 137 F.3d at 1151; Robertson, 490 U.S. at 349

⁵⁶ Robertson, 490 U.S. at 349

⁵⁷ *Id.*

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 032 OF 101

Interpretations of NEPA plainly state that an agency must include in its decision making process all pertinent information.⁵⁸ The public cannot be assured that the BLM took the required "hard look" unless all pertinent information is contained in the EIS.

NEPA is an action-forcing statute. Its sweeping commitment is to "prevent or eliminate damage to the environment and biosphere by focusing government and public attention on the environmental effects of proposed agency action."⁵⁹ It requires the federal agency to "consider every significant aspect of the environmental impact of a proposed action,"⁶⁰ and to ensure "that the agency will inform the public that it has indeed considered environmental concerns in its decision making process."⁶¹

NEPA documents must include all relevant information at the time the agency makes a recommendation on a proposal for federal action, not after the fact.⁶² A central purpose of NEPA is to force the consideration of environmental impacts in the decision making process. That process requires that the NEPA process be integrated with agency planning "at the earliest possible time."⁶³ NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.⁶⁴

An EIS is rendered inadequate if it fails to include information that is "important, significant or essential" to the issues under consideration. Without the proper disclosure in the EIS of this project's effects and the effects of past management activities in the planning area, the EIS violates NEPA.

Regulations implementing NEPA, however, require that a Federal agency consider the potential cumulative impacts of a planned action together with other past, present, and reasonably foreseeable future actions. 40 CFR 1508.7. A cumulative impact is defined as:

[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 CFR 1508.7; Wyoming Outdoor Council, 158 III.A 155, 172 (2003).

Furthermore, the courts have found that where reports were not made available to the public or federal agencies required to consider reports **and those reports did not evidence the kind of balancing of considerations involved in preparing an environmental impact statement**, it could not be said that there had been substantial compliance with the requirement during planning and development of projects.⁶⁵

⁵⁸ Trout Unlimited v. Morton 509 F.2d 1276 (9th Circuit, 1974)

⁵⁹ Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989)

⁶⁰ Vermont Yankee Power Corp. v. Natural Resources Defense Council, 435 U.S. 519, 553 (1978)

⁶¹ Baltimore Gas and Electric Company v. NRDC, 462 U.S. 87, 97 (1983)

⁶² See Kleppe v. Sierra Club, 427 U.S. 390, 405-406 (1976)

⁶³ 40 CFR 1501.2 (Council on Environmental Quality Regulations binding upon Forest Service)

⁶⁴ 40 CFR 1500.1(b)

⁶⁵ National Environmental Policy Act of 1969, Sec. 102, 42 U.S.C.A. Sec. 4332

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 033 OF 101

And, "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."⁶⁶ "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA."⁶⁷ Failure to demonstrate the effectiveness of mitigation measures does not satisfy the intent of NEPA.⁶⁸ The BLM is obligated to prove that proposed mitigation will in fact be effective. The NEPA document must analyze mitigation measures in detail and explain the effectiveness of such measures.⁶⁹ In the case of the KFO RMP DEIS, the mitigation measures are discussed but effectiveness is not.

The DEIS for the Kemmerer RMP fails to disclose all direct, indirect, and cumulative impacts. In order for the BLM to adequately disclose all past, present, and reasonably foreseeable future impacts, the DEIS must disclose the current condition of resources, identify management actions that have led to those conditions, then address how the proposed management contained in the Preferred Alternative will add to those impacts. The BLM has failed as the following discussions pertaining to various resources illustrates:

SOILS

In regards to soils within the project area, the BLM notes the following:

Soils in the Kemmerer Planning Area are vulnerable to a variety of natural and human-induced impacts. Soil erosion and soil compaction are the result of various human impacts including soil compaction by livestock and vehicles, runoff from roads, and surface-disturbing activities. In addition, erosion can be caused by the frequent high velocity and sustained winds in the planning area. (MSA p. 48-49)

Continue to focus management on maintaining soil integrity, successful reclamation, reducing erosion, and in some cases improving soil health through implementation of grazing management plans. (MSA p. 49)

This discussion in the MSA merely constitutes an overview of the various activities that may compact soils. This discussion does not amount to a disclosure of the current conditions of soils within the planning area.

The DEIS expanded a bit further on soils as follows:

Most red soils along the upland ridges, such as along the Bear River Divide, are highly susceptible to water erosion when disturbed. Areas within the Overthrust Belt, especially low areas, are saline (high in soluble salts and sodium), which is a water quality concern in the Colorado River basin. (p. 3-10)

Many soils in the Green River Basin Uplands group are formed in shales producing clayey textures with poor surface water infiltration, high runoff potential, and high

⁶⁶ *Carmel-By-the-Sea v. U.S. Dept of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989))

⁶⁷ *Northwest Indian Cemetery Protective Ass'n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439 (1988)

⁶⁸ *Northwest Indian Cemetery Protective Association v. Peterson*, 795 F.2d 688 (9th Cir. 1986).

⁶⁹ *Northwest Indian Cemetery Protective Ass'n v. Peterson*, cited above

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 034 OF 101

carbonate levels that create a high potential for water erosion. Also common in this group, are soils with surface textures that are highly susceptible to water erosion due to a high proportion of fine sands or silts with little binding material or silt-sized carbonates. Many soils in this group are susceptible to excessive wind erosion due to sandy surface textures, low organic matter, and high carbonate content. This soil group has a high proportion of saline soils, especially in low topographic areas, such as drainages and areas below marine shale outcrops. (p. 3-12)

The mountainous areas group occurs in the northern and extreme southern parts of the planning area including Star Valley as an extension of the Wasatch and Uinta mountains in Utah. Parent materials include sedimentary rock and glacial till, resulting in soils of various textures with various rock sizes within the soil profile. Mass wasting in the form of landslides and slumping occurs on the steeper, moister slopes. Coniferous and aspen trees are often present on these moist, north-facing slopes. (p. 3-12)

The Relict Alluvial Fans and High Outwash Terraces group, located in the extreme south-central and northwestern parts of the planning area, is found on old alluvial terraces, fans, and pediments. These landforms were created as a result of alluvial material flushing out of the canyons of nearby mountains. Glacial till (Bishop Conglomerate) occurs in the southern part of Uinta County and generally is found on high, relatively level outwash terraces, such as Leavitt Bench. Soils in this position generally are deep, with rock and cobbles throughout the profile, which may affect some land uses. (p. 3-12)

Again this is an inadequate discussion regarding the current conditions of the soils resources in the planning area. This discussion provides a background as to the possible baseline conditions of soils in the area, but it is a far cry from disclosure of the current conditions.

The BLM, by its own admission, should have adequate information from which to draw conclusions regarding the current conditions of soil resources in the planning area and how past management activities have led to these current conditions. After all, the DEIS states "Data collection, such as soil surveying, resource monitoring in compliance with the statewide BLM requirements for public land health, and identifying hazards and limits for specific uses generally are completed in support of other BLM activities related to the management of resources and programs, such as rangeland, forestry, recreation, and mineral extraction. (p. 3-13)

The BLM has an obligation under NEPA to analyze this data and disclose it in the EIS. Only through such disclosure can the decision-maker and the public be assured that the assumptions made in the EIS are correct. What do the conducted soil surveys mentioned above indicate about the impacts that have occurred to this resource as a result of management activities such as rangeland, forestry, recreation, and mineral extraction? What indirect impacts to vegetation, sediment loading to stream, and wildlife have resulted from these impacts. This information is missing from the DEIS in violation of NEPA.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 035 OF 101

The DEIS further claims that "When undisturbed, soils in the area generally are in good condition and capable of producing forage and maintaining watershed integrity and surface water quality. (p. 3-13)" How much of the project area actually contains undisturbed soils? What are the impacts to these resources when soil is disturbed? To what extent are soils disturbed in the planning area and what actions have led to this disturbance? How will management actions authorized in the revised RMP such as livestock grazing, OHV use, prescribed fire, timber harvest, etc. directly, indirectly, and cumulatively impacts soils in the planning area?

The BLM claims that management challenges identified for soils in the planning area are based, in part, on historic activities, conditions, and trends (DEIS p. 3-13), yet the DEIS fails to disclose the historic activities that have affected soils and the current conditions and trends of soils within the planning area.

Furthermore, the DEIS notes that managing soils within the planning area emphasizes maintaining soil and landscape integrity through efforts to minimize accelerated erosion, avoiding or minimizing destruction of biological soil crusts, establishing successful site reclamation, and, in some cases, improving soil health through implementing grazing management plans. Reclamation of surface-disturbing activities and improving grazing management have been successful in sustaining soil productivity in most cases (DEIS 3-13 through 3-14). And, disturbances on soils with fragile, steep slopes, chemical and biological crusts, and soils with low reclamation potential and highly erodible characteristics are avoided. (p. 3-66) Does this include livestock grazing?

This is merely a discussion of the use of Best Management Practices (BMPs) and mitigation techniques that may or may not be applied. After all, the Supreme Court has ruled that a NEPA document must only have a "reasonably-complete discussion of possible mitigation measures" and that the decision does not have to incorporate any of the mitigation measures discussed. (quoting from *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989).) Therefore, the impacts associated with management activities sans these mitigation measures and BMPs must be disclosed then include a discussion of how the BMPs and mitigation will buffer the impacts.

The BLM notes that sustaining soil productivity has not been successful in all cases. In which cases were these activities unsuccessful? What were the impacts? These need to be disclosed.

Moreover, The native steppe vegetation of much of the Intermountain West, characterized by caespitose bunchgrasses and a prominent microbiotic crust, reflects the absence of large numbers of large-hooved, congregating mammals. These steppe ecosystems have been particularly susceptible to the introduction of livestock; microbiotic crusts are easily damaged by trampling, and they perform important ecological functions like controlling water infiltration and erosion,

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 036 OF 101

and fixing nitrogen.⁷⁰ The impacts of the loss of these crusts and the subsequent erosion and disruption of nutrient cycling is lacking in the DEIS.

Furthermore, accelerated erosion within the planning area is mainly the result of soil compaction by livestock and vehicles, runoff from roads, and uncontrolled concentrated flow from poorly reclaimed or unreclaimed bare ground created by surface-disturbing activities. (DEIS p. 3-13 through 3-14) To what extent has this occurred? Where is this accelerated erosion occurring and how will the proposed management scenarios affect this situation? What have been the indirect impacts? The extent of stream sedimentation and riparian degradation discussed later in this document highlights the fact that this disturbance is wide-spread and not localized in a few insignificant places as the BLM implies.

The only discussion regarding expected impacts to soils from the approval of the preferred alternative is contained in the DEIS as follows:

"Surface uses that may not result in direct surface disturbance, but may affect soil stability through changes in vegetative cover or soil infiltration rates, include grazing by livestock and wildlife (if grazing damages vegetative cover beyond its ability to recover in a timely manner), vegetative treatments, and OHV use (especially cross-country travel). Operating motorized vehicles on moist soils, especially heavy equipment, is likely to cause compaction of the surface layer, which may increase runoff, decrease infiltration and aeration, and reduce soil productivity by making it more difficult for plant roots to establish or obtain soil moisture and nutrients. (p. 4-12 -4-13)"

"OHV use (especially cross-country travel). Operating motorized vehicles on moist soils, especially heavy equipment, is likely to cause compaction of the surface layer, which may increase runoff, decrease infiltration and aeration, and reduce soil productivity by making it more difficult for plant roots to establish or obtain soil moisture and nutrients. (p. 4-13)"

"The *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming* (BLM 1998a) provide minimum standards for vegetation health, vigor, soil cover, and erosion rates that apply to all BLM administered activities in the Standards portion of the document. The Guidelines portion of the document focuses on grazing activities. (p. 4-13)"

Compaction by livestock likely slows seedling growth rates, creates stress for any plant that is stepped on, and may impact roots of larger trees as well. Compacted soils on slopes don't retain moisture as well, and this can cause more runoff than uncompacted slopes and impact riparian areas that typically absorb the water. The erosive force of raindrops on denuded surfaces, the shearing force of hooves on slopes, decreased soil organic matter, and increased soil compaction

⁷⁰ *Conservation Biology*, Volume 8:3, September 1994, pages 639 - 644

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 037 OF 101

are primary impacts that have not been disclosed in the DEIS. Together, these impacts result in reduced infiltration rates and increased runoff, soil bulk density, erosion, and sediment delivery to streams. Indirectly, this affects everything from plants to fish and the impacts occur across entire landscapes.

[We are concerned that detrimental soil thresholds may already have been exceeded in the planning area, especially given the soil makeup in many areas. The EIS should include disclosures of the amount of detrimental soil conditions due to past activities but has failed to do so.]

[The DEIS fails to include a discussion regarding nutrient cycling and how soil disturbance impacts this important function.] Recent studies on the Colorado Plateau have dramatically demonstrated that soil surface disturbances can virtually stop nitrogen fixation. Nitrogenase activity was reduced 80-100% in the microbiotic crust under a single human footprint, as well as under vehicle tracks (Belnap, personal communication; Belnap, in press; Belnap et al., in press), and nitrogen content in the leaves of dominant plant species was lower in trampled than untrampled areas (Belnap, personal communication; Harper and Pendleton 1993). If a single footprint can bring a local nitrogen cycle almost to a halt, the impact of a century's worth of livestock hoofprints can easily be imagined.

Grazing removes soil litter, which can have both physical and biological effects. Schulz and Leininger⁷¹ observed twice as much litter in an exclosure as in surrounding grazed habitat. In Oregon, removal of soil litter was thought to be the cause of delayed plant phenology⁷², which, in turn, could affect communities of animal pollinators.

Researchers have long recognized that grazing contributes to the deterioration of soil stability and porosity, and increases erosion and soil compaction. Grazing reduces the roughness coefficient of watersheds, resulting in more surface runoff, more soil erosion, and massive flooding.⁷³ Grazing in the upper Rio Grande changed plant cover, thus increasing flash floods and consequently erosion.⁷⁴ As grazing-induced gully erosion lowered the stream channel along an Oregon stream, associated plant communities changed from wet meadow to the more xeric sagebrush-rabbitbrush (*Chrysothamnus*) type.⁷⁵ Davis⁷⁶ concluded removal of upland vegetation

⁷¹ Schulz, T.T., and W.C. Leininger. 1990. Differences in riparian vegetation structure between grazed areas and exclosures. *Journal of Range Management* 43: 295-299.

⁷² Kauffman, J.B., W.C. Krueger, and M. Vavra. 1983b. Effects of late season cattle grazing on riparian plant communities. *Journal of Range Management* 36: 685-691

⁷³ Ohmart, R.D., and B.W. Anderson. 1982. North American desert riparian ecosystems. Pages 433-479 in G.I. Bender, editor. Reference handbook on the deserts of North America. Greenwood Press, Westport, Connecticut

⁷⁴ Cooperider, C.K., and B.A. Hendricks. 1937. Soil erosion and streamflow on range and forest lands of the upper Rio Grande watershed in relation to land resources and human welfare. Technical Bulletin 567. U.S. Department of Agriculture, Washington, D.C.

⁷⁵ Winegar, H.H. 1977. Camp Creek channel fencing--plant, wildlife, soil, and water responses. *Rangeland's Journal* 4: 10-12.

⁷⁶ Davis, G.A. 1977. Management alternatives for the riparian habitat in the Southwest. Pages 59-67 in R.R. Johnson, and D.A. Jones, technical coordinators. Importance, preservation, and management of riparian habitat: a symposium. General Technical Report RM-43. Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 038 OF 101

by livestock was a major factor in the increase in devastating floods. Numerous authors have noted extreme erosion and gully erosion when comparing heavily grazed to ungrazed sites.⁷⁷

Grazing has also repeatedly been shown to increase soil compaction and thus decrease water infiltration.⁷⁸ In arid and semi-arid lands where water is the primary ecological limiting factor, major losses of water from ecosystems can lead to severe desertification.

Furthermore, there is a dearth of long-term data available to measure how forest management techniques (i.e. logging and the like) are or are not sustaining soil fertility.⁷⁹ This should be of some concern because repeated timber harvests almost always reduce soil productivity.⁸⁰

[Of potential importance for the DEIS is the impacts of regeneration harvest treatments (i.e. seed tree cuts) and controlled burns on site productivity and carbon storage; the removal of biomass and prescribed fire both result in the loss of carbon and nutrients. The DEIS would be greatly improved if these impacts were estimated and included in the analysis of management alternatives and their impacts.]

[The DEIS also lacks an adequate disclosure of the impacts to soils from OHV use, trail construction and reconstruction, roads, and user created routes that have not undergone NEPA review. Snowmachine use has also been shown to increase soil erosion and these impacts are not disclosed. The DEIS should analyze these impacts.]

⁷⁷ Cottam, W.P., and F.R. Evans. 1945. A comparative study of the vegetation of grazed and ungrazed canyons of the Wasatch Range, Utah. *Ecology* 26: 171-181

⁷⁸ Gardner, J.L. 1950. Effects of thirty years of protection from grazing in desert grassland. *Ecology* 31: 44-50.

⁷⁹ Kauffman, J.B., W.C. Krueger, and M. Vavra. 1983a. Impacts of cattle on streambanks in northeastern Oregon. *Journal of Range Management* 36: 683-685

⁸⁰ Abdel-Magid, A.I., M.J. Trlica, and R.H. Hart. 1987. Soil and vegetation responses to simulated trampling. *Journal of Range Management* 40: 303-306.

⁸¹ Alderfer, R.B., and R.R. Robinson. 1949. Runoff from pastures in relation to grazing intensity and soil compaction. *Journal of the American Society of Agronomy* 39: 948-958.

⁸² Bryant, F.T., R.E. Blaser, and J.R. Peterson. 1972. Effect of trampling by cattle on bluegrass yield and soil compaction of a Meadowville Loam. *Agronomy Journal* 64: 331-334.

⁸³ Kauffman, J.B., and W.C. Krueger. 1984. Livestock impacts on riparian ecosystems and streamside management implications: a review. *Journal of Range Management* 37: 430-437.

⁸⁴ Orodho, A.B., M.J. Trlica, and C.D. Bonham. 1990. Long-term heavy-grazing effects on soil and vegetation in the Four Corners region. *Southwestern Naturalist* 35: 9-14.

⁸⁵ Orr, H.K. 1960. Soil porosity and bulk density on grazed and protected Kentucky bluegrass range in the Black Hills. *Journal of Range Management* 13: 80-86.

⁸⁶ Rauzi, F., and C.L. Hanson. 1966. Water intake and runoff as affected by intensity of grazing. *Journal of Range Management* 19: 351-356.

⁸⁷ Rauzi, F., and F.M. Smith. 1973. Infiltration rates: three soils with three grazing levels in northeastern Colorado. *Journal of Range Management* 26: 126-129.

⁸⁸ Jorgensen, J.R., and Wells, C.G., 1986. Foresters' primer in nutrient cycling. USDA Forest Service, GTR SE-37. Research Triangle Park, N. Carolina.

⁸⁹ Spies, T.A., Franklin, J.F., Thomas, T.B., 1988. *Ecology*. Vol. 69.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 039 OF 101

WATER

As with soils, the BLM claims that in regards to water "Data collection, resource monitoring, and analysis generally are done in support of other activities, such as range management, forest management, and mineral extraction. (DEIS 3-17)" The data from these analyses should be summarized and included in the F.I.S. It currently is lacking.

The discussion of impacts to water quality and riparian values is severely insufficient to qualify as the reasoned discussion of direct, indirect, and cumulative impacts of the proposed alternative. None of the impacts are disclosed. Instead, the BLM indicates that certain mitigation will be required or that project design will protect and enhance these values. However, the BLM has failed to disclose the likely success of these measures and what impacts to a variety of resources are likely to occur as a result of the management direction, and they must be addressed in the FEIS.

The DEIS notes the following in regards to water and specific comments relating to the statements from the DEIS follow those statements:

"Within the Green River watershed in the planning area, Reardon Draw, Willow Creek, and portions of Smiths Fork and Hams Fork watercourses are identified as impaired for aquatic habitat from unknown sources (Wyoming DEQ 2004). In the Bear River watershed, reaches of Bridger Creek and Bear River are identified by Wyoming DEQ as impaired. Since the 1980s, Bridger Creek water quality and quantity has improved due to the construction of detention basins and improved livestock grazing practices, but is still listed as having degraded aquatic habitats. Sediment that damages aquatic life is the cause of the impaired designation in a reach of the Bear River in the planning area (Wyoming DEQ 2004). Portions of the Salt River in Star Valley are listed as impaired mainly due to fecal coliform levels that affects contact recreation (Wyoming DEQ 2004). The 2006 303d list and 305b report are available on the Internet with an updated list of impaired waters in the state (http://deq.state.wy.us/wqd/watershed/Downloads/305b/2006/2006_305b.pdf). (DEIS 3-18)"

Aside from domestic livestock grazing, what management activities on BLM lands have contributed to these conditions? The fact that sediment loading to planning area streams has resulted in impairment of beneficial uses points to a concern regarding the amounts of erosion that are occurring on lands within the planning area. "Improved" livestock grazing practices may not be enough to address the issues of sedimentation, fecal coliform and other factors that are contributing to impairment of these stream segments. Because we have not been told the magnitude of these impacts, how past management addressed them, and whether or not that past management was successful, we cannot be assured that the DEIS's rosy assertions of beneficial and minor impacts are valid.

The DEIS needs to disclose the management activities that are occurring in the vicinity of these impaired segments and how such activities have impacted water quality. The BLM has stated that it has this data. Why was it not disclosed? Without such a discussion the DEIS violates NEPA's mandate to disclose past, present and reasonably foreseeable impacts as well as the

Kemmerer RMP DEIS Comments

37

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 040 OF 101

cumulative impacts of various actions occurring throughout the management area and lands adjacent to it.

"The management and use of resources that require surface disturbance, such as minerals, range, forestry, and recreation can affect surface water quality, mainly by increasing sediment loads, salt, and turbidity. Stream bank degradation and erosion, as well as upland sheet, rill, and gully erosion, due to poor vegetative cover and surface disturbance within the watersheds, are the predominant sources of sediment and dissolved solids found in the streams. Surface disturbance results from such activities as the construction of roads, well pads, and pipelines, as well as livestock grazing, OHV cross-country travel, and fire-suppression activities. Proper management of livestock grazing, road construction, forestry, oil and gas exploration and development, mining, and recreation, along with the proper application of mitigation measures identified in site-specific management or development plans, can help to mitigate the impacts of these activities. DEIS 3-18"

What factors besides grazing have led to poor vegetative cover? Why was poor vegetative cover not addressed in regards to domestic livestock grazing? This directly relates to forage productivity, utilization, and thus the carrying capacity of the planning area in regards to livestock forage production. The BLM must include mandatory actions that address the impacts of livestock to water quality. This includes maximum levels of streambank trampling and bank stability standards for streams. It would also include sediment fine limits to protect salmonids spawning habitat.

The scope and intensity of these disturbances and the resulting scope and intensity of the impacts needs to be disclosed, so that the BLM can adequately implement management actions that will mitigate the impacts and protect resources. Otherwise, the assertion that "proper livestock grazing management, road construction, forestry, oil and gas exploration and development, mining, and recreation along with proper mitigation measures can help mitigate these impacts" is without merit. What mitigation measures were used in the past to address these issues and why did they fail? What new measures is the BLM proposing to address them? The BLM has failed to discuss the adequacy of the very few that are discussed in the DEIS under the various alternatives.

The indirect impacts associated with these management activities and the increase in sediment in regards to stream function, aquatic habitats, and other resources have not been disclosed. How have spawning habitats been impacted? How have dissolved oxygen and therefore algae growths been affected? These are serious questions that deserve answers. How is the BLM addressing these issues in order to comply with the intent of the Clean Water Act?

Kemmerer RMP DEIS Comments

38

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 041 OF 101

Surface-disturbing actions within the planning area are designed to protect and enhance water resources and include avoiding highly erodible soils, implementing zero runoff programs on large-scale disturbances, and reclamation of surface disturbance. (DEIS p. 3-18) BLM is unable to justify this assumption when it fails to disclose the current conditions and the impacts of current management. What specific actions can the BLM take to design surface-disturbing actions in the planning area to protect and enhance water resources? This information should be disclosed, otherwise the BLM is blowing hot air and the DEIS and disclosure of impacts is based on unfounded opinions, something NEPA specifically forbids.

"Direct impacts to surface water quality result from activities that degrade the ambient water quality of surface waters in the planning area. Indirect impacts include actions that disturb soil, especially highly erodible soil. Indirect impacts to surface water quality also may result from activities that modify drainages in the planning area. For example, actions that change the number of road-stream crossings or the distribution and condition of wetlands and riparian areas could indirectly result in changes to surface water quality. Wetlands and riparian areas filter pollutants contained in runoff before they enter the stream system. (DEIS p. 4-17)"

The EIS must disclose the specific activities that are occurring on public lands that directly impact surface waters, the extent at which they have affected them, and the potential for future management activities to affect them. What activities are occurring in the planning area that disturb soils, modify drainages, etc? To what extent will the new management direction affect these issues?

The BLM should clarify the statement that wetlands and riparian areas filter pollutants. Only wetlands and riparian areas that are functioning properly are able to fulfill these critical ecological roles. The fact that a majority of riparian areas in the planning area (as discussed later) are failing to meet even the minimum Properly Functioning Condition (PFC) makes this clarification especially important.

Furthermore, the DEIS notes "Direct impacts to surface water quantity result from activities, watershed conditions, or treatments (vegetative and physical treatments, impoundments, retention and detention structures, etc.) that increase or decrease the volume and quality of runoff or alter runoff timing. Direct impacts can be the result of adding or modifying water withdrawals from the drainage system. Indirect impacts to surface water quantity result from activities that modify the capacity of stream channels or result in changes to the amount of water reaching the stream system. For example, changes in the locations of roads that direct surface water runoff into drainages may change timing and amount of surface water flowing in a stream system. The distribution and conditions of wetlands and riparian areas influence surface water quality and quantity by affecting the capacitance and water storage of the watershed which, in turn, influences flow energies and erosive potential. (p. 4-18)"

Kemmerer RMP DEIS Comments

39

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 042 OF 101

The BLM admits that increases in surface water can be detrimental, claims that "Surface-disturbing actions within the planning area are designed to protect and enhance water resources and include avoiding highly erodible soils, implementing zero runoff programs on large-scale disturbances, and reclamation of surface disturbance. (DEIS p. 3-18)", then claims in the section on forest vegetation that vegetation projects such as timber harvest will be used to increase water yields in the planning area. This is a serious contradiction that needs to be addressed.

Livestock usually create less overall surface disturbance than mineral development, but the tendency for livestock to concentrate in riparian areas and in the proximity of open water while simultaneously impacting riparian vegetation may increase the extent of the influence for this type of disturbance. (DEIS 4-18)

Livestock are given free-reign on virtually every inch of land within the planning area. Surface disturbance, while it may have very significant impacts, tends to be localized in nature. The true nature of the impacts associated with domestic livestock grazing on water quality need to be assessed. The literature for such impacts is extensive.

Erosion contributes to sedimentation if it results in sediment delivery to the surface water drainage system. The amount of sedimentation is determined by many factors, including the amount of disturbed surface, the type of soil, the amount and timing of water sufficient to create overland flow, the proximity to established channels, the density and vigor of the vegetative community, and the effectiveness of erosion-control measures, such as BMPs. The buffering capacity of the land over which the water flows before reaching drainage also has a marked influence. (DEIS 4-19)

Actions that remove vegetation and loosen the surface soil could cause soil erosion and sedimentation in the surface water system. Eroded soil that reaches surface water channels is a direct source of impaired surface water quality. The amount of sediment delivered to a stream depends on many factors (e.g., slope length and gradient, vegetative cover and type, and density of the drainage network), all of which can result in deposition of the sediment before it reaches drainage (also called buffering). (DEIS 4-19 through 4-20).

The BLM asserts that erosion is the cause for a majority of the impacts to surface water and water quality. However, the above cited references do not indicate what management activities may be responsible for this erosion and subsequent impact to water quality, nor does the DEIS indicate to what extent these activities occurred in the past and what the likelihood for future impacts will be.

The DEIS claims that monitoring rangeland condition is used to determine what grazing management actions are needed to minimize the amount of erosion that could affect surface water quality. BLM water-monitoring activities are carried out primarily in support of specific

Kemmerer RMP DEIS Comments

40

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 043 OF 101

management activities. This monitoring is used to measure the presence and magnitude of impacts (both beneficial and adverse), the effectiveness of mitigation measures, and as a mechanism to drive adaptive management. The Wyoming DEQ has an ongoing monitoring program (Wyoming DEQ 2004) designed to (1) determine the overall quality of the waters of the state, (2) determine the extent of water quality changes over time, (3) identify problem areas and areas in need of protection, and (4) determine the effectiveness of existing clean water programs. (DEIS p. 4-20) Where is this monitoring data and why was it not included in the DEIS? This is a failure to disclose past impacts and without such disclosure the reasonably foreseeable impacts as well as cumulative impacts cannot be estimated in an accurate manner.

When watersheds lack sufficient vegetation (especially grasses, forbs, and residual litter), surface infiltration into the soil decreases, causing more runoff to reach the stream system. Conversely, activities, such as reclamation and proper grazing management, can improve vegetative cover and channel morphology, resulting in beneficial impacts. (DEIS 4-20). We are unaware of any literature that indicates domestic livestock grazing is beneficial to native vegetation and/or channel morphology. The BLM must support this assertion with the best available information, otherwise it violates NEPA. We are, however, aware of an immense amount of literature indicating otherwise.

Working toward and maintaining proper functioning condition as a minimum condition in riparian areas and complying with the *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming* (BLM 1998a) creates conditions that increase infiltration of surface water flows, filter out sediment before it reaches drainages, reduce runoff, improve vegetation, keep water on the land longer, and lower peak flows in the surface water system. (DEIS 4-20)

This statement is nothing more than a discussion of mitigation measures that the BLM is required by regulation to implement and does not constitute an adequate discussion of the impacts to water quality associated with domestic livestock grazing and/or other management activities.

The Clean Water Act, 33 U.S.C. Sec. 1251 et seq., requires the Forest Service to comply with all state water quality requirements.⁴¹

The objectives of the Wyoming water pollution control program are described in W.S. 35-11-102. These objectives are designed to serve the interests of the state and achieve the related goals, objectives, and policies of the Clean Water Act. Surface waters within the project area are classified as 2AB waters by the state of Wyoming.

Class 2AB waters are those known to support game fish populations or spawning and nursery areas at least seasonally and all their perennial tributaries and adjacent wetlands and where a

⁴¹ Oregon Natural Resources Council v. United States Forest Service, 834 F.2d 842, 848 (9th Cir. 1987)

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 044 OF 101

game fishery and drinking water use is otherwise attainable. Class 2AB waters include all permanent and seasonal game fisheries and can be either "cold water" or "warm water" depending upon the predominance of cold water or warm water species present. All Class 2AB waters are designated as cold water game fisheries unless identified as a warm water game fishery by a "ww" notation in the "Wyoming Surface Water Classification List".

Unless it is shown otherwise, these waters are presumed to have sufficient water quality and quantity to support drinking water supplies and are protected for that use. Class 2AB waters are also protected for nongame fisheries, fish consumption, and aquatic life other than fish, primary contact recreation, wildlife, industry, agriculture and scenic value uses.

The objectives of the Wyoming water pollution control program in relation to waters within the project area is to provide, wherever attainable, the highest possible water quality commensurate with maintaining designated uses.

The fisheries use includes water quality, habitat conditions, spawning and nursery areas, and food sources necessary to sustain populations of game and nongame fish. This use does not include the protection of exotic species which are designated "undesirable" by the Wyoming Game and Fish Department or the U.S. Fish and Wildlife Service within their appropriate jurisdictions.

Wyoming state water quality regulations state that water uses in existence on or after November 28, 1975 and the level of water quality necessary to protect those uses shall be maintained and protected. Those surface waters not designated as Class 1, but whose quality is better than the standards contained in the regulations, are to be maintained at that higher quality.

Furthermore, in all Wyoming surface waters, substances attributable to or influenced by the activities of man that will settle to form sludge, bank or bottom deposits shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife (emphasis added). And, floating and suspended solids attributable to or influenced by the activities of man shall not be present in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life, or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.

However, significant degradation of habitat has occurred as the DEIS admits, and this is likely to continue to occur. The BLM has failed to show that the proposed action will not result in failure to maintain designated uses of streams within the project area, specifically in those streams that are currently listed as having impaired beneficial uses.

The DEIS has failed to show that the proposed action will ensure the continued existence of populations of native fish violates state water quality standards that require Class 2AB waters be protected for fisheries, fish consumption, and aquatic life other than fish as well as other aspects of the Wyoming Water Quality regulations.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 045 OF 101

The EIS lacks any discussion regarding domestic livestock grazing and E. Coli contamination of streams even though the DEIS admits that some of the streams in the project area are failing to meet beneficial uses due to the presence of E. Coli in exceedingly high numbers.

Cattle have been shown to produce 5.4 billion fecal coliform and 31 billion fecal streptococcus bacteria in their feces per day. Since cattle spend a significant portion of their time in or near streams, lakes, and wetland areas and average 12 defecations per day, they can contribute significant numbers of these organisms to surface waters.⁸²

Tiedemann et al.⁸³ found significant increases in fecal coliform (bacteria) with increased intensity of grazing in Oregon. Gary et al.⁸⁴ report that bacteria densities were significantly higher along a pasture when 150 cattle were grazed compared to when 0 or 40 cattle were grazed in a Colorado stream. Bacteria from livestock can enter streams in runoff or are deposited directly when animals have access to the stream.⁸⁵

Microorganisms often become adsorbed to organic matter and soil particles which settle out and accumulate at the bottom of rivers and lakes. Sediments at the bottom of streams have been found to harbor significantly higher concentrations of bacteria than the overlying water. Bacteria have demonstrated significantly longer survival in sediment-laden waters than in those without sediment.⁸⁶ Sherer et al.⁸⁷ artificially resuspended stream sediments in a watershed with active grazing. They found significantly higher bacteria counts related to the cattle's access to the stream.

The EIS need to address the impacts to water quality that are posed by E. Coli. The fact that a number of streams in the project area currently exhibit high levels of sediment, which increase survival rates for E. Coli, also deserves discussion. Moreover, the EIS should include a discussion regarding how proposed management addresses this issue as well as sedimentation in compliance with the CWA. Simply relying on the SHR is insufficient and does not qualify as the reasoned discussion required by NEPA, nor does it comply with the scientific and professional integrity requirements of NEPA.

⁸² Howard, G. L., S. R. Johnson, and S. L. Ponce. 1983. Cattle grazing impact on surface water quality in a Colorado front range stream. *J. Soil and Water Conservation*. March-April 1983:124-128.

⁸³ Tiedemann, A. R., and D. A. Higgins. 1989. Effects of management strategies on water resources. In: T. M. Quigley, H. R. Sanderson, and A. R. Tiedemann, Managing interior Northwest rangelands: The Oregon Range Evaluation Project. USDA Forest Serv. Gen. Tech. Rep. PNW-GTR-238. p. 56-91.

⁸⁴ Tiedemann, A. R., D. A. Higgins, T. M. Quigley, H. R. Sanderson, and D. B. Marx. 1987. Responses of fecal coliform in streamwater to four grazing strategies. *J. Range Manage.* 40:322-329.

⁸⁵ Gary, H. L., S. R. Johnson, and S. L. Ponce. 1983. Cattle grazing impact on surface water quality in a Colorado front range stream. *J. Soil Water Conserv.* 38:124-128.

⁸⁶ Sherer, B. M., J. R. Miner, J. A. Moore, and J. C. Duckhouse. 1988. Resuspending organisms from a rangeland stream bottom. *Trans. ASAE*. 31:1217-1222.

⁸⁷ Sherer, B. M., J. R. Miner, J. A. Moore, and J. C. Duckhouse. 1992. Indicator bacterial survival in stream sediments. *J. Environ. Qual.* 21:591-595.

⁸⁸ Sherer, B. M., J. R. Miner, J. A. Moore, and J. C. Duckhouse. 1988. Resuspending organisms from a rangeland stream bottom. *Trans. ASAE*. 31:1217-1222.

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 046 OF 101

Under the Clean Water Act, the burden is on the agency to demonstrate its activities will fully comply with applicable state water quality standards. The incorporation of unproven BMP's as project mitigation is simply insufficient to satisfy the agency's obligations under the statute.

The FLPMA establishes a general requirement that land use planning and the resulting plan provide for compliance with "pollution control laws." 43 U.S.C. § 1712(c)(8). Compliance with the Clean Water Act (CWA) is an important element of this requirement.

The CWA establishes many requirements that BLM must adhere to in the RMP. It is imperative that BLM insure that waters on its lands comply with State water quality standards. It is critical to recognize that State water quality standards "serve the purposes" of the CWA, which, among other things, is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters. . ." 33 U.S.C. §§ 1313(c)(2)(A), §1251(a).

That is, a purpose of water quality standards is to protect aquatic ecosystems, yet BLM has failed to ensure this comprehensive objective is met, and even acknowledges water quality standards will be violated in some watersheds.

Water quality standards are typically composed of numeric standards, narrative standards, designated uses, and an anti-degradation policy. All too often, however, only numeric standards are viewed as "water quality standards" and BLM seems to be taking that narrow view here. Yet the Supreme Court held in PUD No. 1 of Jefferson County v. Washington Dep't of Ecology, 511 U.S. 700 (1994), that all components of water quality standards are enforceable limits. Consequently, the EIS should explicitly ensure that all components of State water quality standards are met, not just numeric standards, yet it has failed to do so in regards to degradation of wildlife habitat.

The EIS has also failed to ensure full compliance with sections 401 and 404 of the CWA. The EIS provides no indication there has been Section 401 State certification of compliance with State water quality standards prior to authorization of certain actions on BLM lands. 33 U.S.C. § 1341. The EIS makes no provision to fully implement this requirement.

The EIS also fails to address the Clean Water Action Plan, to the extent it is still applicable, and if it is not applicable, why it is not applicable. See <http://www.cleanwater.gov/action/c2b.html>.

Similarly, the EIS does not make provision for implementing BLM's Riparian-Wetland Initiative, and seek to implement the specific objectives established in that initiative, particularly the objective of restoring 75% of riparian areas to "proper functioning condition."

FIRES AND FUELS MANAGEMENT

This section deals with all vegetation in the planning area. The DEIS is replete with information regarding the BLM's failure to obtain current information regarding the status of vegetation resources within the planning area. Moreover, the BLM has failed to maintain the scientific and professional integrity regarding many of the conclusions that were drawn in the EIS.

Appendix B – Public Response Documents

The EIS should address the following:

put this line before each question. Each question will be its own comment

- How do forest management actions “improve” old growth?
- Where is old growth located in the planning area?
- How have past management actions affected old growth and the species which rely on it for habitat?
- What characteristics define old growth in the planning area?
- How have include habitat degradation, habitat loss, and lack of cottonwood and aspen regeneration impacted wildlife and other resources and to what extent are these conditions present in the project area?
- Many of the “pest” species identified by the BLM, including dwarf mistletoe, provide snags and other characteristics needed by a variety of wildlife. How do management actions aimed at ridding the planning area of such native organisms impact species and the natural variability of plant communities?
- The DEIS has failed to disclose the impacts to native sensitive species of plants from domestic livestock grazing and trampling. The only proposed action to address this issue is limiting the presence of water development and other range “improvements” within habitats for these species. This is not disclosure of impacts and nothing in the EIS supports the conclusion that this mitigation protects these resources from domestic livestock and other sources of permanent impairment.

The MSA disclosed the following conditions within the planning area:

Over the past 100 years, fire has been suppressed in the planning area, causing a general buildup of vegetation and deadwood, as well as late successional, decadent and dying plant communities. Fire suppression has allowed sagebrush and juniper to become a more prevalent component of grassland communities. In forested areas, fire suppression has increased the amount of fuel, and increased the number of saplings and small, early seral stage trees, making these areas more prone to catastrophic fires. Also, extreme drought conditions, over the past few years, have made vegetation less resistant to fire. (MSA p. 12)

This statement is reiterated, almost verbatim, in the DEIS: Over the past 100 years, fire exclusion in the planning area caused the general buildup of vegetative fuels and deadwood. In addition, drought conditions in recent years have caused vegetation to be less resistant to fire. Historic fire exclusion in the planning area has altered composition of vegetation communities, as well as natural fire regimes. For example, fire exclusion has allowed sagebrush and juniper communities to dominate some sites, causing a reduction in grass and forb production. In forested areas, suppression activities have increased fuel buildup, saplings, and small, early seral stage trees, making these areas more prone to catastrophic fires. (DEIS p. 3-37)

Prescribed fire has been used extensively and successfully in the Kemmerer Field Office over the last 12 years to improve the health of plant communities. (MSA p. 12)

One opportunity for management is to continue vegetation treatments, including mowing, prescribed burning, and chemical treatment. **These treatments should occur in the mountain mixed shrub and sagebrush/grassland community types.** Other opportunities may be developed throughout the RMP revision process. (MSA p. 70-71) What data indicates this is needed?

Shrublands make up approximately 62 percent of the total private, state, and federal land within the Kemmerer Planning Area (Table 9). Shrub communities include desert shrub, greasewood fans and flats, mesic upland shrub, xeric upland shrub, mountain big sagebrush, and Wyoming big sagebrush. Grasslands make up approximately 4 percent of the total area within the Kemmerer Planning Area and include Great Basin foothills grassland, mixed grass prairie and subalpine meadow. (MSA p. 65)

Sagebrush communities account for more than 50 percent of the vegetative cover in the Kemmerer Planning Area, with Wyoming big sagebrush representing 1,772,923 acres (45 percent) of the Kemmerer Planning Area. Wyoming big sagebrush is found throughout Wyoming except for in the extreme southeast corner. Mountain big sagebrush is found in more mesic sites than Wyoming big sagebrush and often occurs in mountain parks. Mountain big sagebrush is not found east of the Laramie Range in Wyoming. Total shrub cover within Wyoming big sagebrush and mountain big sagebrush communities comprises greater than 25 percent of the total vegetative cover. (MSA p. 65)

From 1995 to 2005, prescribed burns averaged 4,300 acres per year in the Kemmerer planning area. Lightning accounts for most wildland fires in the planning area followed by human-caused fires from fireworks, woodcutting, and campfires. (DEIS p. 3-37) This means that in those ten years, approximately 3% of the land area was treated with prescribed fire and 2.5% with natural wildfires with natural fires.

The DEIS goes on:

“Fire plays an important and natural part in ecosystem function; however, the natural fire regime largely has been suppressed in the planning area. Although the suppression of the natural fire regime is considered an adverse impact to fire ecology, actions contributing to an increase in the incidence of wildland fires or limiting the ability to effectively fight wildland fires are considered adverse impacts to fire management. This analysis focuses on impacts to fire management. For example, actions limiting fire-suppression tactics, thereby resulting in larger burn areas or more intense fires, are considered adverse impacts. Conversely, actions contributing to a decrease in the incidence of resource-damaging wildland fires or enhancing the ability to fight fires are considered beneficial impacts. For example, the use of unlimited tactics or full suppression may, in some cases, protect a resource against potential fire damage, a beneficial impact. Regarding planned or prescribed fire, actions restricting the acreage or effectiveness of prescribed fire are considered adverse. For example, stipulations to protect other resources (e.g., wildlife or livestock grazing) restricting or preventing prescribed fires from being conducted in certain areas or at certain times of the year are considered direct adverse impacts to

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Faa WVF TO: 1 307 828-4539 PAGE: 049 OF 101

prescribed fire management. Conversely, the lack of stipulations or actions increasing the acreage or effectiveness of prescribed fire are considered a beneficial impact. (DEIS p. 4-43)"

"Prescribed fire can be used to achieve measurable landscape-level or site-specific level objectives, such as reducing hazardous fuel loads, creating diversity within vegetative communities, enhancing livestock management, improving certain desirable wildlife habitats, regenerating decadent vegetative communities, and improving watershed health. Most of the prescribed fires in the planning area will occur in mountain shrub and aspen communities. Stipulations from other resources allowing or preventing prescribed fires to be conducted in certain areas or at certain times of the year are direct impacts to prescribed fire management. (DEIS p. 4-47)"

"Prescribed fire is a tool used to manage vegetative communities and can result in short-term adverse impacts with long-term beneficial impacts to wildlife, certain desirable wildlife habitats, and vegetative communities. Prescribed fire also can have a long-term beneficial impact to other resources and resource uses in the planning area by reducing fuel loads and reducing the risk of catastrophic wildland fire. (DEIS p. 4-46)"

"Similar to Alternative B, Alternative D uses prescribed fire to meet fire and fuels resource management objectives and reestablish fire in its natural role in the ecosystem. Similar to alternatives A and B, prescribed fire could be used to reduce hazardous fuels under Alternative D. This approach could result in a beneficial impact to fire management in the planning area. Alternative D allows the use of prescribed fire in the following areas to protect or enhance the sites: Bridger Antelope Trap, Emigrant Spring/Slate Creek, Emigrant Spring/Dempsey, Johnston Scout Rock, Alfred Corum and Nancy Hill emigrant gravesites, Pine Grove emigrant camp, Rocky Gap trail landmark, and the Bear River Divide trail landmark. The fewer the exclusions to the use of prescribed fire, the greater the benefit to the fire management program and the greater the potential to meet fire and fuels objectives in the *Fire Management Plan Southwestern Zone Wyoming BLM 2004* (BLM 2004). (DEIS p. 4-48)"

"Using prescribed fire to achieve measurable objectives for other resource programs and to manage fuels are anticipated to benefit prescribed fire management. Alternative D is anticipated to result in greater beneficial impacts to prescribed fire management and more beneficial impacts compared to Alternative A. Alternative C has the least beneficial impact because by not considering the use of prescribed fire in achieving resource objectives, the fire management program is unlikely to meet fire and fuels management goals. Alternative B imposes greater restrictions on prescribed fire use than Alternative A, resulting in fewer beneficial impacts compared to Alternative A. (DEIS p. 4-48)"

"Wildland fire and prescribed fire could impact biological diversity and are anticipated to result in similar adverse short-term impacts to habitats; however, the long-term benefits

10/11/2007 7:01 PM FROM: Faa WVF TO: 1 307 828-4539 PAGE: 050 OF 101

of fire, especially prescribed fire, generally are anticipated to improve the quality of habitat types and contribute to the maintenance of biological diversity. The lack of a natural fire regime is the primary fire ecology factor impacting biological diversity. Over time, lack of a natural fire regime is anticipated to reduce biological diversity in the planning area. (DEIS p. 4-52)"

"Alternatives B and D propose to utilize prescribed fire to achieve measurable objectives for resource management, reduce hazardous fuels, and reintroduce fire into fire-adapted ecosystems within the planning area, resulting in greater beneficial impacts to biological diversity than Alternative A. (DEIS p. 4-52)"

"Under Alternative D, wildland fire suppression follows the AMR in the *Fire Management Plan Southwestern Zone Wyoming BLM 2004* (BLM 2004f), which includes suppression of fires to provide for human health and safety. In addition, fire-suppression management minimizes the loss of property and threats to other surface owners, such as in areas of high density urban and industrial interface with intermingled BLM-administered lands. It also allows for achievement of resource objectives in areas where fire can be used as a management tool (similar to Alternative A, but maximizing the use of wildland fire to achieve management objectives). During suppression activities, soil disturbances on public lands are not allowed without consent from the BLM authorized officer. Similar to Alternative B, prescribed fire, as well as chemical, biological, and mechanical treatments, are used to meet fire and fuels resource management objectives based on acreage thresholds and areas found in an approved *Fire Management Plan Southwestern Zone Wyoming BLM 2004* (BLM 2004f) for the planning area. Prescribed fire and wildland fire use can be used to reintroduce fire in its natural role back into the ecosystem to meet fire and fuels resource management objectives, similar to Alternative A, which could improve habitats and result in a beneficial impact for grasslands and shrublands. (DEIS p. 4-66)"

"Prescribed fire and wildland fire use can be used to reintroduce fire in its natural role back into the ecosystem to meet fire and fuels resource management objectives, similar to Alternative A, which could improve habitats and result in a beneficial impact for grasslands and shrublands. (DEIS p. 4-66)"

(DEIS p. 4-43, 4-46 + 4-48, 4-52, 4-66)
First of all, these statements do not amount to a disclosure of impacts. The BLM seems to have its analysis of impacts backwards. NEPA requires disclosure of the impacts of proposed management activities upon the resources in the project area—not a discussion of how ecological processes affect management.)

Agencies constantly infer they should be managing for the natural range of variability in tree species composition. Yet this focus on live, "healthy" trees ignores the natural range of variability for such factors as snags, old growth, edge effect, etc. and the long-term influences of

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 051 OF 101

culverts, the many existing miles of roads, and other human-caused structural changes in the forest ecosystem. The concept of range of natural variability suffers from its failure to provide defensible criteria about which factors' ranges should be measured. Proposed "cures" pose far greater threats to biodiversity than do fires and other natural events that might (or might not) be associated with the "undesired" changes in forest structure. The task of management should be the reversal of artificial legacies to allow restoration of natural, self-sustaining ecosystem processes and the informing of the public on how to live within a wild forest. If natural disturbance patterns are the best way to maintain or restore desired ecosystem values, then nature should be able to accomplish this task very well without human intervention.

Second, [The NEPA document should discuss site-specific historic ranges of fuel loads and disclose present site-specific fuel loads. Readable maps should disclose fuel loading within the planning area and indicate which areas exceed the historic range and by how much. The environmental document should disclose relevant information on the comparative spread of fire through fine fuels versus standing and fallen snags. Each area proposed for fuel reduction should be shown on a site-specific scale to be in need of treatment; broad-brush generalities about fuel loading are not accurate enough to inform a good decision. How has the KFO documented the alleged "significant increase in fuel loads"? The statement that fuel levels in the project area are somehow "hazardous" is only supported by subjective and unsubstantiated observations of silviculturalists and rangeland conservationists – something NEPA and case law forbid.]

Fires have been a historic aspect of most of the forested communities in the planning area and should not be considered a reason to alter the dynamics of the ecosystem unless there is an imminent threat to private land or structures. Fire suppression is known to cause ecological damage in fire dependent ecosystems, both in terms of fire exclusion and in the damage caused by fire fighting. Fire ecology is missing from the proposal.

Furthermore, the dominant variable affecting the potential for a large-scale fire (and wildfire containment objectives) in forested areas is not gross tonnage of fuel, but the rate of fire spread and fire line intensity. Fire typically spreads slower through large, heavy fuels than through fine surface fuels. And although burning snags can emit embers that can ignite spot fires, these spot fires can only ignite and spread through fine fuels. Thus the main concern for fire suppression containment objectives should center on reducing fire spread and fire line intensity through reduction of abnormally high fine fuel loads, not reducing large-diameter snags and logs.

[WWP may support fuel reduction efforts immediately adjacent to buildings, but it is not clear that the BLM understands that the scope of such efforts must be quite limited in order to be ecologically and economically sensible.] A recent study (Cohen 1999) indicates that by far the most significant factor determining whether homes and other buildings in the wildland/urban interface would burn are the structures' ignitability, not the fuel situation on adjacent land. There is no justification for focusing on fuel levels away from structures when money would be much better spent dealing with the immediate problem.

Kemmerer RMP DEIS Comments

49

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 052 OF 101

If the true purpose of fire-suppression and addressing fuel loads is to protect private structures, alternatives in the NEPA document should include only thinning the smallest trees within 40 meters of structures and working with the private landowners to reduce ignitability of the structures. [It should be made clear that the BLM has no obligation to protect private individuals, and those individuals should take measures on their own to reduce the risk of fire on the private land. Building in fire prone ecosystems is similar to building in a flood plain; the question is not if a fire will occur, but when. The proposed action only encourages more development on in-holdings and at the urban edge.]

It is important to realize that the possibility of large fires that seems to be motivating the management of fire in the planning area is not going to be eliminated by fuel treatments. The forested ecosystems evolved with fire, and fire will continue to be a natural disturbance.

[Furthermore, it is clear that the BLM intends on suppressing fire in order to reduce the potential damage to private property and resources within the planning area, so how does the use of prescribed fire, prescribed natural fire, and the continued use of fire suppression mimic the historic disturbance regime? The best available science states that logging activities do not mimic fires, and in fact have much more severe consequences. What science is the BLM relying on to support its assertions?]

It is evident from the statements taken from the DEIS that the BLM's proposed strategy is based on continuing the strategy of fire exclusion in forested areas through aggressive suppression. This "addition" to fire suppression also commits taxpayers to endless wasteful spending on reactive intensive management schemes. [The EIS should explain the contradictions between the understanding of the adverse ecological effects caused by past fire suppression and the agency's intention to continue future fire suppression. Otherwise it is in violation of NEPA (CFR 1502.24) for failure to maintain professional and scientific integrity. Failure to analyze and disclose the significant indirect and cumulative effects of continued fire suppression/exclusion also violates NEPA (CFR 1508.27).]

The EIS must find justification for its findings in the outside universe of current scientific knowledge. "[A]n EIS that fails to disclose and respond to the opinions held by well-respected scientists concerning the hazards of the proposed action ... is fatally deficient." Seattle Audubon Society v. Mosely, 798 F. Supp. 1473, 1479 (W.D. Wash. 1992), aff'd sub nom., Seattle Audubon Society v. Espy, 998 F.2d 699 (9th Cir. 1993), quoting Friends of the Earth v. Hall, 693 F. Supp. 904, 934 (W.D. Wash. 1988). If the EIS fails to disclose conflicts with current science and address them, there is no basis to believe that the agency's procedure "resulted in a reasoned analysis of the evidence before it, and that the [agency] made the evidence available to all concerned." Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 986 (9th Cir. 1985).

[The EIS must, at a minimum, explain which habitat types will be "improved" and which species will benefit from these fire proposals. The EIS does not indicate that the BLM has conducted any surveys for sensitive, threatened, endangered, or species of concern as they may occur in these areas with "hazardous" fuel loads in the planning area. NEPA prohibits an agency from

Kemmerer RMP DEIS Comments

50

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 053 OF 101

simply asserting that its decision will not have a significant effect (Jones v. Gordon, 792 F.2d 821, 828 (9th Cir.1986)).

In regards to sensitive species in the project area, the EIS relies on the effects of mitigation to somehow inform the public of possible effects. The DEIS is replete with statements such as "providing buffers around sage grouse leks would protect grouse and other sage obligates" is not disclosure if effects. Similar statements are made regarding almost every species.

As we previously noted, A "[M]ere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." Neighbors of Cuddy Mountain v. United States Forest Service, 137 F.3d 1372 (9th Cir. 1998) setting aside EIS in part on grounds that the USFS's mitigation analysis contained only "broad generalizations and vague references". "Without analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices." Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998) (emphasis added) (remanding analysis to agency for failure to undertake EIS). See also National Audubon Society v. Hoffman, 132 F.2d 7, 17(2nd Cir. 1997) that mitigation measures relied upon by USFS to conclude that impacts would be reduced below level of significance must be supported by "substantial evidence".

There was no information offered to support the claim that the mitigation being proposed by the BLM will somehow reduce the impacts of commercial timber harvest and/or prescribed fire which is aimed at nothing more than improving forage for domestic livestock.

NEPA demands that the agency disclose the impacts before that action takes place. Simply stating that if sensitive species are found, then mitigation will take place is insufficient to meet this mandate. The BLM must identify the sensitive species in the area, disclose that information in the EIS, and document the expected impacts. Stating that surveys will be done as projects proceed is illegal. The BLM is supposed to obtain monitoring data for management activities. Where is the data?

Furthermore, the degraded conditions of the majority of riparian areas throughout the planning area make it highly debatable as to whether or not the riparian community would properly filter sediment associated with timber harvesting, prescribed fire activities, and other management activities. This is especially true given the fact that soils within the project area may have rapid to very rapid runoff and severe to very severe hazard for water erosion. The EIS lacks any discussion of the impacts to water quality from the proposed "Fire and Fuels Management" activities in regards to these conditions.

The BLM's intense bias towards increasing forage for domestic livestock and harvesting timber is reflected throughout the EIS in claims that failure to address fuel build-up would have future negative impacts to riparian areas. No science is presented to support this assertion. In fact, we doubt any science exists that would support this absurd notion, although a plethora of peer reviewed literature is available detailing the negative impacts to water quality and riparian areas from management activities such as commercial timber harvest. Down woody debris in streams has the effect of trapping and storing sediment and creating pools that enhance aquatic habitat.

Kemmerer RMP DEIS Comments

51

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 054 OF 101

How is this impacted by fuels treatment projects? What standards will the BLM use to ensure this important ecological function is maintained?

Furthermore, it is apparent that the BLM intends to focus its use of prescribed fire in sagebrush communities. Big sagebrush habitat types are the dominant vegetation communities on the majority of public lands in the planning area. At mid to lower elevations, Wyoming big sagebrush is the dominant habitat type that provides important habitat for mobile wildlife species such as mule deer, pronghorn, sage grouse, pygmy rabbits, and other species. Basin big sagebrush is intermingled.

Few if any fire history studies have been conducted on basin big sagebrush. Fire-scar data from nearby forests require adjustment to estimate fire rotation, the time required to burn once through a sagebrush landscape. Estimates from forests require correction for unburned area and because sagebrush burns less often than forests. Recovery time might also indicate fire rotation. Mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) recovers within about 35-100 or more years after fire, and Wyoming big sagebrush (*A. t. ssp. wyomingensis*) requires 50-120 or more years. Fire rotation in other ecosystems is 2 or more times the recovery period. Together, the evidence suggests fire rotations may be a minimum of 325-450 years in low sagebrush (*A. arbuscula*), 100-240 years in Wyoming big sagebrush, 70-200 years or more in mountain big sagebrush, and 35-100 years in mountain grasslands with a little sagebrush. Given these long rotations, fire exclusion has likely had little effect in most sagebrush areas. If maintaining and restoring habitat for sagebrush-dependent species is the goal, fire should be suppressed where there is a threat of cheatgrass (*Bromus tectorum*). Elsewhere, fire does not need to be reintroduced until native understory plants can be restored, so that sagebrush ecosystems can fully recover from fire.⁹⁸

In many big sagebrush communities, changes in fire occurrence have occurred along with fire suppression and livestock grazing. Prior to the introduction of annuals, insufficient fuels may have limited fire spread in big sagebrush communities. Introduction of annuals has increased fuel loads so that fire can easily carry. Burning in some big sagebrush communities can set the stage for repeated fires. Fire frequency can be as little as 5 years, not sufficient time for the establishment and reproduction of big sagebrush. Repeated fires have removed big sagebrush from extensive areas in the Great Basin and Columbia River drainages.⁹⁹

Moreover, fire intensity in sagebrush in the modern era has varied over a 7-fold range due to variation in fuel loads, shrub density, fuel moisture, wind speed, and other factors (Sapsis and Kaufmann 1991, Pyle and Crawford 1996). Low fire intensity, however, does not usually increase sagebrush survival—when flames reach sagebrush, mortality is nearly complete and the

⁹⁸ Baker, William L. 2005. Fire and Restoration of Sagebrush Ecosystems Department of Geography Dept. 3371, 1000 E. University Ave. University of Wyoming Laramie, WY 82071

⁹⁹ Bunting, Stephen C. 1990. Prescribed fire effects in sagebrush-grasslands and pinyon-juniper woodlands. In: Alexander, M. E.; Bisgrove, G. F., technical coordinator. The art and science of fire management: Proceedings of the 1st Interior West Fire Council annual meeting and workshop, 1988 October 24-27, Kananaskis Village, AB. Information Rep. NOR-X-309. Edmonton, AB: Forestry Canada, Northwest Region, Northern Forestry Centre: 176-181.

Kemmerer RMP DEIS Comments

52

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 055 OF 101

fire is “standreplacing” (e.g., Hlaisdell 1953, Britton and Clark 1985, Acker 1988, Sapsis and Kaufmann 1991). Britton and Clark (1985:23) report: “it is relatively unimportant how fast the fire moves, how hot the fire is, or what the fire intensity is...if a fire front passes through an area, the sagebrush will be killed.” However, silver sagebrush (*A. cana*) and three-tip sagebrush (*A. tripartita*) may be killed, but will often resprout.⁹⁰

Fires thus do not thin sagebrush stands or lower their density by killing a certain fraction of sagebrush throughout a stand as was implied in the past. Fire exclusion cannot be a cause of increased density in a particular patch of existing sagebrush, brought on by an absence of thinning fires, as **thinning fires did not occur**.⁹¹

The above previously footnoted paper which is attached to these comments as Attachment 3, also indicates the following:

Fire is documented from modern fire records to actually be less likely to be ignited and burn in sagebrush than in forests. The ignition ratio, which is the number of lightning strikes per fire start, is 144 in sagebrush-grass but only 42 in Douglas-fir and 24 in ponderosa pine (*Pinus ponderosa*), based on data from Idaho (McIsner et al. 1994). This suggests fires are much more likely to start in forests than in sagebrush, given the same amount of lightning. The ignition rate, which is the number of fires per 400,000 ha per year, is only 3.6 in sagebrush-grass, but is 25.5 in Douglas-fir and 81.9 in ponderosa pine, based on historical fire records from Colorado (Fochner and Barrows 1976). This also suggests that fires are less common in sagebrush than in forests.

If ignition ratios and rates were proportional to fire rotation, sagebrush would burn at rotations that are 3.4 to 6 times as long (based on ignition ratio) or 7.1 to 22.8 times as long (based on ignition rate) as in nearby forests. Other factors also affect fire rotation, but these data and arguments are evidence that fire burns at rotations that are longer in sagebrush than in adjoining forests, and a correction is needed when using fire-scar records from adjacent forests. It is not possible to estimate the necessary correction at present. I arbitrarily use 2.0 times mean CFI. This is likely an overly conservative, low estimate given the much larger numbers presented above and the fact that mean CFI underestimates fire rotation in the forest itself (Baker and Ehle 2001). Nonetheless, if the mean CFI in the forest is 50 years, this adjacency correction results in an estimated 100-year fire rotation in adjacent sagebrush.

A third problem that requires correction is that all the fire-scar studies (Table 2) use targeted sampling, which means that areas containing concentrations of scarred trees were sought, and trees with multiple fire scars were selected in these areas (Baker and Ehle 2001). However, these sampling areas and multiple-scarred trees may be those that have the most fire, while areas and trees with little evidence of fire are not sampled (Baker and Ehle 2001). For example, pinyon juniper woodlands adjoining sagebrush in southwestern Colorado contain no fire scars or other evidence of surface fire, and instead burn in stand-replacing fires at about 400-year rotations (Floyd et al. 2000, 2004).

⁹⁰ Baker, William L. 2005. Fire and Restoration of Sagebrush Ecosystems Department of Geography Dept. 3371, 1000 E. University Ave. University of Wyoming Laramie, WY 82071 (with references)

⁹¹ Ibid.

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 056 OF 101

Corrected for adjacency, this implies that fire plays a very minor role (fire rotation = 800 years) in these sagebrush stands.

Combining the fire-scar and recovery evidence, the best available estimates of fire rotation are 325-450 years in low sagebrush, 100-240 years in Wyoming big sagebrush, 70-200 years or more in mountain big sagebrush, and 35-100 years in mountain grasslands where sagebrush is a minor component. These estimates are likely low estimates, because they could not be corrected for targeted sampling and they use a conservative estimate of adjacency correction, but fire rotation in sagebrush cannot be estimated more precisely at this time using available data.

Sagebrush has been assumed by some to be a fire-dependent vegetation type, requiring periodic renewal by fire (Winward 1991), although evidence challenging this fire dependence has been presented (Connelly et al. 2000, Welch and Criddle 2003). Fire is an important natural disturbance in sagebrush, but does not occur as often as suggested in the past, and is only one of many agents. Sagebrush density and cover are also diminished by droughts, insect outbreaks, and competition with native bunchgrasses, and may increase again during wet periods (Lommasson 1948, Maier et al. 2001, Anderson and Inouye 2001, Welch and Criddle 2003).

Given the long rotations that characterized pre-EuroAmerican fires in sagebrush, fire exclusion likely has had little effect in most sagebrush communities. A national assessment of fire regimes and fire-related condition classes (Schmidt et al. 2002) placed sagebrush mostly within fire regime II (stand replacement at 0-35 year frequency) and fire regime III (mixed severity at 35-100 year frequency). The source of these estimates is not documented, but they are interpreted to mean that sagebrush has commonly missed several fires since EuroAmerican settlement, and thus requires prescribed burning for restoration. However, the evidence presented here shows that these fire regimes underestimate the fire rotation, and there is no evidence of mixed-severity fire in sagebrush. Sagebrush instead generally belongs in fire regime V (long rotation, stand replacement). Where cheatgrass now dominates, sagebrush is likely in condition class 3 (fire regimes significantly altered from historical range), with too much fire.

Sagebrush that has not entered a cheatgrass-fire cycle should remain in condition class 1 (fire regimes within historical range), not having missed much, if any, fire at this point. Similarly, the invasion of junipers, pinyons, and Douglas-fir into sagebrush areas (Arno and Gruell 1983, Miller and Rose 1999) is likely not generally due to fire exclusion, but to other factors (e.g., overgrazing).

Particularly in Wyoming big sagebrush, a program of prescribed burning is unwarranted or inadvisable if maintaining and restoring sagebrush landscapes and sagebrush-dependent species is the goal. Correcting for fire exclusion by reintroducing fire is likely not a common sagebrush restoration need.

There is thus insufficient basis for prescribed burning to restore a mosaic thought to be important for wildlife. For example, in mountain big sagebrush, prescribed burning, even

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Fax WVP TO: 1 307 828-4539 PAGE: 037 OF 101

at modest fire rotations (e.g., 55 years in Idaho–Nelle et al. 2000), can adversely impact sage-grouse if the landscape mosaic is not just right (Nelle et al. 2000). A fire mosaic can also increase the ability of cheatgrass to further destroy sagebrush (Knick and Rotenberry 1997).

Burning sagebrush does not assure restoration of a healthy sagebrush ecosystem, and may delay or prevent restoration, since sagebrush itself does not recover for 35 or more years (Figure 1). Restoration of native plants may not require sagebrush thinning (Anderson and Inouye 2001).

If fire occurs, successful recovery of the sagebrush ecosystem is enhanced by abundant, healthy native plants (Anderson and Inouye 2001). Restoring native plants is an essential goal before fire is reintroduced or even allowed to continue, if further conversion to cheatgrass is to be avoided (Bunting et al. 2003). Intentional fire suppression is appropriate, at least in Wyoming big sagebrush and the lower elevations of mountain big sagebrush where replacement by cheatgrass is possible (Wambolt et al. 2002).

Restoration requires enough solution to the cheatgrass problem to allow some re-seeding or passive re-invasion and increase of native plants, followed by decades of rest or reduced livestock grazing, some fortuitous wet periods, and considerable patience (Anderson and Inouye 2001). Sagebrush ecosystems did not historically burn often or recover quickly, but can be destroyed quickly if we fail to stop the cheatgrass-fire cycle and if we do not focus on restoring the native plants that are essential to maintaining a sagebrush ecosystem that can recover after fire.

Furthermore, loss of big sagebrush as a result of a fire may decrease both food and cover for pygmy rabbits and sage grouse. Fires, including prescribed fires, eliminate much of the big sagebrush and would have an adverse effect on the pygmy rabbit, sage grouse, and other obligate species populations in the area. Moreover, the recovery times for these communities are not “short-term” impacts as the BLM implies. The BLM must address the discrepancies between its assertions and the best available science in order to maintain scientific and professional integrity as mandated by NEPA.

Furthermore, the DEIS states “The short- and long-term impacts from prescribed fire will benefit fire and fuels management and other resources; however, by removing existing vegetation and exposing soil, fire does provide an opportunity for the establishment of INNS and the potential for soil erosion. (DEIS p. 4-47)

Cheatgrass has become the dominant species on 100 million acres – 158,000 square miles – in the Intermountain West⁹². More than fifty percent of sagebrush steppe may be invaded to some

⁹² Rosenzweig, R. 1994. Displacement of rare plants by exotic grasses. Pages 170-175 in S. B. Monsen and S. G. Kitchen (eds.), PROCEEDINGS—ECOLOGY AND MANAGEMENT OF ANNUAL RANGELANDS. Gen. Tech. Rep. INT-313. USDA, Forest Service, Intermountain Research Station, Ogden, UT: 170 (citing R. Mack 1981. Invasion of *Bromus tectorum* L. into western North America: an ecological chronicle. *Agro-Ecosystems* 7: 145-165).

10/11/2007 7:01 PM FROM: Fax WVP TO: 1 307 828-4539 PAGE: 058 OF 101

extent by cheatgrass, with losses projected to accelerate in the future.⁹³ Cheatgrass is spreading at a rate of 14 percent annually in the United States.⁹⁴ A BLM ecologist and program coordinator has warned that “[c]heatgrass is changing the West.”⁹⁵

Cheatgrass thrives in disturbed, and especially burned, areas. Cultivation and subsequent land abandonment, livestock grazing, removal of native vegetation, and repeated fires can interact, or act singly, to proliferate cheatgrass. Cheatgrass can increase fire frequency, favoring itself and potentially inhibiting native plants from establishing in burned areas. The presence of cheatgrass in sagebrush steppe can lead to an eventual conversion of the shrubsteppe community into an exotic grassland. In some cases, cheatgrass encourages invasion by other exotic species such as knapweed and thistle.⁹⁶ Cheatgrass is well adapted to dry (xeric) sites and climate change may favor cheatgrass invasion.

The Bureau of Land Management (BLM) administers approximately 18,000 grazing permits and leases to graze almost 13 million AUMs (animal unit months)⁹⁷ on 165 million acres of public lands,⁹⁸ primarily in sagebrush steppe. More than 99 percent of remaining sagebrush steppe has been affected by livestock and approximately 30 percent has been heavily grazed.⁹⁹ The BLM grazing program is administered by 107 field offices that spend at least \$58 million annually to manage public lands grazing,¹⁰⁰ at a loss of at least \$54.6 million per year to federal taxpayers.¹⁰¹

⁹³ Rowland, M. M. 2004. Effects of management practices on birds: Greater Sage-grouse. Northern Prairie Wildlife Research Center. Jamestown, ND. Available at Northern Prairie Wildlife Research Center Online: www.nprwc.usgs.gov/resource/intertr/grashbird/grsg/grsg.htm (ver. 12AUG2004) (citing N. F. West. 1999. Managing for biodiversity of rangelands. Pages 101-126 in W. W. Collins and C. O. Qualset (eds.).

BIODIVERSITY IN AGROECOSYSTEMS. CRC Press, Boca Raton, FL [supporting statement that cheatgrass has invaded more than half of the sagebrush habitats] and M. A. Hemstrom, M. J. Wisdom, M. M. Rowland, et al. 2002. Sagebrush-steppe vegetation dynamics and potential for restoration in the interior Columbia Basin, USA. *Conservation Biology* 16:1243-1255 [supporting contention that cheatgrass will continue to spread into sagebrush steppe].

⁹⁴ Duncan, C. A. et al. 2004. Assessing the economic, environmental, and societal losses from invasive plants on rangeland and wildlands. *Weed Technology (Invasive Weed Symposium)* 18(5): 1412, Table 1.

⁹⁵ Miller, J. “Alien invader clings to socks, stokes West’s wildfires.” *Daily Herald* (Provo, UT) (Aug. 8, 2007)

⁹⁶ Gucker, C. L. 2007. *Bromus tectorum* in Fire Effects Information System (database). U.S. Dept. Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. (www.fs.fed.us/database/feis), viewed Oct. 7, 2007 (and references cited).

⁹⁷ An animal unit month is a measure of the amount of forage necessary to sustain a cow and calf, one horse, or five sheep or goats, for one month.

⁹⁸ BLM. Undated. Bureau of Land Management 2007 Budget Justifications. Bureau of Land Management. Washington, DC: I-3; see also Government Accountability Office. 2005. Livestock grazing: federal expenditures and receipts vary depending on the agency and the purpose of the fee charged. GAO-05-869. Government Accountability Office. Washington, DC: 15, 76; BLM. 2007. Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report. Bureau of Land Management, Nevada State Office. Reno, NV: 4-94. (June 2007) (grazing permitted on 165 million acres of BLM lands)

⁹⁹ West, N. E. 1996. Strategies for maintenance and repair of biotic community diversity on rangelands. Chap. 22. Pages 326-346 in R. C. Szaro and D. W. Johnston (eds.). BIODIVERSITY IN MANAGED LANDSCAPES. THEORY AND PRACTICE. Oxford University Press. New York, NY: 336, 337.

¹⁰⁰ Government Accountability Office. 2005. Livestock grazing: federal expenditures and receipts vary depending on the agency and the purpose of the fee charged. GAO-05-869. Government Accountability Office. Washington, DC: 21

¹⁰¹ GAO (2005): 31.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 055 OF 101

Livestock spread cheatgrass by:

- disturbing the soil (and damaging biological soil crust a living protective layer that prevents erosion, provides nutrients to plants, and helps prevent establishment of invasive weeds);
- removing competing native vegetation; and
- spreading cheatgrass seeds on their coats and hooves.¹⁰²

Furthermore, recent research indicates that nonnative ungulates—such as domestic livestock—select native plants over nonnative plants, giving a competitive advantage to nonnative weeds.¹⁰³ Once cheatgrass is established, it is usually only a matter of time before the area burns. Livestock grazing following fire is especially damaging to recovery of sagebrush steppe. Livestock graze and trample sagebrush seedlings, emerging grasses and wildflowers, and disturb soil on burned sites when they are most at risk of invasion by cheatgrass and other exotic species. Current research suggests that native vegetation in the sagebrush steppe may require ten years or more to recover from various management treatments or disturbance (such as fire).¹⁰⁴ However, the BLM is only prescribes two years of rest following fire and fails to disclose the possible impacts, direct, indirect, and cumulative, of the impacts to sagebrush ecosystems from the proposed aggressive use of prescribed fire and the following grazing by domestic livestock, as well as the impacts of livestock spreading cheatgrass at the expense of desirable native plants.

Additionally, cheatgrass is also identified as a major cause of wildfires, but never the livestock that help introduce and spread the species. Indeed, the BLM asserts in the DEIS that livestock help keep fuel loads down, and actually HELP HALT the spread of noxious weeds and invasive species such as cheatgrass. This just one more example of the BLM's failure to insure scientific and professional integrity in the DEIS.

The public lands grazing industry has so captured¹⁰⁵ the process of Federal public lands management that livestock grazing is now commonly viewed as a solution to weed invasion, rather than a cause. In fact, native plants don't have a prayer against livestock. Others believe that livestock can be used to control cheatgrass, although research suggests that prescriptive grazing would have little effect on cheatgrass.¹⁰⁶

A simple review of the Economics section of the DEIS reveals that managing public lands for grazing supports only a small minority of the area's population (contributing only 1.1 and 0.7%

¹⁰² Gucker (2007); E. J. Rawlings, K. K. Hanson, R. L. Sanford, J. Belnap. 1997. The striking effects of land use practices and *Bromus tectorum* invasion on phosphorus cycling in a desert ecosystem of the Colorado Plateau. *Bull. Ecological Soc. of America* 78: 300; A. J. Belsky and J. L. Gelbard. 2000. Livestock grazing and weed invasions in the arid West. Distributed report. Oregon Natural Desert Association. Bend, OR; J. Gelbard. 1999. Multiple scale causes of exotic plant invasions in the Colorado Plateau and Great Basin, USA. M.S. thesis. Duke University, Nicholas School of the Environment. Durham, NC.

¹⁰³ John D. Parker, J. D., D. E. Burkepile, M. E. Hay. Opposing effects of native and exotic herbivores on plant invasions. *Science* 311: 1459-1461.

¹⁰⁴ Monsen, S. B., R. Stevens, N. L. Shaw (compilers). 2004. RESTORING WESTERN RANGES AND WILDLANDS (vol. I). Gen. Tech. Rep. RMRS-GTR-136-Vol. 1. USDA-Forest Service, Rocky Mountain Research Station. Fort Collins, CO: 194-198.

¹⁰⁵ Donahue, D. L. 2005. Western grazing: the capture of grass, ground, and government. *Environmental Law* 35: 721-806.

¹⁰⁶ Mayer, K. H. 2004. The effects of defoliation on *Bromus tectorum* seed production and growth. M.S. thesis. Oregon State University. Corvallis, OR.

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 060 OF 101

of the counties' economy (DEIS p. 3-163)), at the expense of native flora and fauna, recreational opportunities and amenity-based businesses. This violates, MUSYA, FLPMA, and other laws and regulations governing the management of public lands.

The DEIS somewhat acknowledges the fact that "A frequent fire-return interval often associated with INNS can effectively fragment habitat over the long term." (DEIS 3-43) While management actions to address these concerns may be incorporated into the alternatives, this does not amount to a discussion of impacts. The goal of the RMP should be to disclose the management actions that will be used to address these concerns and require mandatory compliance. The DEIS should then disclose the impacts of such actions across the alternatives in order that the public and decision-maker can arrive at an informed decision.

This broad and general statement does not even come close to a full disclosure of the true impacts associated with this fragmentation. This fragmentation ultimately results in a total loss of sagebrush habitat and the species that depend on this ecosystem for survival. Such impacts, and the resulting losses of already sensitive species of native wildlife need to be disclosed. The DEIS's failure to discuss these issues and impacts is a violation of NEPA.

Moreover, the DEIS should disclose the true impacts that have occurred to these now threatened communities. Instead of falsely blaming the lack of understory grasses and forbs in the sagebrush ecosystem on a lack of fire, the BLM should honestly disclose the real reason native plants in these communities are currently depleted—livestock grazing.

Instead, the BLM is proposing to more and more unnatural fire in an effort to increase forage for livestock at the expense of other resources and wildlife populations. Disguising these activities as "habitat restoration" violates public trust. Failure to disclose the true intent and impact of such activities is also a violation of NEPA. Managing the entire project area for livestock grazing at the expense of native flora and fauna, soils, and other resources also violates MUSYA and FLPMA.

If the KFO were serious about restoring habitat conditions for native species and addressing biological resources and habitat fragmentation in the sagebrush ecosystem, it would have seriously considered removing domestic livestock from portions of the project area. After all, Anderson and Inouye¹⁰⁷ found that contemporary state-and-transition models do not fit the sagebrush ecosystem because viable remnant populations of native grasses and forbs are able to take advantage of improved growing conditions when livestock are removed (in areas where these viable populations of natives are found). They found further that despite depauperate and homogenous conditions of permanent plots in 1950, after 45 years vegetation had been anything but static, clearly refuting claims of long-term stability under shrub dominance. Mean richness

¹⁰⁷ Anderson, Jay R. and Richard S. Inouye. 2001. Landscape-Scale Changes in Plant Species Abundance and Biodiversity of a Sagebrush Steppe Over 45 Years. *Ecological Monographs*, 71(4), 2001, pp. 531-556.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 061 OF 101

per plot of A.I.J. growth forms increased steadily in the absence of domestic livestock grazing. Grasses and forbs increased significantly.

The DEIS completely lacks any discussion of the impacts domestic livestock grazing has had on these communities and the obligate species found in them. The BLM has an obligation under NEPA to disclose the current condition of these communities, the exact extent to which they have been impacted by domestic livestock (including the success or failure of past efforts to thin stands in an effort to "improve" forage conditions) and how these actions have affected wildlife species, soils, native plants, and the introduction of exotic weeds such as cheatgrass.

The DEIS must disclose the extent to which sagebrush habitats throughout the KFO have been manipulated to increase forage for domestic livestock, and in comparison to other places outside the planning area, the relative extent of remaining large, extensive stands of sagebrush remain that are critical to obligate species. Production and vigor of these habitats in relation to site potential field-office wide need to be disclosed. Due to the regional losses of sagebrush communities, and the wildlife that depend on them, maintenance and improvement of existing sagebrush habitat is important and the only way to adequately determine the importance and therefore proper management of those areas within the planning area, these conditions must be disclosed.

In spite of the evidence of widespread loss of plant productivity and ground cover, accelerated erosion and BLM's own documentation of rapid declines in species such as sage grouse, BLM routinely chooses not to address livestock impacts in any scientific or sustainable fashion. Instead, BLM proposes more water developments and grazing systems. This ignores that in the 1960's, BLM began a massive program of developing water, putting streams and springs into pipelines, seeding with crested wheatgrass, building fences, engaging in rotation grazing, and spending millions of dollars to "even out livestock distribution".

The BLM must disclose the impacts of these past management actions, support those conclusion with the monitoring data it is required to obtain on such projects, and then disclose how these actions have affected current conditions. The continued use of such management actions should then be analyzed and the impacts continuing this degradation need to be disclosed. This is the only way to paint the picture of the true costs associated with domestic livestock grazing.

Weighing the impacts of resource management practices in this manner is consistent with the BLM's mission of providing lands for multiple uses as recognized in the Multiple Use Sustained Yield Act. The "multiple use" concept as defined in law and regulations requires "a reasoned and informed decision that the benefits of grazing ... outweigh the costs" and a weighing of "the relative values of the resources."¹⁰⁸ Therefore, the BLM must show that the benefits of domestic livestock grazing out-weigh the costs. Nothing in the FIS indicates the BLM even considered the costs of grazing and the continued use of forage improvement projects or sagebrush thinning projects (or even sagebrush habitat "improvement" projects—call them what they are—increasing forage for livestock production) let alone the impacts. In fact, weighing the impacts

¹⁰⁸ National Wildlife Federation v. BLM, No. UT-06-91-01 US Dep't of Interior, Office of Hearings & Appeals, Hearings Div. (Rampton, J. 1993), p. 23, the "Comb Wash Allotment" decision.

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 062 OF 101

and costs of management activities is not an issue for which the BLM has discretion—this practice is mandatory.

The NEPA document for the management plan should disclose the areas where the future use of prescribed fire is proposed, how noxious weeds, livestock grazing, soils, vegetation, wildlife, and other resources will be affected by such management. As it now stands, the DEIS for the KFO RMP fails this mandate.

Furthermore, biological invasions, especially invasion by exotic weeds, are consistently cited as among the most important challenges to maintenance of healthy sagebrush communities.¹⁰⁹ The BLM must acknowledge scientific evidence of the contributions of livestock grazing to cheatgrass invasion and resulting unnatural fires and develop strategies to reduce inappropriate grazing on public lands.

Successful ecological and hydrological restoration in the planning area will require that livestock grazing either be eliminated or significantly reduced on lands within the planning area. As it now stands, the RMP does not provide any control areas that the BLM could use to provide a baseline from which to measure the impacts associated with domestic livestock grazing. Any seriously considered alternative should provide at least 10% of the lands within the field office as closed to livestock grazing. This is fully within the authority of the BLM as we have stated previously, and it is in full conformance with the MUSYA and FLPMA.

It is more than clear given the ecological as well as economical costs associated with domestic livestock grazing (and these costs were ignored by the BLM as these comments point out) that grazing in the planning area is not the "best" use of public lands.

WILDLIFE

The DEIS states that "Due to the complexity of biological resources and the vast size of the planning area, this section does not attempt to provide an encyclopedic description of all vegetation, fish, wildlife, and special status species; rather, based on issues identified during the scoping process and BLM's MSA, this section focuses on existing biological resource conditions in the planning area, which may be further impacted (beneficially or adversely) by alternatives. Chapter 4, Environmental Consequences, describes the potential environmental consequences (i.e., impacts) of each alternative related to individual biological resources. (DEIS 3-42)"

While the BLM is not required to provide an encyclopedic description of all vegetation, fish, wildlife, and special status species, it is required to recognize the trouble facing sensitive species such as Colorado River Cutthroat Trout (CRCT), Bonneville Cutthroat Trout (BCT), Snake River Cutthroat Trout (SRCT), pygmy rabbits, sage grouse, and other sensitive species and

¹⁰⁹ Suring, L. H., M. J. Wisdom, R. J. Tausch, R. F. Miller, M. M. Rowland, L. Schueck, C. W. Meinke. 2005. Modeling threats to sagebrush and other shrubland communities. Chap. 4 in part II: Regional assessment of habitats for species of conservation concern in the Great Basin. Pages 114-149 in M. J. Wisdom, M. M. Rowland, L. H. Suring (eds.), HABITAT THREATS IN THE SAGEBRUSH ECOSYSTEM: METHODS OF REGIONAL ASSESSMENT AND APPLICATIONS IN THE GREAT BASIN. Alliance Communications Group, Lawrence, KS: 138.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Faa WWP TO: 1 307 828-4539 PAGE: 063 OF 101

integrate the best available science regarding the habitat requirements of such species. Such action is imperative to the continued existence of these species within the project area and failure to do so could result in ESA listing.

The BLM claims that biological diversity in the planning area is currently addressed by strategies such as the BLM's National Sage-Grouse Habitat Conservation Strategy. (DEIS p. 3-44) However, the DEIS lacks any information as to how such strategies have helped or hindered the populations of species including, but not limited to, sage grouse. The BLM is required to obtain monitoring data for all management activities that have the potential to impact sensitive species as well as Threatened and Endangered species (TES). This information, and how management activities have impacted these species as well as the effectiveness of mitigation measures to protect these species needs to be disclosed. The DEIS currently lacks this information.

The DEIS lacks any current information regarding the populations of sensitive species within the planning area and how past and present management has impacted these species. Once again, this lack of information results in a failure by the BLM to disclose all past, present, future, and cumulative impacts. Without an understanding of how past management affected the status of these species and how the species are currently failing, it is impossible to adequately disclose the expected impacts of the proposed RMP. Moreover, the BLM thus cannot ensure the scientific and professional integrity of the assumptions that were derived in the DEIS.

In addition, the RMP and DEIS fails to address how the needs of sensitive species are addressed when issuing domestic livestock grazing permits – an issue currently under appeal by WWP. In order to ensure the continued existence of such species without ESA listing, the BLM MUST address the habitat needs for these species across the planning area and contain enforceable standards, guidelines, and objectives to maintain those habitat requirements for all sensitive species.

Furthermore, the BLM states that "future challenges regarding habitat fragmentation include managing the location and constructing, maintaining, and operating infrastructure required for mineral, energy, transportation, and other development, all while adhering to habitat requirements of wildlife and special status species occurring in the planning area. (DEIS p. 4-51)" But nothing in the DEIS indicates the BLM ever considered these habitat requirements. Where are the science and the data? What actions in the preferred alternative insure that the habitat requirements of wildlife and special status species are maintained? The only sensitive species for which any requirements have been proposed are sage grouse and sensitive plants, and what is required remains open to debate as to whether or not habitat will be maintained.

The BLM attempts to side-step its NEPA obligations to disclose the current status of biological diversity in the project area, specifically addressing the habitat needs and impacts to that habitat that has occurred, by simply stating that "The current condition for biological diversity in the

Kemmerer RMP DEIS Comments

61

10/11/2007 7:01 PM FROM: Faa WWP TO: 1 307 828-4539 PAGE: 064 OF 101

planning area is a function of physical factors (e.g., soils, geology, air, water, geography, and elevation), natural factors (e.g., fire, drought, disease, evolution), and human actions. In the context of these physical and natural factors, biological diversity evolved over time to produce the diversity present in the planning area prior to Anglo settlement. Human actions during the subsequent 140 years changed the pattern, composition, structure, and function of plant and animal communities within the planning area, thus affecting the pre-Anglo biologically diverse settlement. Management challenges for biological diversity include competing resources and resource uses. Management actions to address these challenges are incorporated in alternatives for physical and biological resources and for fire and fuels management in Chapter 2. (DEIS p. 3-44) "Where is the monitoring information on the status of species? How have the current conditions of physical factors such as soils, water quality, etc. affected species within the planning area? What human activities, and BLM actions specifically, changed the pattern, composition, structure, and function of plant and animal communities within the planning area and to what extent? This is critical information that is missing from the DEIS."

The discussion of impacts to biological diversity and habitat fragmentation is very limited in the DEIS. "The conditions of habitat fragmentation and biological diversity are anticipated to be impacted by current management and by management actions proposed as part of the Action Alternatives. Overall, habitat fragmentation is anticipated to have adverse impacts on biological diversity and biological resources. The primary factors impacting habitat fragmentation in the planning area are surface-disturbing activities that break blocks of habitat into smaller units and proactive actions to avoid or minimize fragmentation. The primary factors impacting biological diversity in the planning area are surface disturbance, fire and fuels management, INNS, and habitat fragmentation. Considering these factors, Alternative B is anticipated to contribute the least to habitat fragmentation and have the least adverse impact to biological diversity. For the same reasons, alternatives A and C are anticipated to contribute the most to habitat fragmentation and have the greatest adverse impact to biological diversity. Alternative D is anticipated to result in less habitat fragmentation than alternatives A and C, but more than Alternative B. (DEIS p. 4-52)"

It is generally considered common knowledge that habitat fragmentation adversely impacts biological diversity. The general assumptions such as this that make up the entire EIS do not constitute the reasonable discussion of impacts that NEPA requires. General statements regarding "some" impact have been ruled by the courts to be insufficient to fulfill the requirement of NEPA. The BLM is obligated to at least consider what those possible impacts might be. "What activities will lead to fragmentation? How does logging, prescribed fire, livestock grazing, degraded riparian areas, lack of cover, etc. result in habitat fragmentation, how does this impact species within the planning area, how are migration routes and linkages to other ecosystems and habitats within the region impacted by such actions? These are questions the DEIS should have answered."

None of the statements in the DEIS disclose how habitat fragmentation has been or will be impacted by BLM actions and how this impacts important biological resources in the planning area.

Kemmerer RMP DEIS Comments

62

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 065 OF 101

*Marble Mountain Audubon v. Rice*¹¹⁰ interprets NEPA to require federal agencies to consider biological corridors. The standard for such a review is the same "hard look" NEPA requires of other environmental effects. That means those corridors within the analysis area and linkages with areas adjacent to the analysis area need to be examined, plus the value of the entire analysis area as part of a larger corridor within or between ecosystems. Friends of the Bitterroot, Inc. v. USFS¹¹¹, and Oregon Natural Resources Council v. John Lowe¹¹² also highlight the importance of including corridors as an element of consideration for an agency decision.

This means that the BLM should have considered ALL management activities occurring within the project area that may impact the migration corridors, population connectivity of fish populations, and connectivity of other habitats identified in the EIS. For example, the NEPA document explains that the area contains important migration corridors between summer and winter ranges. These migration corridors are used by some of the longest distance migratory mule deer and pronghorn antelope populations in the United States. Management activities that have the potential to affect migration corridors in or adjacent to the project area include domestic livestock grazing, oil and gas development, timber harvest, and private land development. The EIS failed to disclose how these activities have affected the ability of migrating wildlife, especially mule deer, antelope, grizzly bears, wolves, and lynx, to move within and outside of the project area and how these activities have affected the ability of wildlife within the Greater Yellowstone Ecosystem (GYE) to access and move to ecosystems and habitats to the south and vice versa.

Fish Populations

No federally listed fish species occur in the planning area; however, the federally endangered bonytail, Colorado pikeminnow, humpback chub, and razorback sucker occur in the Green River and Colorado River systems downstream of the planning area and could be impacted by management activities in the part of the planning area comprising the Colorado River watershed (see Map 7). In addition, seven BLM sensitive species occur in the planning area: roundtail chub, leatherside chub, bluehead sucker, flannelmouth sucker, Colorado River cutthroat trout, Bonneville cutthroat trout, and fine-spotted Snake River cutthroat trout. The potential impacts of each alternative on the federally listed species occurring downstream of the planning area focus on water depletion. (DEIS 4-121).

The planning area supports seven BLM-sensitive fish species and four federally endangered fish species occurring downstream of the planning area and may be impacted by activities within the planning area (DEIS 3-54). Approximately 30 percent of stream riparian areas where these sensitive fish species occur are in proper functioning condition (BLM 2003a). The other 70 percent are either functional at-risk or nonfunctional, indicating some components are lacking and the stream is susceptible to degradation (DEIS 3-77).

¹¹⁰No. 90-15389, D.C. No. CV89-170-EJG, Sept. 13, 1990

¹¹¹900 F. Supp. 1368, 1372 (D. Mont 1994)

¹¹²109 F.3d 521, 526 (9th Cir. 1997)

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 066 OF 101

First of all, the DEIS should calculate the number of AUMs that are permitted, estimate the number of gallons of water that are consumed by a cow/calf pair per month and estimate the minimum amount of water removal from this and how it affects the entire system, especially in regards to the Colorado River and the TES fish found there.

Second, and perhaps more importantly, the only actions proposed to address impacts to sensitive fish found in the planning area are as follows:

- Human caused barriers to fish passage could be removed where appropriate and (or) feasible to provide for more genetic diversity and population stability. (DEIS 2-58)
- Human caused barriers may be placed in some situations to protect conservation populations of fish species from hybridization or competition (DEIS 2-58).
- Alternative D retains the Raymond Mountain ACEC and recommends Huff Creek and Raymond Creek for inclusion in the national wild and scenic rivers system. These designations may benefit fisheries in general and provide more management direction to protect existing resource values than Alternative A. This type of management results in greater beneficial impacts to fisheries habitats than Alternative A, but less than Alternative B. Alternative D applies management actions from the *Conservation Agreement and Strategies and Thomas Fork Aquatic Habitat Management Plan* (BLM 1979) to support habitats for the Snake River cutthroat trout, similar to Alternative B. Similar to Alternative A, Alternative D avoids surface-disturbing activities within 500 feet of riparian areas. However, Alternative D provides additional protection of riparian areas than Alternative A to specifically improve stream water quality, resulting in greater beneficial impacts to special status fish species than Alternative A. Impacts to special status fish species based on management of human-caused barriers to fish movement under Alternative D are the same as Alternative B. (DEIS 4-121)

The BLM must take more action to protect Colorado River cutthroat trout (CRCT), Bonneville cutthroat trout (BCCT), and Snake River Cutthroat trout (SRCT) in the planning area. The proposed alternative needs to contain real standards and protection for protection of these species that account for habitat requirements, i.e. sediment limits in spawning habitats, bank stability standards, riparian standards to insure adequate shade to protect water temperatures, etc. Additionally, the ACEC designations outlined in Alternative B for the protection of these species needs to be carried over into the preferred alternative.

Of the 509 miles of streams in the planning area, approximately 139 miles are suitable for maintaining a fishery with the rest unsuitable at this time due to things such as very small intermittent flows, high water temperatures, and generally lacking habitat. (DEIS 3-54)

Approximately 31 percent of streams in the planning area are in proper functioning condition (BLM 2003a). (DEIS 3-54)

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 067 OF 101

(Of the 139 miles containing a fishery, approximately 38 miles of streams are in proper functioning condition (BLM 2003a). (ibid.) How many miles historically contained fish? How many miles have been lost since the implementation of the last RMP? What are the current conditions? What led to these conditions? What is proposed to correct these issues?)

“The BLM uses several types of management plans to focus management of site-specific fisheries and aquatic habitats in the planning area, including the Thomas Fork Aquatic Habitat Management Plan (HMP), three Conservation Agreements and Strategies (for Colorado River cutthroat trout, Bonneville cutthroat trout, and ‘3-species’), WGFD basin management plans, and three Cooperative Resource Management Plans (CRMP): Willow Creek CRMP, Smithfork CRMP, and Cumberland CRMP. The Thomas Fork Aquatic HMP focuses on the Bear River (Bonneville) cutthroat trout, while the Willow Creek and Cumberland CRMPs focus on the Colorado River cutthroat trout, the Bonneville cutthroat trout, and the recovery of riparian areas in the Cumberland-Uinta allotment, respectively. (DEIS 3-54) How effective have these been? Have conditions improved? If not, why not?”

The BLM recognizes that Fisheries habitats are closely tied with stream riparian conditions and states “Approximately 30 percent of stream riparian areas where these sensitive fish species occur are in proper functioning condition (BLM 2003a). The other 70 percent are either functional at-risk or nonfunctional, indicating some components are lacking and the stream is susceptible to degradation. (DEIS p. 3-77).”

The DEIS further notes “Management challenges for special status fish species in the planning area include balancing the needs of special status fish with competing needs of other resource programs, resource uses, and potential impacts to local economies; encroachment of INNS in riparian corridors; management of public access; land-tenure adjustments; water rights and produced water from wells; floodplain connectivity and stream channel degradation; and water quality degradation and potential toxicity associated with contaminants and sedimentation in the watershed. Recognizing that management actions for federally listed species are often derived from the consultation process (i.e., Section 7 of the ESA), the BLM has identified management actions in the alternatives described in Chapter 2 to address the challenges identified. (DEIS p. 3-77)”

However, the BLM has failed to analyze alternatives for livestock grazing and other activities that impact fish habitat and to address how this issue affects fish populations. They have ignored a lot of data indicating livestock grazing is impacting these species and have failed to include any standards or actions in the RMP that would ensure protection of required habitat components.

Furthermore, the DEIS fails to disclose how impacts to water quality have impacted fish species. Where is the population data on these species that is collected on an annual basis by the WYGF? Failure to use and disclose this information as it pertains to the planning area is a violation of NEPA’s requirement to use all available information.

The DEIS further lacks any discussion regarding whirling disease, whether or not it has been discovered in the planning area, and the potential impacts to CRCT, BCT, and SRCT populations. Whirling disease was discovered in the Salt River in 1995 and its subsequent

Kemmerer RMP DEIS Comments

65

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 068 OF 101

expansion into its tributaries may be a significant new threat to the long-term persistence of existing native trout populations. Cutthroat trout populations at most risk from whirling disease are those in streams with a high level of fine sediment and relatively warm temperatures that provide suitable habitat for *Tubifex tubifex*, one of the hosts needed to complete the life cycle of the *Myxobolus cerebralis* parasite. Those conditions generally characterize the major streams in the project area, and are contributed to by livestock grazing.

The BLM states that it will “Protect life stages for game and non-game fish species by limiting disturbance activities in fish bearing streams on a case-by-case basis. Coordination with WGFD will occur for specific projects to determine crucial dates. Exceptions can be made if the NEPA analysis shows little or no impact. (DEIS 2-58)” But, nothing in the EIS indicates that the BLM will address riparian degradation or other habitat components in any meaningful manner.

The DEIS claims that “Through habitat management and restoration, the BLM intends to maintain and reestablish populations of native species that have historically used the range located within the planning area boundaries. (DEIS 3-57) How will this be accomplished? What actions will the BLM take?”

Trout, regardless of their evolutionary history, require 4 types of habitat during various stages of their life history: spawning habitat, nursery or rearing habitat, adult habitat and overwintering habitat. Spawning gravels are required for spawning success and can be a limiting factor in high gradient streams where the current carries off suitable spawning gravel¹¹³. The United States Fish and Wildlife Service (USFWS) has noted that of “an even greater concern may be accumulation of fine sediments into interstitial spaces of spawning gravels which prevents egg incubation and reduces larval survival. Such fines can become dominant in the sediments when poor land-use practices alter flow regimes, remove riparian vegetation, and/or degrade overall watershed conditions. These human-induced activities can aggravate already fragile soils and geology in vulnerable desert climates.”¹¹⁴

Good salmonid habitat conditions in general include well oxygenated water, cooler temperatures in general and a complexity of instream habitat structure such as large woody debris and overhanging banks.¹¹⁵ Native trout require relatively cool, well oxygenated water and the presence of clean, well sorted gravels with minimal fine sediments for successful spawning. The RMP must include management actions that will ensure these habitat components. The fact that these components are not being provided by current management, i.e. relying solely on the SHR, is highlighted by the fact that they are listed as sensitive. The BLM must incorporate standards into all management activities that protect the habitat requirements listed above.

Moreover, given the importance of riparian areas to ecosystem functioning, it is obvious that these areas are critical to the continued protection of a majority of ecological resources within

¹¹³ Dehnke, R.J. 1992. Native Trout of Western North America. American Fisheries Society Monograph 6

¹¹⁴ [ISD01 USFWS 2001. Status Review for the Bonneville Cutthroat Trout. (*Oncorhynchus clarki utah*)

¹¹⁵ Ibid.

Kemmerer RMP DEIS Comments

66

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 069 OF 101

the project area. [The ACFC designation of riparian areas is the only way for the BLM to acknowledge how critical these areas are, and this designation should be implemented with any alternative.]

Sage-brush Obligates

[The BLM must consider the habitat needs of sensitive species that rely on sagebrush habitats. The fact that a majority of treatments and other management actions are being proposed in this ecosystem emphasized the need for BLM to require much more than the meager goals and objectives that are being proposed.]

[The DEIS states that "Management of sagebrush habitats would follow the BLM National Sage-Grouse Habitat Conservation Strategy (BLM 2005c)." Using these guidelines, greater sage-grouse would serve as an umbrella species for all sagebrush-dependent species. (DEIS 4-123) What information is the BLM relying on to support the assertion that the sage grouse guidelines are adequate for conserving all sage-brush dependent species?]

The BLM's sensitive species manual requires the following from field office managers:

F. Field Office Managers are responsible for implementing the special status species program within their area of jurisdiction by:

1. Conducting and maintaining current inventories for special status species on public lands.
2. Providing for the conservation of special status species in the preparation and implementation of recovery plans with which BLM has concurred, interagency plans and conservation agreements.
3. Ensuring that all actions comply with the ESA, its implementing regulations, and other directives associated with conserving special status species.
4. Coordinating field office activities with Federal, State, and local groups to ensure the most effective program for special status species conservation.
5. Ensuring actions are evaluated to determine if special status species objectives are being met.
6. Ensuring all actions authorized, funded or carried out by BLM follow the interagency consultation procedures as outlined in 50 CFR Part 402- Interagency cooperation -Endangered Species Act of 1973, as amended.
7. Ensuring results of formal section 7 consultations, including terms and conditions in incidental take statements, are implemented.

Furthermore, the policy of the BLM is defined in that document as follows:

"The BLM shall conserve listed species and the ecosystems upon which they depend and shall use existing authority in furtherance of the purposes of the ESA. Specifically the BLM shall:

- a. Determine, to the extent practicable, the occurrence, distribution, population dynamics and habitat condition of all listed species on lands administered by BLM, and evaluate the significance of lands administered by BLM in the conservation of those species.
- b. Ensure management plans and programs provide for the conservation of designated critical habitat on lands administered by the BLM.

Kemmerer RMP DEIS Comments

67

10/11/2007 7:01 PM FROM: Faa WVP TO: 1 307 828-4539 PAGE: 070 OF 101

- c. Develop and implement management plans and programs that will conserve listed species and their habitats.
- d. Monitor and evaluate ongoing management activities to ensure conservation objectives for listed species are being met.
- e. Ensure that all activities affecting the populations and habitats of listed species are designed to be consistent with recovery needs and objectives.
- f. Implement mandatory terms and conditions and reasonable and prudent alternatives as outlined in final biological opinions.
- g. Implement conservation recommendations included in biological opinions if they are consistent with BLM land use planning and policy and they are technologically and economically feasible.

Therefore, [the BLM should provide the information that it has gained from conducting the inventories for sensitive species and evaluate the actions proposed in the RMP to determine if the objectives for special status species are being met. The BLM must actually develop objectives for these species that considers their habitat needs; simply stating the proposed inadequate objectives for sage grouse are sufficient for other obligates such as pygmy rabbits does not fulfill the requirements.]

Sage-grouse (*Centrocercus* spp.) have been demonstrated to be dependent upon sagebrush (*Artemisia* spp.) steppe habitats throughout all of their life processes (Patterson 1952). The distribution and abundance of sage-grouse have decreased throughout their formerly occupied range (Connelly and Braun 1997, Braun 1998, Schroeder et al. 1999). The actual size of the overall decrease is unknown but most likely exceeds 50 % in total area occupied and 80 % in abundance (Braun 1998). Sage-grouse have been extirpated in 4-5 states and one Canadian province and have been listed as endangered in Canada. Six petitions have been filed in the United States, covering all populations, to list sage-grouse as threatened or endangered under the Endangered Species Act of 1973. The U. S. Fish and Wildlife Service has not responded to all of these petitions although the Gunnison sage-grouse (*C. minimus*) has been assigned candidate species status and the sage-grouse populations (*C. urophasianus phaios*) in Washington State have been identified as meriting "warranted but precluded" status. Further, the Wyoming Game and Fish Department has recognized the problems with sage-grouse in Wyoming and, through a statewide working group, prepared and released for review a draft "Wyoming Greater Sage-grouse Conservation Plan" dated July 2002.

Wyoming, in general, has the strongest sage grouse population in the world. Fragmentation of the habitats upon which this population depends will slowly unravel the entire presently linked sage-grouse population in Wyoming. This has already happened in most other states with disastrous results and has already started in Wyoming -- most noticeably at the periphery of the historical distribution. Once this continuity becomes fragmented, the overall distribution fabric is lost and sage-grouse populations will become disjointed and subject to greatly reduced abundance as well as local extirpation (Braun 2002).

[The impacts of management activities, including domestic livestock grazing, on sage-grouse extend beyond impacts to leks. The DEIS fails to address these other impacts.]

Kemmerer RMP DEIS Comments

68

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Fax WVF TO: 1 307 828-4539 PAGE: 071 OF 101

Several scientists have researched and documented the biology and habitat requirements for sage grouse during their various life stages. These life stages include leks or breeding, nesting, brood-rearing and wintering. Braun et al (1977) in their review¹¹⁶ found that leks or breeding sites were generally open areas surrounded by sagebrush and that nesting areas appeared to occur within a few kilometers of the lek sites. The maximum distance between leks and nesting sites reported was 12.9 km, with 59% being within 3.2 km. Successful nest sites had significantly greater sagebrush canopy cover (27%) as opposed to unsuccessful sites at 20%. An important component of the nesting sites is also the cover provided by herbaceous vegetation, particularly grasses. Connelly et al (2000)¹¹⁷ reported a range of grass height at nest sites between 14 – 34 inches and a mean of 20 inches with canopy cover of grasses ranging from 4 to 51% with a mean of 16%. During brood-rearing, grouse with chicks preferred more open sagebrush uplands at about 10% - 14% canopy, while loafing of adults occurred in stands with 30% canopy.

Beginning in June and during mid-late summer, broods moved to more mesic sites such as meadows. Hockett (2002)¹¹⁸ stressed the importance of riparian and wet meadow sites during summer and fall. Wintering sites were reported to have greater than 20% sagebrush canopy cover.

Connelly et al (2000) summarized characteristics of sage grouse habitat. The sagebrush canopy characteristic for breeding habitats is reported as a broad range, but it is important to remember that successful nests occur in areas with canopy cover at the high end of the range or higher. Diets of sage grouse vary through the year and by age. Sage grouse depend entirely on sagebrush from October through April. In May, they shift to a forb-dominated diet (20 – 60%) with the remainder being mostly sagebrush. They shift back to sagebrush during September. Chicks begin life depending heavily on insects at about 60%, then shift to a forb dominated diet with about 15% sagebrush during the second month.

Braun et al (1977), Welch et al (1990)¹¹⁹, Connelly et al (2000) report that spraying, burning and mechanical treatments of sagebrush resulted in declines of sage power lines, fences, reservoirs, ranches, farms and housing developments have resulted in sage grouse habitat fragmentation and loss. Structures such as fences and power lines provide perch sites for raptors that prey on sage grouse and also result in injury or death when grouse collide with these. Connelly et al (2000) and Hockett (2000) reported that sage grouse have high seasonal fidelity to seasonal ranges and females return to the same area to nest each year. [Promoting additional cattle concentrations to invade important nesting habitat will have negative effects on these birds, but then BLM provides no information on sage grouse use areas in relation to existing and proposed developments or to areas in good or poor condition. No analysis was done as to the effects of these disturbances combined with livestock grazing on sage grouse populations.]

¹¹⁶ Braun, Clait E., Tim Britt and Richard O. Wallestad. 1977. Guidelines for maintenance of sage grouse habitats. Wildlife Society Bulletin 5(3):99-105.

¹¹⁷ Connelly, John W., Michael A. Schroeder, Alan R. Sands, and Clait Braun. 2000. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin 28(4):967-985.

¹¹⁸ Hockett, Glenn A. 2002. Livestock impacts on the herbaceous components of sage grouse habitat: a review. Intermountain Journal of Science 8(2):105-114.

¹¹⁹ Welch, Bruce L., Fred J. Wagstaff and Richard I. Williams. 1990. Sage grouse status and recovery plan for Strawberry Valley, Utah. USDA Forest Service Intermountain Research Station Research Paper INT-430. 10p.

10/11/2007 7:01 PM FROM: Fax WVF TO: 1 307 828-4539 PAGE: 072 OF 101

Beck and Mitchell (2000)¹²⁰ and Hockett (2002) reviewed the effects of livestock grazing on sage grouse. They report that livestock, by consuming herbaceous vegetation and reducing grass cover needed to conceal grouse nests from predation, reduce grouse production. Ground squirrels favored by high levels of grazing, combined with drought conditions account for significant nest predation. The depletion of forbs and loss of associated insects can directly impact chick survival. [Mattise (1995)¹²¹ noted that "we have poor strategies for protecting important brood rearing habitat during severe drought conditions. Riparian areas, springs and seeps are not being managed to provide vegetative recovery and enhancement." Since BLM fails to include any riparian standards for the streams, seeps, springs, and wet meadows on these allotments and fails to disclose the impacts to sage grouse from the proposed action, its proposed decision is counter to the science and validates this statement.]

Considerable local information is available about sage-grouse use areas in Wyoming (Lyon 2000, M. J. Holloran 2001-02 Study; Heath et al., 1997). Most of the available data that have been mapped are those on location of leks. There is general knowledge about sage-grouse seasonal habitat use areas outside of the lek locations, with Lyon (2000) presenting the best generalized overview. Braun (2002) noted the following for the development of the Pinedale RMP and they are relevant here as well:

1. *Winter*— Focus should immediately be placed on locating and mapping sagegrouse winter-use areas throughout the area. This should have the highest priority, as over winter survival is critical to population maintenance. Maps should be prepared for both "average" or "normal" winters and severe winters which, happen every 7-10 years. Once these areas are located and mapped, they should be described using standard measures for live sagebrush canopy cover, height, etc. following the approach of Connelly et al. (2000). Once identified, these areas should receive special attention (for example, designation as "Areas of Critical Environmental Concern") in order to reduce or prevent disturbance during winter, wild fire, and management activities that make them less useful to sage-grouse. Special attention should be given to any disturbance that reduces amount of live sagebrush, leaf surface, canopy cover, and height. (Which grazing does— authors words not Brauns).

2. *Leks*—The available data on leks suggest that not all active lek sites have been located and that the status (active, inactive [< 2 years, > 2 years]) of each site mapped is poorly known. Further, there are gaps (some leks are not counted every year) in the count data and number of counts/lek in a given year varied. The available long-term trend in numbers of cocks appears to be down but the problems identified make data analysis difficult. Since active sage-grouse leks are relatively easy to locate during late March and April, standard surveys of all areas within the proposed project area should be conducted and continued at 3-year intervals. All known lek sites should be checked for activity in spring. Those classified as active should be counted (number of cocks) 3-4 times each spring at 7-10 day intervals starting in late March-early April, depending upon weather conditions, and continuing into early May. Those classified as inactive should be

¹²⁰ Deck, Jeffrey L. and Dean L. Mitchell. 2000. Influences of livestock grazing on sage grouse habitat. Wildlife Society Bulletin 28(4):993-1002.

¹²¹ Mattise, Samuel N. 1995. Sage grouse in Idaho. Forum '94. Idaho BLM Technical Bulletin 95-15. 10p.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 073 OF 101

checked in late April/early May every 2-3 years to ascertain any change in status. UTM (or GIS) coordinates for all lek sites should be taken and plotted on base maps.

3. *Nesting*-- Lyon (2000) describes habitats used for nesting. Because sage-grouse have been shown to nest at a variety of distances from active leks and use a variety of micro sites for nest placement, it is difficult to identify all nesting areas. Thus, the Connelly et al. (2000) guidelines should be followed to offer some protection to habitats useful for nesting at distances up to 3 miles from active leks. Since most actual nesting occurs within this distance (Braun et al. 1977) (with some nests at much greater distances), it is most reasonable to depict nesting habitat as all sagebrush areas with > 10 % live canopy cover of sagebrush (primarily *A. tridentata vaseyana*, *A. t. wyomingensis*, *A. tripartita*, *A. nova*, and *A. cana* depending upon location) and a healthy under story of native grasses and forbs. Since active lek sites can be located, identifying concentric areas within a threemile radius around each lek site that will include most nesting sites is presently the only reasonable method to map potential nesting areas.

4. *Brood-rearing*--Broods, upon hatching, use areas close to the locations of successful nests and progressively move towards moist areas upon desiccation of vegetation in the uplands. A review of where broods have been observed in relation to known sources of water (at ground level) or at riparian sites along streams, springs, etc. should be done so that additional management consideration can be given to these areas. Management that should be in place includes movement of livestock to avoid degradation of plant communities in moist sites and riparian areas and fencing to allow livestock access to water only in sites where erosion and plant community degradation would not be expected or could be controlled. Lyon (2000) suggests that early brood survival is a problem in the area she studied southwest of Pinedale. Early brood survival is most affected by insect and succulent forb availability within secure (good hiding cover provided by grasses and forbs) habitats (Connelly et al. 2000). Late brood rearing habitat is primarily in close proximity (< 1 mile) of sites with moisture and succulent forbs adjacent to escape cover provided by live sagebrush (Connelly et al., 2000).

[These scientific papers and reports provide a significant body of knowledge that BLM should have relied upon in addressing sage grouse needs and monitoring in the F.A. The F.A provides no evidence any of this was considered, despite the fact that WWP has provided this information in numerous comments and protests.]

[The RMP must include goals and objectives for management actions that insure these habitat requirements for viable populations of sage grouse and other sensitive species can be maintained]

[The BLM would be wise to take the above steps recommended by Braun. We also recommend the BLM review "A Blueprint for Sage-grouse Conservation and Recovery" by Braun (2006) and that the BLM comply with the recommendations in the "Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats" by Connelly et al. (2004). Only then can the public be assured that the BLM has complied with the requirements of its own sensitive species manual.]

Kemmerer RMP DEIS Comments

71

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 074 OF 101

Guidelines for Management of Sage Grouse and Migrant Bird Habitat. These authors (Braun et al, Connelly et al, and Welch et al) have provided a variety of guidelines for management of sage grouse habitat. These include:

- Sagebrush eradication should not be practiced. Treatments can be used to thin dense sagebrush stands to a range of sagebrush cover from 15% to 25%. Burns should be avoided in xeric Wyoming big sagebrush habitats). Only small burns to create mosaics in mountain big sagebrush should be contemplated and these are considered experimental.
- Rehabilitation following wildfire or other disturbances should focus on re-establishing sagebrush and native herbaceous plants. Annual grass establishment following fire is detrimental. Grazing should not be allowed on seeded areas until plant recruitment has occurred.
- Range seedings should focus on establishing forbs, native grasses and sagebrush. Monoculture seedings of crested wheatgrass and other non-natives are discouraged.
- Applying insecticides to summer habitat is not recommended.
- Livestock use around water sources and wet meadows in brood rearing areas should be regulated through fencing or other management to restrict overuse.
- Grazing practices should be adjusted to maintain residual grass growth essential for nest concealment and then delay grazing the same areas until after nesting.
- Plot sage grouse use areas including leks, nesting areas, wintering sites, meadows and summer range or brooding areas on maps.
- No sagebrush will be treated or removed until a comprehensive plan has been formulated for management of the area.
- Sagebrush control projects will include provisions for long-term quantitative measurement of vegetation before and after to determine effects on habitat and whether objectives were met.
- No sagebrush control projects will be done on areas where live cover is less than 20%, on steep slopes or upper slopes with skeletal soils where big sagebrush is less than 30 cm.
- No sagebrush control along streams, meadows or intermittent drainages. A 100 meter strip of live sagebrush should be left on each edge of meadows and drainages.
- When sagebrush control is found to be unavoidable, treatment measures should be applied in irregular patterns using topography and other ecological considerations. Widths of treated and untreated areas can vary except treated areas will not be wider than 30 meters and untreated areas will be at least as wide.

Kemmerer RMP DEIS Comments

72

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: FWS WFP TO: 1 307 828-4539 PAGE: 075 OF 101

- Manage breeding habitats to support 15 – 25% canopy cover of big sagebrush, perennial herbaceous cover ≥ 18 cm in height with $\geq 15\%$ canopy cover of grasses and $\geq 10\%$ canopy cover of forbs.

Partners in Flight (Paige and Ritter, 1999)¹²² provide management recommendations for sage grouse and migratory birds obligate to sagebrush-steppe. These include:

- Identify and protect those habitats that still have a thriving community of native understory and sagebrush plants.
- Maintain large, continuous blocks of unfragmented habitat
- Maintain seeps, springs, wet meadows and riparian vegetation in a healthy state
- Avoid practices that convert sagebrush to non-native grassland or farm land.
- Maintain stands of sagebrush for a balance between shrub and perennial grass cover.
- In large disturbed areas, sagebrush and perennial grasses may need to be reseeded to shorten recovery time.
- To maintain bluebunch wheatgrass vigor, avoid grazing during the growing season until plants begin to cure. Bluebunch wheatgrass is especially sensitive to heavy grazing during the growing season. Recovery of these plants following heavy grazing during a single spring can require 8 years under the best management and environmental conditions.
- Grazing plans will depend on the current condition and plant composition of the area. Defer grazing until after crucial growth periods. Note that in the presence of cheatgrass, deferred grazing can favor the cheatgrass.
- For sage grouse maintain average grass height of at least 18 cm in May and early June. Sharp-tailed grouse require 20 cm.
- Consider livestock exclusion from heavily damaged areas, particularly wet sites.
- Livestock concentrations around water developments can increase cowbird parasitism.
- Use fences with smooth top and bottom wires for enclosures around wet sites.

Miller and Eddleman (2000)¹²³ also provide an excellent review of sage grouse ecology, habitat and management. They emphasize that sage grouse habitat management plans must take into account landscape heterogeneity, site potential, site condition and habitat needs of sage grouse during different parts of their life cycle (breeding, nesting, brood rearing, wintering). They also stress the importance of accurate resource inventories and assessments before making management decisions as to when and how each community across the landscape should be managed. Grazing management plans must identify potential conflicts between sage grouse and livestock.

The RMP must also address the need of pygmy rabbits. For example, current populations of pygmy rabbits occupy a geographic range estimated as well less than 10% of the known historic

¹²² Paige, Christine and Sharon A. Ritter. 1999. Birds in a Sagebrush Sea: Managing Sagebrush Habitats for Bird Communities. Partners in Flight, Western Working Group. 47p.

¹²³ Miller, Richard F. and Lee I. Eddleman. 2000. Spatial and Temporal Changes of Sage Grouse Habitat in the Sagebrush Biome. Oregon State University Agricultural Experiment Station Technical Bulletin 151. 35p.

10/11/2007 7:01 PM FROM: FWS WFP TO: 1 307 828-4539 PAGE: 076 OF 101

range, and perhaps as little as 5%. The historical geographic range of the pygmy rabbit spanned over 100 million acres of the American West. The geographic range has declined from at least 100 million acres to small portions of 7 or 8 million acres or less. Within its present greatly diminished geographic range, the pygmy rabbit occupies only a smaller subset of sites with essential habitat components. Current known larger populations are separated by a combination of impassable natural and human-caused barriers to dispersal. Only 3 larger populations are known, and it is very likely that these three larger populations are split into smaller populations by habitat fragmentation and natural and human-caused barriers to dispersal.

In Wyoming, pygmy rabbits occur in the southwestern portion of the state, including the planning area. Recent surveys documented their range extending further east and northeast than previously known (Purcell 2006). Pygmy rabbits occur in suitable habitats throughout the planning area. (DEIS p. 3-83)

The FWS has recently been mandated to review the pygmy rabbit for listing under the ESA. Therefore, the RMP must protect this habitat.

We refer the BLM to the petition to list this species for the habitat conditions required by them which can be found at:

http://www.westernwatersheds.org/legal/pygmies_petition/pygmy_rabbit_listing.doc

Finally, the DEIS fails to include an adequate discussion of the direct, indirect, and cumulative impacts of management activities on all sensitive species in the project area, including the ones discussed here. Simply referring to mitigation measures is insufficient.

Canada lynx

Lynx have been present in Wyoming prehistorically as well as in historic times to the present. The best contiguous lynx habitat in Wyoming is in the northwestern portion of the state. The remainder suitable habitat is highly fragmented, widely dispersed, and typically separated by shrublands. The distributions of lynx specimens and reports in Wyoming indicate that they occurred in the mountains of western and northern Wyoming, including the Salt River, Wyoming, Teton, northern Wind River, Gros Ventre, and Absaroka ranges (BLM 2005b). Canada lynx also occurred in small numbers in the Uinta Range (Utah) and the Bighorn Range, with occasional occurrences in eastern Wyoming. (BA p. 4-8)

The Wyoming Natural Diversity Database (WYNDD) lists lynx as present in Fremont, Lincoln, Park, Sublette, Teton, Uinta, and, possibly, Big Horn counties. There are 24 LAUs designated for the planning area encompassing 60,153 acres, including 2 stand-alone LAUs at the south end of the Bridger-Teton National Forest, Commissary Ridge and Dempsey Ridge (H.M 2005b). In addition, 900 acres not occurring within LAUs was designated as lynx habitat within the planning area. Several occurrences of Canada lynx are documented in the northern edge of the planning area, where coniferous forests occur. (Ibid.)

As of 2003, there were 50 lynx records in the WYNDD database from the Kemmerer planning area (BLM 2005b). The recent reintroduction of lynx in Colorado has resulted in a number of

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 077 OF 101

collared animals taking residence in Wyoming. Because lynx can move great distances, it is possible that additional animals from Colorado will appear in Wyoming. (BA p. 4-8 through 4-9). It is also possible they may already be found in Wyoming. The BLM should request radio collar data from the state of Colorado. Failure to do so violates NEPA's requirement to rely on current information and the best available information.

The Draft BA for the RMP notes the following in regards to lynx habitat:

Alteration of natural disturbance regimes, some forest management practices, road building, and some recreational activities may affect Canada lynx habitat suitability. The patchiness and distribution of Canada lynx habitats are factors in the vulnerability of the species. The habitat within good patches and the travel corridors between patches is essential for Canada lynx dispersal, including maintaining connectivity between states.

Where are good habitat patches located in the project area? Where are these patches relative to areas that may provide connectivity?

In aspen stands and high-elevation riparian willow communities, extensive grazing by domestic livestock or wild ungulates may reduce forage and cover availability for snowshoe hares, in some cases dramatically. This may also be true for high elevation shrubsteppe habitat (sagebrush communities) that lynx may need and use in highly fragmented forest stands. Although not documented, the abundance of white-tailed jackrabbits as a significant alternate prey in sagebrush habitats may be a critical factor. (p. 4-9).

Unfortunately, white-tailed jackrabbits appear to be on the decline, as attested by their disappearance from Jackson Hole since 1979 (BLM 2005b). Other alternate prey in shrubsteppe habitats also may have experienced declines (e.g., the greater sage-grouse, ground squirrels) (BLM 2005b). (p. 4-9)

Forest management activities that reduce habitat for snowshoe hares and (or) red squirrels will negatively affect lynx. Retention of live and dead trees and coarse woody debris are important factors for maintenance of lynx, and habitats for lynx and their prey species (e.g., early successional habitat for snowshoe hares) (BLM 2005b). Certain timber harvest practices increase edges and openings within forest stands, which may improve foraging conditions for predators and (or) competitors, such as mountain lions, coyotes, bobcats, and great-horned owls that compete with lynx for prey. Wildfire management in the west has resulted in forests that are more homogeneous and composed of shade tolerant species with more canopy layers compared to historic conditions. As a result, current forests are more susceptible to severe fires, insects, and disease and provide unsuitable lynx habitats. Salvage logging after a fire may have an adverse effect if many or most large-diameter trees are removed (BLM 2005b). (p. 4-9)

The BLM has failed to show that fire suppression in the project area has resulted in a departure from historic conditions. This must be validated before the KFO can assume such conditions are impacting lynx in the planning area. The possible edge effects and habitat alteration that is likely to occur to address the issue of increased fuel loads and chances of catastrophic fires pose a much greater threat to lynx.

Kemmerer RMP DEIS Comments

75

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 078 OF 101

Recreational trails created by snow machines and even cross-country skiers create packed snow conditions that allow other predators and competitors into what would otherwise be exclusive lynx habitat. It appears that lynx have some degree of tolerance to human activities (BLM 2005b); however, during denning in the spring, lynx are more vulnerable and require more secure habitats and fewer disturbances than might be tolerated at other times of year. This type of vulnerability to human disturbance also may be exacerbated during periods when food is scarce; starvation is not uncommon.

Roads into areas occupied by lynx may pose a threat to lynx from incidental harvest or poaching, increased access during winter for competing carnivores, especially coyotes, disturbance or mortality from vehicles, and loss of habitat (BLM 2005b). However, lynx are also known to follow road edges for considerable distances and have home ranges that encompass roads or sometimes use them to define the boundary. The size, type, and amount of use of the road are all likely factors affecting the degree and types of impacts on lynx, as well as the increased vulnerability during denning. Associated infrastructure with mineral extraction can be harmful to lynx, mostly as a consequence of new roads created to access areas for exploration and development (BLM 2005b). (p. 4-10)

The DEIS claims "Under Alternative D, there are no specific management actions for Canada lynx; however, management actions that protect the habitats Canada lynx and their prey (primarily snowshoe hares) utilize are anticipated to result in beneficial impacts for Canada lynx. Restrictions to surface disturbance around active raptor nests are less under Alternative D than under Alternative A. Under Alternative B, short-term impacts from forest treatments may temporarily adversely impact Canada lynx; however, over the long term, these treatments are anticipated to improve Canada lynx habitats and the habitats of its prey. Alternative D treats more acres annually than Alternative A and retains old growth forest areas similar to Alternative B. (DEIS 4-139 through 4-140)."

The RMP must propose specific goals and objectives for lynx habitat as well as other ESA listed species (including the yellow-billed cuckoo). Moreover, the BLM show how past forest management activities has impacted historical lynx habitat and use that data to address the expected future impacts of management activities on lynx habitat. The analysis of effects currently rests on unproven data and shaky assumptions.

In conclusion regarding wildlife, the DEIS not adequately disclose the past, present, and reasonably foreseeable future impacts to wildlife, including T&E species, sensitive species, big game, migration routes, etc.

The discussion regarding the impacts to riparian habitats and the indirect impacts to wildlife including but not limited to native ungulates, native fish, neotropical migratory birds, and the yellow-billed cuckoo are severely insufficient to qualify as the reasoned discussion required by NEPA. The DEIS is replete with generalized assertions of "some" impact. Some type of quantified information is demanded by regulation.

Oil and Gas Leasing and Other Resource Development

Kemmerer RMP DEIS Comments

76

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 079 OF 101

First of all, special care is needed as BLM moves forward with the development of the wind power on BLM lands. While we support the development of wind power sources, they can present environmental risks. A conflict can exist between wind power development and some conservation priorities. Wind energy development should be facilitated wherever possible but must be subject to the same high standards of environmental sensitivity to which other industrial uses are subject. In this regard, we ask that BLM consider the information at <http://www.defenders.org/habitat/renew/wind.html> relative to means to reduce the environmental impacts of wind energy development and adopt these provisions in the final EIS, and make them binding requirements for wind energy development. Will BLM do so? Why or why not?

Whereas explicit directives exist to minimize the "impediments" to fossil fuel development, a similarly strong mandate should also exist for the development of renewable energy resources given their societal and environmental preferability to conventional energy development. No such directive is included in any of the alternatives. Such a directive should address the siting and permitting of wind farms and of the transmission lines required for wind energy development whether that development is located on BLM lands or not, ensuring that development of these resources is maximized while requiring the environmental protections noted above.

Approximately 917,785 acres of the total 1,400,000 acres (70%) of the KFO is already leased for oil and gas under standard stipulations and is producing. This means that these leases will never expire, and the whole discussion in the DEIS regarding lease stipulations is totally bogus.

BLM should acknowledge the magnitude of this impact and clearly analyze and present what the impacts of such vast disturbance is and will continue to be in the future.

Of course, the impacts will be far greater than just the gross acreage of land disturbed by oil and gas development. As is shown by The Wilderness Society reports referenced below in the additional resources section (the methodology of which we recommend BLM adopt in the final EIS), the actual area of impacts resulting from oil and gas development is far greater than the gross disturbance area. BLM should acknowledge, analyze, and present the impacts of this far greater reach of disturbance.

BLM has failed to properly consider "connected actions," "cumulative actions," and "similar actions." 40 C.F.R. § 1508.25. Connected actions are actions that are "closely related" to the RMP. Closely related actions include any reasonably foreseeable oil and gas development projects that would not occur "but for" authorization provided in the RMP. Examples of oil and gas development actions/projects that would not occur but for authorization in the RMP include leasing, exploration projects, and full-field development projects.

Thus, the EIS should address each of these types of connected actions/projects in detail, and given the significant amount of historical data that exists for these types of actions/projects they are reasonably foreseeable and a detailed consideration should be possible. Similar actions

Kemmerer RMP DEIS Comments

77

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 080 OF 101

include authorizations for oil and gas development occurring on State and private lands in or adjacent to the geographic area of the RMP, Forest Service Forest Plans and other analyses authorizing oil and gas activities on nearby lands administered by the Forest Service, and RMPs for adjacent BLM Field Offices/Districts. This should include a discussion of the Pinedale PAPA/Jonah Field activities.

The scope of the EIS should include a detailed analysis of these similar actions so as to foster informed public participation in the RMP revision and informed decision-making by BLM. Cumulative actions are actions that, incrementally, have cumulatively significant impacts, even if the individual impacts are minor. Thus, BLM should define the scope of the EIS to include analysis of the cumulative effects of actions/projects that have impacts in common with those resulting from oil and gas development. Impacts and actions that should be addressed in a cumulative fashion include, but are not limited to: road construction effects, activities leading to soil and vegetation disturbance, activities leading to changed habitat structure, activities leading to habitat fragmentation, and activities causing air or water pollution. These cumulative impacts result from a number of cumulative actions, including oil and gas development, and thus they must be addressed in a comprehensive manner.

Similarly, the EIS fails to properly consider the direct and indirect impacts of oil and gas development activities. 40 C.F.R. § 1508.25.8

An issue closely associated with the consideration of connected, related, and cumulative actions and impacts is the Reasonably Foreseeable Development (RFD) scenario for oil and gas development. Suffice it to say here that the EIS fails to include a realistic, well supported, economically rational, and scientifically based RFD, since it includes nothing more than unsupported statements of likely development activity. Since the RFD is insufficient, there is no proper analysis and determination of connected, related, and cumulative impacts.

BLM's Land Use Planning Handbook requires BLM to identify desired outcomes or desired future conditions resulting from implementation of the RMP. (BLM Handbook 11-1601-1.11.3.1.) BLM has failed to identify what the desired outcome(s) from oil and gas leasing, exploration, and development activities are, particularly with reference to the desired outcome(s) for endangered species protection, prevention of habitat fragmentation, protecting the naturalness of landscapes and their aesthetic appeal, the prevention of unnecessary or undue degradation of public lands, the prevention of air and water pollution, and the protection of surface owner rights on split-estate lands.

Mechanisms for resolving conflicts between the desired outcomes for oil and gas development relative to other resources have not been properly identified, discussed or resolved in the EIS. The requirement for BLM to prevent unnecessary or undue degradation of the public lands should be paramount in such balancing. Furthermore, some statutes, such as the Endangered Species Act, require that where there are conflicts between what is desired for oil and gas-related activities versus other resources, the objectives for oil and gas development must recede. The RMP fails to acknowledge this and make provisions for meeting this requirement.

Kemmerer RMP DEIS Comments

78

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WFF TO: 1 307 828-4539 PAGE: 081 OF 101

For example, closure of lands to certain resources uses, such as oil and gas development, is specifically provided for as a means to achieve desired outcomes. (BLM Handbook H-601-1.II.B.2.) Measures for protecting the land to achieve desired outcomes have not been developed at an appropriate scale, with a landscape or bioregional scale being the appropriate scale for many actions, particularly endangered species protection. (BLM Handbook H-1601-1.III.A.4.)

The EIS fails to properly acknowledge or discuss the fact that energy development can fragment wildlife habitat, mar scenic vistas, degrade air quality, lead to crushed and altered vegetation, and cause water sources to be drained and polluted. It fails to properly discuss or acknowledge that primitive areas can be converted into industrial zones, and wilderness and wilderness quality lands can be trampled and degraded by oil and gas related activities. The EIS fails to fully acknowledge that on "split-estates" the rights, and lives, of private surface owners can be severely impacted. The concerns expressed in this section with regard to oil and gas development also generally apply to other leasable minerals, including but not limited to coal, tar sands, oil shales, phosphate, and gilsonite. The EIS should make similar analyses relative to these minerals.

Additionally, many of the recommendations in this section are in conformance with the report "Land Use Planning and Oil and Gas Leasing on Onshore Federal Lands."¹²⁴ We request that BLM consider and respond to this report.

The RMP should guide and regulate the configuration and timing of lease offerings when parcels are offered for lease. Currently, industry nominates parcels that are typically scattered throughout millions of acres of public lands. As a result, preleasing environmental analyses are not based on common airsheds, river drainages, or other ecological units; nor do they adequately assess cumulative impacts. The RMP should ensure that these problems are not perpetuated, yet it fails to do this.

As noted above, FLPMA requires consideration of the relative scarcity of the values involved, and the availability of alternative sites for producing those values must be considered. See, FLPMA § 202(c). Often, the most appropriate opportunities for oil and gas development from both an economic perspective and ecological perspective are within known and operating oil and gas fields, while the dwindling wildlife, scenic, wilderness and other resource values throughout the rest of the area are irreplaceable and should be protected. The EIS fails to consider this issue, and again, in our view, oil and gas drilling is not appropriate in potential wilderness areas, ACECs, important wildlife habitat, and in areas with important archeological, historical, or paleontological resources due to the great relative value of the resources involved.

The RMP should explicitly prohibit oil and gas leasing whenever the reasonably foreseeable development scenario (RFD) has been exceeded, especially if this development is occurring due to new technological innovations that have not been subject to adequate environmental review. Coalbed methane (CBM) is a clear example in this regard.

Moreover, the environmental impacts of CBM development have not been adequately evaluated (water from CBM development is the obvious example). Under these conditions, leasing should

¹²⁴ National Academy of Sciences, 1989

10/11/2007 7:01 PM FROM: Pam WFF TO: 1 307 828-4539 PAGE: 082 OF 101

not proceed until updated environmental analyses are completed, and the RMP should so provide. Recent decisions of the Interior Board of Land Appeals and the Tenth Circuit Court of Appeals require the unique impacts of CBM development to be analyzed. Pennaco Energy, Inc. v. U.S. Dep't of the Interior, 377 F.3d 1147 (10th Cir. 2004). Yet the EIS fails to consider CBM impacts in any detail at all, or acknowledge its unique impacts, even though intense levels of CBM development are quite likely.

BLM's regulations regarding environmental protection at the field development and well drilling stage are general and non-specific. See 43 C.F.R. § 3162.5-1(b). Consequently, the RMP should adopt specific definitions of what constitutes "due care and diligence," "undue damage to surface or subsurface resources" and what specifically must be achieved to "reclaim the disturbed surface" At a minimum, the requirements of Onshore Oil and Gas Order No. 1, especially relative to reclamation plans, must be strictly complied with, and the EIS should analyze whether wells reclaimed in the past pursuant to these requirements have actually been effectively reclaimed.

If not, appropriate modifications should be made to ensure effectiveness. Just as important, it is crucial that the RMP and any subsidiary instruments (leases, APDs, surface use plans, etc.) provide assurance, based on a realistic assessment of past, current and projected budgets and allocations of personnel, of adequate inspection and enforcement as a precondition to lease issuance and operations. The EIS fails to address these issues or make any of the indicated provisions. Monitoring and enforcement needs also need to be addressed.

The lease acreages limits specified at 43 C.F.R. § 3101.2-1(a) should be monitored and enforced by BLM, and the RMP should make provision for such. BLM's I.R.2000 database makes this a relatively simple undertaking. To the extent BLM views this as an activity for the State Office or other BLM administrative level, the EIS should nevertheless discuss what actions are being taken at that other level and provide citizens with information so they can become aware of and monitor those efforts.¹²⁵

BLM must ensure it complies with Instruction Memorandum 2004-218, yet it fails to address this issue, or how the KFO will assist the State Office in complying with this directive. The regulations at 43 C.F.R. § 3162.3-1(a)(3) allow BLM to regulate well spacing pursuant to "any other program established by the authorized officer" well spacing designations of the State oil and gas commission are not controlling. BLM should fully utilize this authority by specifying, in the final RMP, well spacing densities that are appropriate for protecting other resource values in an area, as required pursuant to 43 U.S.C. § 1732(b) and other law.

Private landowners who live on "split estates" are often severely affected by BLM's oil and gas leasing decisions. BLM has often ignored or given little attention to the legitimate concerns of

¹²⁵ This point applies to any activity BLM claims does not need to be fully explored in the EIS or decided in the RMP. Even if true, the RMP and RMI EIS should still assist citizens who desire to get information about these activities and to participate in them. Thus, BLM should, at a minimum, provide a discussion of what is occurring at the other administrative levels and provide basic contact information.

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Fax WFP TO: 1 307 828-4539 PAGE: 083 OF 101

surface owners and their communities. BLM must minimize conflicts between surface owners and companies developing subsurface minerals by proactively seeking and addressing their concerns in the design and review of projects, including leasing itself. The RMP should provide for this. BLM should make full use of provisions in the Surface Mining Control and Reclamation Act that apply to all mineral development, not just coal. Areas used primarily for residential or related purposes can be deemed unsuitable for mineral development and withdrawn from leasing, or have development activities conditioned appropriately, 30 U.S.C. §1281. BLM also has general withdrawal authority pursuant to 43 U.S.C. § 1714.

BLM should make use of these provisions, as well as its general authority to condition development, to protect private surface owners who could be adversely affected by oil and gas development. BLM must ensure compliance with Instruction Memorandum 2003-131, which addresses permitting on split estates, yet it fails to do so in the EIS.

As indicated above, extraction of CBM has become rampant in some areas, so special precautions must be taken in the RMP to ensure resource protection in the face of this development pressure. The EIS largely fails to address CBM issues, and in particular fails to consider or acknowledge its potentially significant environmental impacts. The EIS should consider the problem of produced water storage pits/reservoirs leading to concentrated chemical solutions that harm wildlife (or other resources), and should particularly consider compliance with the Migratory Bird Treaty Act in this regard.

Water from CBM development should be reinjected in an environmentally safe manner (i.e., in a manner that ensures groundwater supplies are not contaminated). However, if water from CBM production is discharged, directly or indirectly, into streams, the impacts of augmented flows and increased concentrations of salts (ions) and dissolved solids on the ecological characteristics of the streams (perennial or intermittent) should be analyzed. The EIS fails to do this.

Such analyses must account for the full range of variations in stream flow, effluent (produced water) concentrations, and sensitivities of different species at different life-stages. Impacts from altering stream thermal conditions and the timing of flows must be analyzed. Effects of discharged produced water on adjacent riparian areas, and the effects of increased turbidity and sedimentation should be considered. The analysis should consider lethal and sub-lethal effects on biota.

If produced waters are or become a "discernible, confined and discrete conveyance . . . from which pollutants are or may be discharged", they must be treated as point source discharges of pollutants and a National Pollution Discharge Elimination System (NPDES) permit must be required. 33 U.S.C. §§ 1362(14), 1342. See also Northern Plains Resource Council v. Fidelity Exploration & Development Co., 325 F.3d 1155 (9th Cir. 2003) (CBM produced water is a pollutant).

Based on these analyses, the RMP should provide standards to prevent or mitigate these impacts, which the EIS currently fails to do.

CBM development can lower water tables, which has widespread implications and therefore these issues must be addressed in the EIS. If produced waters are not reinjected, potential effects

Kemmerer RMP DEIS Comments

81

10/11/2007 7:01 PM FROM: Fax WFP TO: 1 307 828-4539 PAGE: 084 OF 101

on agriculture must be considered. Dewatering coalbeds can increase the likelihood of difficult-to-control coal seam fires. Seepage of methane and its effects on vegetation, water (including domestic water and aquifers), and even the safety of people's homes must be considered.

Again, the RMP must ensure these impacts are prohibited or mitigated. The EIS fails to consider any of these issues.

CBM fields can have a much higher density of wells than occurs in conventional gas fields. Consequently, issues such as habitat fragmentation, outright loss of habitat, and impacts to visual resources are magnified. Because of this, the RMP must ensure that the unique impacts of CBM development are evaluated prior to leasing, and that such analyses do not simply duplicate the analyses done for conventional gas fields. As noted above, recent Interior Board of Land Appeals and Tenth Circuit Court of Appeals decisions require consideration of the unique impacts of CBM development. The EIS ignores the potential for unique impacts due to CBM development.

The use of hydraulic fracturing and the impacts of drilling fluids (muds) and chemicals must be considered explicitly in the EIS. Hydraulic fracturing and drilling fluids contain a wide array of chemicals, many of which are clearly toxic or hazardous. The appropriateness of using these chemicals must be addressed in the EIS.

We specifically recommend that, if "fracing" is contemplated, the option of requiring water only – i.e., prohibiting the use of toxic chemicals – be considered. The RMP should provide for complete and thorough compliance, monitoring, and enforcement by BLM. Spill prevention and cleanup requirements must be specified, and provisions for collecting and disposing of these wastes must be provided for in detail, again with sufficient monitoring and enforcement to ensure compliance.

While federal pollution and toxic and hazardous waste law may provide some exemptions for the oil and gas industry, BLM still has sufficient authority, and responsibility, under NEPA and FLPMA to require inventory and monitoring of these chemicals, as well as spill prevention, cleanup, and mitigation plans. See, e.g., 43 U.S.C. 1732(b); 43 C.F.R. §§ 3162.4-1(a), 3162.5-1(c)-(d); Onshore Oil and Gas Order No. 1, III.G.4.h.(7). See also Executive Order No. 13,016 (delegating authority to land management agencies to enforce CERCLA on lands they manage); BLM Manual MS-1703 (Hazardous Materials Management).

In a related issue, BLM should ensure that oil and gas drilling operations (including well pads) comply with any applicable stormwater discharge requirements, including acquiring NPDES permits, as required. Even if stormwater permits may not be required at this time, they likely will be in the future, so the RMP should make provision for ensuring necessary permits are obtained.

The EIS should, but fails to, include a realistic assessment and analysis of oil and gas well plugging, abandonment, reclamation, and enforcement needs and problems. The RMP must provide that wells are abandoned and plugged in accordance with the provisions of 43 C.F.R. § 3162.3-4 and Onshore Oil and Gas Order No. 1.

Kemmerer RMP DEIS Comments

82

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 085 OF 101

In addition, the BLM must not only quantify the needs that projected development will entail in terms of personnel and costs, it must also explain how it will ensure that these needs will in fact be met. In our view, if BLM lacks resources to engage in monitoring and enforcement sufficient to ensure compliance with all requirements applicable to oil and gas drilling on public lands within the RFO area, then it should not allow further development to occur—it should deal with the backlog of needs first. BLM has sufficient authority, and a responsibility, to prevent development if it lacks sufficient resources to ensure compliance with requirements applicable to oil and gas development. See, e.g., 43 U.S.C. 1732(b).

The RMP should ensure that reclamation standards are enforced and increase bonds to cover actual reclamation costs, so neither taxpayers nor landowners are left to foot the bill. In the past, BLM has estimated the cost of reclaiming just one well ranges from \$2,500 –\$75,000. The EIS should include up-to-date estimates for costs of reclamation of development activities in the KFO area. No such estimates are currently provided. The RMP should increase bonds as needed to ensure the full costs of reclamation are met and should not rely on per lease bonds (currently set at \$10,000) or on statewide bonds (now \$25,000) if they will not cover anticipated costs. BLM has this authority. See, e.g., 30 U.S.C. § 226(f); 43 C.F.R. §§ 3104.1(a), 3104.5, 3106.6-2.

The EIS fails to fully address the potential negative impacts of renewable sources of energy. For example, wind energy farms can have negative consequences for avian species if not properly designed and sited. Biomass energy, if it is derived from old growth forests or other inappropriate sources, can wreak havoc on ecosystems or be little more than a guise for logging.

The EIS must address these issues fully and openly, but it fails to do so. The RMP should adopt provisions to ensure these negative effects are avoided or at least mitigated.

Second, the potential for renewable energy sources developed elsewhere to obviate the need for fossil fuel development in the KFO area should be addressed. Almost all agree, fossil fuels are not a long-term solution to our energy needs and that renewable energy production must be fostered, so the EIS should address this aspect of energy development.

The EIS should also consider ways the BLM itself can maximize the use of renewable or alternate energy sources, and increase the efficiency of energy use in all activities BLM undertakes, including in its buildings and automobile fleet. The EIS fails to do this. The RMP should require increased use of renewable or alternate sources of energy by BLM and should include requirements for increased energy use efficiency. These efforts should be documented and publicized.

The EIS should address the problem of global warming and the steps BLM can take to reduce this problem. For example, coal seam fires could unnecessarily contribute to global warming. Flaring of hydrocarbon by-products contributes to global warming, and much of that may be unnecessary. BLM should make a thorough analysis of how activities it undertakes or authorizes, including domestic livestock grazing, contribute to the generation of carbon dioxide or other "greenhouse gasses," and the RMP should make provisions to reduce and minimize them.

Domestic Livestock Grazing

Kemmerer RMP DEIS Comments

83

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 086 OF 101

We have addressed the issue of domestic livestock grazing throughout these comments. We reiterate here that the DEIS fails to include an adequate discussion of all of the impacts associated with domestic livestock grazing.

We also stress that the BLM has failed to identify what the desired outcome(s) from domestic livestock are, particularly with reference to the desired outcome(s) for endangered species protection, prevention of habitat fragmentation, protecting the naturalness of landscapes and their aesthetic appeal, the prevention of permanent impairment of the land, and the prevention of air and water pollution.

Mechanisms for resolving conflicts between the desired outcomes for livestock grazing relative to other resources have not been properly identified, discussed or resolved in the EIS. While the Standards for Healthy Rangelands and the Wyoming Standards for Rangeland Health give some direction, the RMP has failed to include any requirements or enforceable actions that will lead to attainment of the standards. The RMP fails to acknowledge this and make provisions for meeting the requirements of the SRH.

The EIS fails to properly acknowledge or discuss the fact that livestock grazing can fragment wildlife habitat, degrade air quality, lead to crushed and altered vegetation, and cause water sources to be drained and polluted. It fails to acknowledge the changes in plant species composition that can result from grazing and indirect impacts from such changes to other resources including wildlife, watershed functions, soils, etc.

Attachment 6 to these comments are hereby incorporated into this discussion and we ask that the KFO consider the management recommendations contained in that letter and incorporate the management recommendations into the RMP. We also ask the KFO to address the impacts and issues that are highlighted in that attachment, including the economics of domestic livestock grazing and the costs associated with it among the other issues, as they pertain to the RMP and the planning area.

We further request that the KFO disclose all costs associated with domestic livestock grazing on public lands. The analysis should contain all costs and adequately discuss all current, in place benefits—the costs of past and proposed specific improvements should be fully disclosed. The analysis should include ongoing and future impacts to recreation, and all costs related to the project including costs of preparing the analysis, all specialist support and consultation, costs associated with travel management and administration, road maintenance, weed control, costs of doing fencing, water, predator control, and other related improvements.

The BLM continues to insist that the economic system as it presently exists be a part of the equation for performing "ecosystem management." Although we disagree the way this is interpreted to mean that grazing permittees and other extractive uses must be served first, the BLM should follow through and tell the full economic story of just what the impacts are to all taxpayers, not just to the permittees.

Kemmerer RMP DEIS Comments

84

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 087 OF 101

We request an economic analysis that compares the expense of restoring these damaged areas, on a continuing basis, with a no-grazing scenario. This is needed to give an accurate picture of the total costs associated with grazing as MUSYA and other regulations require.

A common failing of grazing project analysis 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 BLM must base estimates on actual empirical data for jobs and revenue, not on standard formulae. Moreover, as the DEIS shows, actual economic contributions from livestock operations in the planning are negligible.

According to NEPA, the BLM 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. This includes an analysis of costs based on a no-grazing scenario. In analyzing the full social and economic costs and benefits of the "no-grazing" alternative, the BLM 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 WYGF numbers highlights, these uses are much more valuable than and contribute far more to local economies than domestic livestock grazing.

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 planning area 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 BLM 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
- Business and Industry Guaranteed Loans
- Business and Industry Guaranteed Disaster/Emergency Assistance
- Business and Industry Direct Loans
- Intermediary Relending Loan Program
- Rural Business Enterprise Grant
- Rural Economic Development Loan
- Rural Economic Development Grant
- Rural Business Opportunity Grant

Kemmerer RMP DEIS Comments

85

10/11/2007 7:01 PM FROM: Pam WVF TO: 1 307 828-4539 PAGE: 088 OF 101

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 formula.

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;
- Fully anticipated administrative and staff costs of conducting NEPA, implementing, monitoring policing and possibly litigating the livestock grazing actions and constructing range improvements over the life of permits.

The Forest Service should develop an explicit budget for implementation, administration and compliance monitoring over the life of the permits 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 members and financial supporters. Through appropriate social survey, the BLM 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.

OHV Use

Pursuant to section 3(a) of Executive Order (EO) 11644, OHV use on public lands requires that the designation of roads, trails, and areas open for motorized use be based upon protection of natural resources, promotion of public safety, and minimization of conflicts among uses of federal lands.

The detrimental environmental impacts from motorized use on public lands are well documented. They include:

Kemmerer RMP DEIS Comments

86

Appendix B – Public Response Documents

- soil erosion
- habitat destruction and fragmentation
- damage to cultural resources and sacred sites
- conflicts with other users
- wildlife displacement
- water quality degradation
- spread of noxious weeds

When putting these references in the spreadsheet, do not include the abstracts.

The following scientific studies conducted over the past 40 years highlight impacts from OHV use that were not considered in the EIS. We incorporate these references and request that they be included in the EIS.

Gaines, W.L., P.H. Singleton, and R.C. Ross. 2003. Assessing the cumulative effects of linear recreation routes on wildlife habitats on the Okanogan and Wenatchee National Forests. Gen. Tech. Rep. PNW-GTR-586. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 79p.
<http://www.fs.fed.us/pnw/pubs/gtr586.pdf>

Gilbert, B.K. 2003. Motorized access on Montana's Rocky Mountain Front: a synthesis of scientific literature and recommendations for use in revision of the travel plan for the Rocky Mountain Division. The Coalition for the Protection of the Rocky Mountain Front. 35p.
<http://www.wildmontana.org/gilbertreport.pdf>

Havlick, D.G. 2002. No Place Distant: Roads and Motorized Recreation on America's Public Lands. Foreword by Mike Dombeck. Island Press, Washington, DC.

Joslin, G. and H. Youmans, coordinators. 1999. Effects of recreation on Rocky Mountain wildlife: A review for Montana. Committee of Effects of Recreation on Wildlife, Montana Chapter of the Wildlife Society. 307p.
<http://www.montanatws.org/pages/page4a.html>

Stokowski, P.A. and C.B. LaPointe. 2000. Environmental and social effects of ATVs and ORVs: an annotated bibliography and research assessment. School of Natural Resources, University of Vermont. 31p.
http://www.anr.state.vt.us/anr/atv_nov20_final.pdf

Wildlands CPR, The Wilderness Society, et al. 1999. Petition to enhance and expand regulations governing the administration of recreational off-road vehicle use on National Forests. Published by Wildlands CPR, Missoula, MT 188p.
<http://www.wildlandscpr.org/orvs/ORVpetition.doc>

Highway Health Hazards: A Sierra Club Report. The Sierra Club has released a report summarizing more than 24 studies that examine health hazards potentially caused by pollution from motorized vehicles. http://trb.org/news/blurbs_detail.asp?id=4033
ORV Impacts to Soil:

Belnap, J. 2002. Impacts of off-road vehicles on nitrogen cycles in biological soil crusts: resistance in different U.S. deserts. Journal of Arid Environments. 52(2): 155-165.
Abstract: Biological soil crusts are an important component of desert ecosystems, as they influence soil stability and fertility. This study examined and compared the short-term vehicular impacts on lichen cover and nitrogenase activity (NA) of biological soil crusts. Experimental disturbance was applied to different types of soil in regions throughout the western U.S. (Great Basin, Colorado Plateau, Sonoran, Chihuahuan, and Mojave deserts). Results show that pre-disturbance cover of soil lichens is significantly correlated with the silt content of soils, and negatively correlated with sand and clay. While disturbance appeared to reduce NA at all sites, differences were statistically significant at only 12 of the 26 sites. Cool desert sites showed a greater decline than hot desert sites, which may indicate non-heterocystic cyanobacterial species are more susceptible to disturbance than non-heterocystic species. Sandy soils showed greater reduction of NA as sand content increased, while fine-textured soils showed a greater decline as sand content increased. At all sites, higher NA before the disturbance resulted in less impact to NA post-disturbance. These results may be useful in predicting the impacts of off-road vehicles in different regions and different soils.

Belnap, J. 2003. The world at your feet: desert biological soil crusts. Frontiers in Ecology and the Environment. 1(5): 181-189.
Abstract: Desert soil surfaces are generally covered with biological soil crusts, composed of a group of organisms dominated by cyanobacteria, lichens, and mosses. Despite their unassuming appearance, these tiny organisms are surprisingly important to many processes in past and present desert ecosystems. Cyanobacteria similar to those seen today have been found as 1.2 billion-year-old terrestrial fossils, and they probably stabilize soils then as they do now. Biological crusts are vital in creating and maintaining fertility in otherwise infertile desert soils. They fix both carbon and nitrogen, much of which is leaked to the surrounding soils. They also capture nutrient-rich dust, and can stimulate plant growth. These organisms are able to tolerate extreme temperatures, drought, and solar radiation, despite having relatively little wet time for metabolic activity. Under most circumstances, they are extremely vulnerable to climate change and disturbances such as off-road vehicles and grazing livestock. Recovery times are generally measured in the decades or centuries.

Misak, R.F., J.M. Al Awadhi, S.A. Omar, and S.A. Shahid. 2002. Soil degradation in Kabd area, southwestern Kuwait city. Land Degradation & Development. 13(5): 403-415.
Abstract: Adverse environmental impacts of human activities are the main causes of soil degradation in the desert of Kuwait in general, and in Kabd area in particular. In this study, assessment of soil degradation in open and protected sites has been carried out using field measurements and laboratory investigations. The overall status of vegetation is nearly twice as low in vegetation cover in the open sites than in the protected ones due to overgrazing and off-

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Fax WFF TO: 1 307 828-4539 FAX#: 091 OF 101

road transport. Compaction of soil due to pressure exerted on the soil by vehicles led to a significant reduction in its porosity, permeability and infiltration capacity. The average infiltration rate of the compacted soils is 51 per cent lower than that of the non-compacted soils. The bulk density of the non-compacted soils is 3.4 per cent lower than that of compacted soil. The average topsoil resistance of compacted soils has increased by 83 per cent in comparison with non-compacted soil. Using the least squares method a relation between infiltration rate (IR) and penetration resistance (PR) of the topsoil for the study areas is found (i.e. $IR = -0.148 PR + 1.85$ with $R \text{ super}(2) = 25$ per cent). Soil strength within the soil profile shows maximum penetration resistance readings at 11.5 cm depth in average in compacted soils, while it shows maximum readings at 34.6 cm depth in average in non-compacted soils. The adverse changes in the chemical properties due to soil compaction is also investigated. A restoration plan is needed in order to reduce land degradation.

ORV Impacts to Vegetation:

Brown, A.C., and A. McLachlan. 2002. Sandy shore ecosystems and threats facing them: some predictions for the year 2025. Environmental Conservation. 29(1): 62-77.
From Summary:

"Many beaches also suffer intermittent or chronic pollution, and direct human interference includes off-road vehicles, mining, trampling, bait collecting, beach cleaning and ecotourism. These interferences typically have a negative impact on the system."

From Off-road vehicles:

"A variety of vehicles, connecting with recreation or industry, may invade a sandy shore, causing different types and degrees of negative impact. Some recreation vehicles, such as motor-cycles, 4X4 vehicles and vehicles of 'beach-buggy' type, with large, wide tires, driven up and down dunes, often at considerable speed, cause displacement of sand and destroy dune vegetation. This can be extremely damaging in view of the fragile nature of the dune ecosystem. In addition, shore-birds are disturbed and their nests, eggs and young may be destroyed. Both these and more conventional vehicles may be driven along the beach itself. This often causes little impact along the wet foreshore, although this is not true of all beaches. On some New Zealand beaches, vast numbers of sand dollars (*Lichinodiscus*) dominate the foreshore and are crushed by vehicles (S.C. Webb, Personal communication). Higher up the slope, vehicles are liable to crush semi-terrestrial invertebrates, such as isopods, *talitrid* amphipods and *ocypodid* crabs on the surface or in their burrows. Wolcott and Wolcott (1984) considered the negative effects of off-road vehicles on populations of the crab *Ocypode*, while Van der Merwe (1988) reviewed the literature on the impacts of traffic on coastal ecosystems. Van der Merwe and Van der Merwe (1988) investigated the damaging effects of off-road vehicles on the fauna of a beach, including the crushing of *Tylos* and Brown (2000) identified off-road vehicles as a major cause of the decline in populations of *Tylos granulatus* on the South African west coast. Hosier et al. (1981) noted that vehicle tracks in the sand presented barriers to the seaward progress of turtle hatchlings."

From Management needs:

"Off-road vehicles must be forbidden, except under rare, unavoidable circumstances, such as an attempt to save human life."

Kemmerer RMP DEIS Comments

89

10/11/2007 7:01 PM FROM: Fax WFF TO: 1 307 828-4539 FAX#: 092 OF 101

Gelbard, J.L., and S. Harrison. 2003. Roadless habitats as refuges for native grasslands: interactions with soil, aspect, and grazing. Ecological Applications 13(2): 404-415.

Abstract: The idea that roadless habitats act as refuges for native-plant for native-plant diversity against exotic-plant invasion has seldom been tested. We examined the effect of distance from roads and its interactions with soil type, aspect, and livestock grazing on native – and exotic-plant diversity in a 130 000-ha inland California (USA) foothill grassland landscape. During spring 2000 and 2001, we measured the numbers of and cover by native and exotic plant species in 92 sites stratified by distance from roads (10 m, 100 m, and >1000 m), soil type (nonserpentine), and aspect (cool, warm, and neutral slopes). In nonserpentine grasslands, native cover was greatest in sites >1000 m from roads (23%) and least in sites 10 m from roads (9%), and the percentage of species that were native was significantly greatest in sites >1000 m from roads (44%) and least in those 10 m from roads (32%). In addition, the most distant sites had the largest number of native grass species and the fewest exotic forb species. In serpentine grasslands there was no significant effect of distance on the numbers of and cover by native and exotic species. On both soils, two exotic species (*Centaurea solstitialis* and *Aegilops triuncialis*) were at their lowest frequencies, while a native bunchgrass, *Nassella pulchra*, was at its highest frequency, in sites >1000 m from roads. On nonserpentine soils only, the exotics, *Convolvulus arvensis* and *Polygonum monspeliensis*, were at their lowest frequency, while a native bunchgrass, *Poa secunda*, was at its highest frequency in the most distinct sites. Native species were more abundant on slopes than on flat sites, while on nonserpentine, natives were least abundant on warm, south facing slopes.

Roadless areas are significant refuges for native species. However, to protect these habitats from the continued threat of invasion, land managers should consider means of preventing construction of new roads, limiting off-highway vehicle access into grasslands with low road densities, identifying a regime of livestock grazing that favors the persistence of natives over the spread of exotics, and monitoring recreational trails and grazing allotments within roadless areas to detect and eradicate new infestations.

Munger, J.C., B.R. Barnett, S.J. Novak, and A.A. Ames. 2003. Impacts of off-highway motorized vehicle trails on the reptiles and vegetation of the Owyhee Front. Idaho Bureau of Land Management Technical Bulletin 03-3: 1-23.

Abstract: We used drift fences to trap reptiles near to and far from off-road motorized vehicle (OHMV) trails in the Owyhee Front. We also assessed vegetation. We found that at the less intensively used OHMV site (Fossil Butte), there was a tendency for more reptiles to be found at 25 m from the trails than at 2 m from the trails. However, at the more intensively used site (Rabbit Creek), there was a tendency for more reptiles to be found at 2 m from the trail than at 25 m, but both were lower than at 100 m. Native shrubs, bunch grasses, and microbial crust were less prevalent closer to trails and at the more intensively used site. Cheatgrass and *Chrysothamnus* spp., both indicative of disturbance, were more prevalent closer to trails and at the more intensively used site. We largely ascribe the patterns in reptile density to the effects on vegetation. Dense cheatgrass prevents movement of reptiles, meaning that in disturbed areas, OHMV trails offer the only corridors available.

Kemmerer RMP DEIS Comments

90

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 093 OF 101

Rooney, T.P. In Prep. Off-road vehicles as dispersal agents for exotic plant species in a forested landscape. Submitted to Environmental Management.

Abstract: Off-road vehicle (ORV) travel is increasing in popularity in many parks, forests, and natural areas, but it may be incompatible with some conservation objectives. I combine field surveys for 7 species of ecologically-invasive, exotic (i.e. non-native) plants along 2 ORV trails in the Chequamegon National Forest (Wisconsin, USA), mud collection from the undercarriage of ORVs using those trails, and a modeling approach to determine if ORVs disperse exotic plants. Field surveys indicate the presence of 4 of 7 species surveyed for, and at least one exotic plant along 88% of the sixty 100 m trail segments surveyed. I attempted to collect mud from 14 vehicles. Eight were clean; samples were collected from the remaining 6. Seeds germinated from soils collected from 4 ORVs. I construct a dispersal model predicts the amount of time required before an exotic plant species from one trail system colonizes another trail system, based on the number or ORVs visiting multiple trails per year, the probability seeds are transported from one trail to another, the probability those seeds are exotic, the probability that the seed germinates and the plant becomes established, and the number of seeds moved. The probability of colonization increases with increasing traffic, and could occur in less than 15 years. Eliminating ORVs from natural areas is the most effective strategy for stopping the introduction of exotics. Voluntarily cleaning vehicles prior to riding a new trail is effective in proportion to the number of individuals who clean. Spot-treating exotics along ORV trails is both ineffective and inefficient.

Stensvold, M.C. 2000. The conservation status of Ophioglossaceae in southern Alaska. Proceedings of Botany 2000. August 6-10. Portland OR.

Abstract: In southern Alaska the *Ophioglossaceae* are represented by one species of *Ophioglossum* and eight named species of *Botrychium*. In the latter there are six species of moonwort ferns (subgenus *Botrychium*), one grapefern (subgenus *Sceptraidium*), and *B. virginianum*, the rattlesnake fern in subgenus *Osmundopteris*. In addition, there are three distinct undescribed species and several unusual moonworts not clearly fitting known taxa. The State of Alaska does not maintain a threatened and endangered species list, but the U.S. Forest Service is mandated to manage habitats to maintain viable populations of plants; therefore *Botrychium* is afforded protection on National Forest System lands. Habitat disruption resulting from off-road vehicle use and trampling are currently the greatest human-caused threat to *Botrychium*. Several *Botrychium* occupy sandy beach-beach meadow habitat, and this habitat is used by an increasing number of off-road vehicles, resulting in *Botrychium* habitat degradation. Only after the taxonomy, distribution and habitat needs of *Botrychium* are better understood, and the various landowners cooperate in land use management, will we be able to effectively deal with *Botrychium* conservation issues across southern Alaska.

ORV Impacts to Wildlife:

Bury, R.B., and R.A. Luckenbach. 2002. Comparison of Desert Tortoise (*Gopherus agassizii*) populations in an unused and off-road vehicle area in the Mojave Desert. Chelonian Conservation and Biology 4(2): 457-463.

Abstract: We examined habitat, abundance, and life history features of desert tortoises (*Gopherus agassizii*) on two nearby 25-ha plots in western Mojave Desert. An unused, natural plot had 1.7 times the number of live plants, 3.9 times the plant cover, 3.9 times the number of

Kemmerer RMP DEIS Comments

91

10/11/2007 7:01 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 094 OF 101

desert tortoises, and 4 times the active tortoise burrows than a nearby area used heavily by off-road vehicles (ORVs); these differences between the plots were all statistically significant. Further, the few large-sized tortoises in the ORV plot had less mass than those in an unused area. Although the scope of this study was limited to one paired-plot comparison, current data suggest that the operation of ORVs in the western Mojave Desert results in major reductions in habitat and tortoise numbers, and possibly the body mass of surviving tortoises. Recent activities in the unused area negated our original design for a long-term comparison of tortoises in two relatively large, nearby control vs. treatment plots. Operation of ORV is now a major recreation in southwestern USA and its effect on wildlife merits increased research studies and management attention to better protect the remaining natural resources.

Janis, M.W., and J.D. Clark. 2002. Responses of Florida panthers to recreational deer and hog hunting. Journal of Wildlife Management. 66(3): 839-848.

Abstract: Big Cypress National Preserve constitutes approximately one-third of the range of the endangered Florida panther (*Puma concolor coryi*). Because recreational hunting is allowed in Big Cypress National Preserve, we examined 8 response variables (activity rates, movement rates, predation success, home-range size, home-range shifts, proximity to off-road vehicle trails, use of areas with concentrated human activity, and habitat selection) to evaluate how Florida panthers respond to human activity associated with deer and hog hunting. Data consisted of panther radiolocations collected since 1981 by the Florida Fish and Wildlife Conservation Commission and the National Park Service, which we augmented with radiolocations and activity monitoring from 1994 to 1998. A split-plot (treatment and control) study design with repeated measures of the variables for each panther taken before, during, and after the hunting season was used. We did not detect responses to hunting for variables most directly related to panther energy intake of expenditure (i.e., activity rates, movement rates, predation success of females; $P > 0.01$). However, panthers reduced their use of Bear Island ($P = 0.021$), an area of concentrated human activity, and were found further from off-road vehicle trails ($P < 0.001$) during the hunting season, which was indicative of a reaction to human disturbance. Whereas the reaction to human activity on off-road vehicle trails probably has minor biological implications and may be linked to prey behavior, the decreased use of Bear Island is most likely a direct reaction to human activity and resulted in increased use of adjacent private lands. Future habitat loss on those private lands could exacerbate the negative consequences of this response by panthers.

Nicola, NC, and JE Lovich. 2000. Preliminary observations of the behavior of male, flat-tailed horned lizards before and after an off-highway vehicle race in California. California Fish and Game 86(3): 208-212.

Abstract: Our small sample of male, flat-tailed horned lizards exhibited reduced rates of movement following disturbance from OHVs. This coupled with the fact that flat-tailed lizards are often sighted on roads (Norris 1949, Turner and Medina 1982), may make them especially susceptible to mortality from vehicle strikes. While driving a vehicle, Wone and Beauchamp (1995) observed that the majority (86% of flat-tailed horned lizards they encountered fled for short distances and stopped, sometimes under shrubs, and sometimes on OHV trails. Thus, flat-tailed horned lizards may attempt to avoid OHVs, although road mortalities have been observed when lizards fail to move out of the way of oncoming traffic (Muth and Fisher 1992)"

Kemmerer RMP DEIS Comments

92

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 095 OF 101

"The consequences of moving at different rates and directions after a disturbance may be negative or positive. If these changes fail to take the animal away from the area of impact, or the movements are energetically costly, the consequences may be negative. If the movements decrease the probability of an animal being struck by an OHV, then the consequences are potentially positive. While our analysis is preliminary because of a small sample size, the data are the first to suggest that OHV activity affects movement of the flat-tailed lizards."

Vieira, M.E.P. 2000. Effects of Early Season Hunter Density and Human Disturbance on Elk Movement in the White River Area, Colorado. Unpublished M.S. Thesis. Fort Collins, CO: Colorado State University.

From Stokowski and LaPointe (2000):

"Vieira studied the effects of both pedestrian and ATV effects on movement patterns of elk in the White River, Colorado, area. The mean distance moved by the elk in response to the ATV was more than twice the pedestrian mean. Using radio collared elk and an airplane, Vieira was able to measure the distance traveled by each elk in response to various disturbances. The study was in response to concerns about elk moving from National Forest land onto private land, and considered whether increased ATV use by hunters could be responsible for greater flight distances and greater chances of elk entering private land.

Wisdom, M. J., H. K. Preisler, N. J. Cimon, and B. K. Johnson. 2004. Effects of Off-Road Recreation on Mule Deer and Elk. Transactions of the North American Wildlife and Natural Resource Conference 69.

http://bluewaternetwork.org/reports/rep_atv_forestservice.pdf

Abstract: Objectives of the study were to (1) document cause-effect relations of ATV, horseback, mountain bike, and hiking activities on deer and elk; (2) measure effects with response variables that index changes in animal or population performance, such as movement rates, flight responses, resource selection, spatial distributions, and use of foraging versus security areas; (3) use these response variables to estimate the energetic and nutritional costs associated with each activity and the resultant effects on deer and elk survival; and (4) interpret results for recreation management. Among the study's preliminary findings: Elk began moving when ATVs were as far away as 2,000 yards but tolerated hikers to within 500, horseback riders within 800 and bicyclists within 1,300 yards. Elk run from ATVs but tend to walk away from hikers unless startled at close range. Mule deer move little when approached by all four types of recreational users but seem to leave foraging areas and move into deeper cover. Elk are far more disturbed by horseback riders than previously believed, and once they detect them are nearly as spooked by bikes as ATVs.

ORV Impacts on Pollution:

Durbin, T.D., M.R. Smith, R.D. Wilson, S. II. Rhee. 2004. In-use activity measurements for off-road motorcycles and all-terrain vehicles. Transportation Research Part D Transport and Environment 9(3): 209-219.

From Introduction:

"As emissions for individual on-highway vehicles continue to decrease, it is becoming increasingly important to understand the emissions from off-road mobile sources. Off-road recreation vehicles (also known as off-highway vehicles, or OHVs) are one important source of

Kemmerer RMP DEIS Comments

93

10/11/2007 7:01 PM FROM: Pam WVP TO: 1 307 828-4539 PAGE: 096 OF 101

emissions that make a disproportionately high contribution to the emissions inventory. The category includes off-road motorcycles and all-terrain vehicles (ATVs)"

"Hydrocarbon (HC) emissions from 2-stroke engine equipped motorcycles are about 10 times greater than those from a comparable 4-stroke motorcycle on a per mile basis. For the OHV class, 2-stroke engines represent about 90% of the smog precursor emissions in California (California Air Resources Board, 2001). The HC emissions for both 2-stroke and 4-stroke motorcycles are also significantly higher than those from a typical new car. Nationally, recreational vehicles (including snowmobiles) represent approximately 10% of all mobile source HC emissions and 3% of all mobile source CO emissions (US Environmental Protection Agency, 2001). In California, emissions from recreational OHVs (including off-road motorcycles and ATVs) represent 2.8% of the reactive organic gas (ROG) emissions and 1.4% of the CO emissions from all mobile sources (California Air Resources Board, 2000)."

Other ORV Impacts:

Baxter, G. 2002. All terrain vehicles as a cause of fire ignition in Alberta forests. Advantage (Publication of the Forest Engineering Research Institute of Canada). 3(44): 1-7. <http://fire.feric.ca/other/AD-3-44.PDF>

Abstract: This study was initiated upon the request of Alberta Environmental Protection to investigate the relationship between all terrain vehicle (ATVs) and fire ignition within Alberta's forests. The report summarizes the use of ATVs in Alberta and the specific causes of wildfires associated with these vehicles. describes fire history from 1990 to 2002, reports on other agencies' strategies to lower the probability of ATV-caused fires in forested areas, and makes recommendations for Alberta.

Bureau of Land Management. 2000. Strategic paper on cultural resources at risk. Bureau of Land Management, Washington, D.C. 18p.

<http://www.blm.gov/heritage/docum/00atriskpaper3.pdf>

From External threats:

"Uncontrolled use is the most immediate and pervasive threat to cultural resources on BLM lands. But one of the most enjoyable aspects of visiting BLM lands, compared to other federal lands, is the freedom experienced by visitors because of the lack of restrictions that are placed on them. The public lands are fast becoming more accessible, better known, and more intensively used. In many areas, urban sprawl, encroaching on previously remote areas, is turning the public lands into recreational backyards. The explosion in the use of mountain bikes and ATVs, and even the designation of backcountry byways, has dramatically increased visitation to lands that were previously used only by small numbers of hikers. This increased visitation inevitably results in intentional and inadvertent damage through collection, vandalism, surface disturbance, and other deprecative behavior."

Celliers, I., T. Moffett, N.C. James, and B.Q. Mann. 2004. A strategic assessment of recreational use areas for off-road vehicles in the coastal zone of KwaZulu-Natal, South Africa. Ocean and Coastal Management 47(3-4): 123-140.

Abstract: In January 2002, the Minister of the Department of Environmental Affairs and Tourism of the South African government promulgated new regulations controlling the use of off-road vehicles in the coastal zone of South Africa. The new regulations provided for a general

Kemmerer RMP DEIS Comments

94

Appendix B – Public Response Documents

10/11/2007 7:01 PM FROM: Pam WW TO: 1 307 828-4539 PAGE: 097 OF 101

prohibition on the recreational use of off-road vehicles (ORVs) in the coastal zone as well as providing procedure for approving the use of vehicles in the coastal zone under specific circumstances. The regulations now specify that recreational use of ORVs can only take place in designated recreational use areas (RUAs). This paper described the process of developing a cohesive strategy for the siting of RUAs in the coastal zone of KwaZulu-Natal. This strategy was developed to avoid ad hoc application for areas that might be unsuitable (environmentally or socially) for ORV use. Potential RUAs was identified using seven principles that disqualified areas not suitable, and subjecting the potential RUAs to a number of other considerations. The seven principles are sufficiently generic to be applied to the other three coastal provinces of South Africa and probably further afield. This strategy identified a network of ecologically and socially justifiable RUAs along the coast of KwaZulu-Natal. These areas will not be designated automatically but each area will need to be further scrutinized by an environmental impact assessment.

Priskin, J. 2003. Physical impacts of four-wheel drive related tourism and recreation in a semi-arid, natural coastal environment. *Ocean & Coastal Management* 46(1-2): 127-55.
Abstract: The aim of the research was to assess the physical impacts of four-wheel drive related nature-based tourism in the Central Coast Region of Western Australia. This coast is 271 km long, in a natural and largely undeveloped state, but coastal recreation impacts due to four-wheel drive use has increased significantly since the 1960s. Research methods included interpretation of aerial photographs for 1965 and 1998 for a 1 km zone, measured immediately landward from the shoreline. Features associated with recreation use, such as off-road tracks and access points to beaches were digitized and analyzed using Geographic Information System. For 1965, 516.5 km of four-wheel drive tracks were measured, compared to 812.9 km in 1998. Access points to the coast also increased from 421 to 908 during the same period. Results were analyzed within 25 biophysical and five local authority units. Results within biophysical units were related to physiographic setting, beach and dune type.

Steinback, J. In prep. Off-road vehicles on Cape Cod National Shoreline.
<http://www.sciencedaily.com/releases/2004/05/040521071115.htm>

"When off-road vehicles drive on beaches, they can reduce the number of creatures living on the beach by as much as 50 percent, according to a recently completed three-year study by a University of Rhode Island graduate student. "The effect of traffic on the beaches is significant," said Jacqueline Steinback of East Falmouth, Mass., who studied the creatures living in and around the wrack -- the vegetation that accumulates at the high tide line -- on the beaches of the Cape Cod National Seashore.

"Scientists originally thought that driving on beaches wouldn't have much impact since beaches are constantly changing and the species are already surviving waves, winds and extreme temperatures. But traffic is still having an effect on certain species," she added. Funded by the National Park Service, Steinback's research compared the composition and abundance of beach invertebrates living in and around the wrack on beaches with and without vehicular traffic. She took core samples, set pitfall traps, and collected wrack samples on three beaches at the Cape Cod National Seashore -- Race Point North, Race Point South, and Coast Guard Beach in North Truro. On beaches where traffic was permitted, the number of animals tallied was from 30 to 50 percent lower than on beaches where traffic was prohibited.

Kemmerer RMP DEIS Comments

95

10/11/2007 9:20 PM FROM: Pam WW TO: 1 307 828-4539 PAGE: 009 OF 012

The Bighorn recreation monitoring project

www.wildcanada.net/bighorn

Historically, the Bighorn was managed and protected under the Alberta Eastern Slopes Policy that prohibits motorized recreation in the Prime Protection zone. In 2002, the government legalized motorized recreation in the Bighorn Wildland on designated trails. Trail monitoring is therefore crucial within the Bighorn Wildland due to the growing threat to landscape integrity from human use. The Bighorn Monitoring Project was designed to identify and assess the current status of recreational activity in the Bighorn Wildland and document the effects that these activities are having on the landscape. The project consists of collecting and mapping data on trail condition, as well as OHV activity, using TRAFx counters from sites located over 50km of trail. The project will continue every summer for the next 3 years.

Monitoring Results: The most common recreational activities recorded in the area of study include biking, hiking, equestrian and OHV use. A high level of use can cause structural and vegetation damage on and off trails. Project results show that almost half of the sites measured suffered Moderate/Severe to Severe levels of structural damage in the form of deep rutting and erosion. Similarly, over half of the sites exhibit Moderate/Severe to Severe level of vegetation removal and damage.

OIIV Use Results: A total of 1395 passes made by OHVs were recorded by the TRAFx counters, illustrating the intensity of use by OHVs on samples of both designated (legal) and non-designated (illegal) trails. Of the 1395 passes, a total of 509 illegal out of season and/or off trail counts were recorded. Illegal use may be due in part to poor signage in the area in terms of their message, number, location, and size.

Foltz, R.B., D. Meadows, C. Napper, R. Gonzales, C. Aldrich. Study proposal. Impacts of All Terrain Vehicles (ATV) on National Forest Lands and Grasslands. May 2004
Abstract. The US Forest Service will conduct a study to determine the potential impacts of All Terrain Vehicles (ATVs) on National Forest Lands and Grasslands. The objective is to determine which ATV mechanical components and equipment may cause potential impacts to the natural environment. The tests will be conducted on existing trails and areas open to cross country travel. Locations for the study are in Louisiana, Missouri, Kentucky, Minnesota, Montana, and Washington. Parallel trails dedicated to a single combination of ATV type and tire combination will be located at each site. ATV traffic will occur until three levels of soil disturbance, Low, Medium, and High, have been achieved. Key indicators for the soil disturbance classes will be presence or absence of vegetation cover, trail condition, and potential erosion condition. Following the ATV traffic, measurements of the erosion potential will be taken on each disturbance class. At the conclusion of the study we will be able to demonstrate the ATV vehicle and tire combinations that produce each level of soil disturbance, the erosion implications of those classes, and a method to predict soil erosion from ATV traffic in climates different from the test areas.

Other Articles

Watzman, N. 2001. Playground or preserve?. *The Washington Monthly* V. 33 No5 (May 2001) P. 36-43.

Kemmerer RMP DEIS Comments

96

Appendix B – Public Response Documents

10/11/2007 9:20 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 010 OF 012

Abstract: The recreation industry is the latest threat to America's public lands. As a nation, America owns 652 million acres of public land, almost one-third of the entire landmass of the United States. In 1946, the U.S. Department of Agriculture's Forest Service hosted 18 million visitors, a figure that was close to 1 billion in 2000. Interior Department recreational visits are also increasing, amounting to almost 400 million between the Park Service, the Bureau of Land Management, and the National Wildlife Refuges in 2000. With increased recreational use comes abuse, and despite the considerable difference between an off-road vehicle rider ripping a trail through the forest and a mining operation leaching arsenic into the water or a timber firm clear-cutting forests, the damage is significant.

Wilkinson, T. 2000. Loud, Dirty, and Destructive. Wilderness, Pp. 26-31, 2000.

Abstract: Off-road vehicles (ORVs) could be the largest growing threat to America's wilderness. The Forest Service estimates that from 1979 to 1987 the number of ORVs using national forests has grown from 5.3 million visitors-days to 80 million visitor-days. The threat to wilderness will continue to grow given that between 1991 and 1997 the annual ORV sales have doubled. Wilderness supporters are outraged over the escalating problems of ORV use on public lands. The four federal agencies involved have ignored these threats to wilderness on large areas of undeveloped public land. Snowmobiles, four-wheelers, dirt bikes, and other ORVs leave their mark on back-country wilderness areas. Trails, both legal and illegal, disturb the natural wilderness and character of the land. The noise can drive away birds and harm the sensitive hearing of small mammals. Amphibians, reptiles, and plants become crushed when up against ORVs. Big game hunters worry that the proliferation of machines will scare off wildlife. Two-stroke engines cause water and air pollution, sometimes spilling fuel directly into soil and water. ORVs scar the land and harm wildlife with noisy, polluting, trail-mangling machines. ORVs are transforming recreation in national forests, especially in western lands. A coalition of over 100 groups filed a petition with the Forest Service urging the management of ORV use and the definition of the recreational standards. The ORV lobby, well-organized with financial support, maintains a good relationship with land managers who traditionally have supported ORV recreational uses. Grassroots and environmental efforts are bringing national attention to the ORV issue. The National Park Service has proposed a ban on snowmobiles in parks such as Yellowstone, and have other plans to limit ORV use. Environmentalists call for more actions limiting ORV use and want untouched areas undisturbed, unpolluted, and populated with wildlife.

Wilkinson, T 2001. On the beaten path. National Parks 75(3-4): 34-8.

Abstract: The National Park Service (NPS) has developed a new strategy to combat the damage caused by off-road vehicles (ORVs) in Big Cypress National Preserve in Florida. Across the National Park System, there is a noisy and increasing multitude of people using motorized recreation, causing a wide range of detrimental effects on wildlife and habitat. In Big Cypress National Preserve, which features some 22,000 miles of unregulated ORV trails, ORVs have caused massive destruction to the preserve's impressive biological diversity. The NPS' new bold, multiyear strategy will close trails to secure habitat, deploy scientists to assess damage, establish 400 miles of ORV trails, and limit the number of permits to 2,000. The NPS will also increase regular patrols of rangers to prevent illegal incursions. However, ORV groups, which have until now enjoyed de facto primacy over the backcountry and have hunting privileges there, intend to fight the new regulations.

Kemmerer RMP DEIS Comments

97

10/11/2007 9:20 PM FROM: Pam WWP TO: 1 307 828-4539 PAGE: 011 OF 012

00060

Finally, the DEIS fails to address unplanned or user-created roads and trails on BLM lands within the planning area that have resulted from cross-country motor vehicle. It is important to point out that the impacts of these user-created routes were never described, analyzed, or otherwise disclosed pursuant to the National Environmental Policy Act (NEPA). Never-the-less, thousands of miles of motorized trails have come into existence without the benefit of analyzing the environmental effects of those actions -- effects on soils, water quality, streambank erosion, key indicator species, other recreational and traditional uses, and so forth.

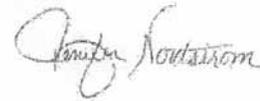
It seems clear that the BLM should take appropriate action in the RMP to close all user-created routes to motorized use, and then conduct NEPA to determine which trails should be opened to that use. In short, any positive gains made in eliminating off-trail travel will be negated by incorporating non-system routes into the motorized system. This will affect species such as lynx and elk, impact water quality, and multiply user conflicts. We strongly urge the FS to close all user created routes until proper NEPA has been completed to determine whether or not these routes should be open.

Conclusion

The Draft EIS for the Kemmerer RMP arrives at incorrect and insupportable conclusions, fails to disclose all direct, indirect, indirect, cumulative, past, present, and reasonably foreseeable future impacts, fails to analyze a full range of alternatives, and fails to address the resource issues in the planning area in any meaningful way in compliance with the MUSYA, FLPMA, CWA, and other laws and regulations.

We look forward to reviewing the final document when it is completed.

Sincerely,



Jenifer Nordstrom
WWP NEPA Compliance Review Office

Kemmerer RMP DEIS Comments

98

Appendix B – Public Response Documents

Public Response Document 00061

00061
00061



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop St.
DENVER, CO 80202
Phone 800-227-8917
<http://www.epa.gov/region8>

Ref: EPR-N

OCT 19 2007

Michele Easley
Bureau of Land Management, Kemmerer Field Office
312 Hwy 189 N
Kemmerer, WY 83101-9711

RE: Draft Resource Management Plan
and Environmental Impact Statement for
the Kemmerer Field Office Planning Area
CEQ#: 20070286

Dear Ms. Easley:

Consistent with our responsibilities and authorities under the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, the Region 8 office of the U.S. Environmental Protection Agency (EPA) has reviewed the Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Bureau of Land Management's (BLM) Kemmerer Field Office Planning Area in southwestern Wyoming. The BLM manages approximately 1.42 million acres of public land surface and 16 million acres of federal mineral estate in the Kemmerer planning area. The area includes most of Lincoln and Uinta counties, and part of Sweetwater County.

The Draft EIS considers revisions to the Kemmerer RMP which provides management direction to BLM on planning issues, including: energy resources; vegetation management; cultural resources; rangeland management; wildlife/turban interface; water quality; and wildlife habitat. The Draft EIS considers four alternatives. Alternative A, No Action, would provide continuation of existing management. Alternative B emphasizes conservation of physical, biological, and heritage resources with the most restraints on resources uses compared to all other alternatives. Alternative C emphasized resource uses such as energy and minerals, while lessening some resource conservation measures to protect physical, biological, and heritage resource values. Finally, Alternative D, BLM's Preferred Alternative, emphasizes a moderate level of protection for physical, biological, and heritage resource values and moderate constraints on resource uses.

EPA provided detailed scoping comments on the Kemmerer RMP revision in December 2003. A review of the Draft EIS indicates that BLM has provided comprehensive information on many of these comments. EPA notes that detailed information on wildlife resources is presented in the Draft EIS and that the Preferred Alternative outlines specific management provisions that will benefit sage grouse, raptors, pronghorn, mule deer and elk,

00061

as well as sensitive plant populations. Additional measures provide for the maintenance of contiguous habitat and wildlife corridors. EPA is also encouraged that the Preferred Alternative retains protection of the Raymond Mountain Area of Critical Environmental Concern (ACEC) and Wilderness Study Area (WSA), provides for the designation of the Bridger Butte ACEC and the case-by-case designation of special status plant species habitat ACECs, establishes additional Management Areas (MAs) for natural resources, and identifies two waterway segments for Wild and Scenic River status. EPA supports BLM's efforts to manage these lands and water segments in a manner that recognizes and protects sensitive resources. We also support additional efforts to assess land and water resources that may also qualify for special protection.

Our review of the RMP Draft EIS includes some general and specific concerns associated with special status designations and protection of sensitive and unique natural and cultural resources, and off-road vehicle management. These comments are provided in the enclosed "Detailed Comments." EPA's primary remaining concern is the potential for impacts to air quality from expanding oil and gas development in the Kemmerer Planning Area.

Air Quality and Oil and Gas Development

EPA remains concerned about the cumulative air quality impacts associated with resource development in southwest Wyoming as oil and gas development continues to increase rapidly in Kemmerer and adjacent BLM planning areas. Six federally designated Class I areas are located within 70 miles of the Kemmerer planning area. The Bridger Wilderness Area is located 40 miles east of the Kemmerer Planning Area. Under the Clean Air Act, Federal Class I areas such as Bridger Wilderness require special protection of air quality and air quality related values. The most recent Final Reasonable Foreseeable Development Scenario for Oil and Gas (BLM, 2006b) completed for the Kemmerer area anticipates more than 2,000 new conventional oil and gas wells over the next 20 years. Projections for nearby planning areas are much higher. The potential for cumulative emissions to lead to visibility impairments and/or violations of air quality standards is a growing concern that underscores the importance of analyses that provide for our collective ability to predict, assess and mitigate future adverse impacts.

In RMPs that plan for significant oil and gas development, EPA maintains that air quality dispersion modeling should be conducted to assess the cumulative impacts of projected oil and gas wells and other activities on air quality values within and outside of the planning area. Rather than conduct dispersion modeling, BLM completed a qualitative emission comparison approach for the analysis of air quality impacts in the Kemmerer RMP. While this method provides a means to compare the total predicted emissions of each alternative to a baseline year, it does not provide any indication of the potential for exceedances of ambient air quality standards or the potential for adverse impacts on air quality related values (i.e. visibility) in nearby Class I areas. EPA does acknowledge, however, that

Appendix B – Public Response Documents

00061

BLM recently completed extensive air quality dispersion modeling in conjunction with the proposed Moxa Arch Area Infill Gas Development DEIS and the Moxa Arch development accounts for the majority of the anticipated oil and gas development in the Kemmerer RMP (Final Reasonable Foreseeable Development Scenario for Oil and Gas, August 2006, page 7-7).

EPA participated in the development of the Moxa Arch Draft EIS as a Cooperating Agency. In this role, EPA reviewed and commented on sections of the Moxa Arch preliminary environmental analysis, including the air quality technical support document. On October 5, 2007, BLM released the Moxa Arch Draft EIS for public review and comment. Consistent with our responsibilities and authorities under NEPA and Section 309 of the Clean Air Act, EPA will review and provide comments on the Moxa Arch Draft EIS. At that time, EPA will provide detailed comments on air quality dispersion modeling and the predicted impacts associated with oil and gas activity.

The extensive air quality modeling analysis conducted for the Moxa Arch Draft EIS should inform the RMP analysis, and ultimately the decision-maker, on "What level of development should be allowed in areas suitable for energy and mineral resource development?" (Kemmerer DEIS, page 1-10). EPA recommends the Kemmerer Final EIS explain how the Moxa Arch quantitative air modeling analysis will be used by BLM to inform the Kemmerer RMP land management decisions. For example, the Final EIS should describe how the air quality modeling will be reflected in RMP decisions on the suitability of lands for oil and gas development; any appropriate restrictions on the proximity to and extent of such development near Class I airsheds; and any other land management decisions to which the air impacts analysis may be relevant.

The Moxa Arch air quality dispersion modeling should also inform BLM on mitigation measures that should be more broadly implemented across the land use plan such as planning directives regarding clean drilling and compressor technologies, and stipulations on the location, level and timing of development. This analysis is particularly important as our initial review of the air quality analysis completed for the Moxa Arch Draft EIS indicates the potential for significant impacts to visibility at the Bridger Wilderness Area from the proposed action of 1,800 wells which, as noted above, accounts for the majority of the reasonably foreseeable oil and gas development anticipated by the Kemmerer RMP. The results of the Moxa Arch air quality dispersion analysis may suggest the need for a more conservative approach to oil and gas development or the need for additional mitigation measures to be incorporated into the Kemmerer RMP Final EIS. In addition, EPA recommends the Kemmerer Final EIS expressly explain the nexus between the Moxa Arch Draft EIS air quality dispersion modeling and the Kemmerer RMP EIS as described above, so that interested parties will be made aware of and can access information in both documents to assess potential impacts.

3

00061

EPA is concerned that development occurring outside of the Moxa Arch project may be approved by BLM via categorical exclusions without the full analysis of potential air quality impacts and consideration of appropriate mitigation measures. Section 390 of the Energy Policy Act of 2005 established five statutory categorical exclusions under NEPA including an exclusion for "Drilling an oil and gas well within a developed field for which an approved land use plan or any environmental document prepared pursuant to NEPA analyzed drilling as reasonably foreseeable activity, so long as such plan or document was approved within five years prior to the date of spudding the well." EPA does not believe the air quality qualitative emissions comparison conducted in the Kemmerer RMP Draft EIS is sufficient to provide BLM with the information necessary to issue categorical exclusions while still being protective of air quality in southwestern Wyoming. The potential for categorical exclusions under Section 390 of the Energy Policy Act further emphasizes the need for BLM to consider the air quality impacts disclosed in the Moxa Arch Draft EIS and to identify appropriate mitigation measures to be incorporated into the Kemmerer RMP Final EIS.

Although EPA remains concerned about the potential impacts to air quality from categorical exclusions, we are encouraged that the Kemmerer Field Office has voiced a commitment to conduct additional air dispersion modeling for significant projects in the future. While the modeling done for Moxa Arch addresses the impacts of the majority of current foreseeable development in the Kemmerer planning area, any significant resource development projects that emerge outside of the Moxa Arch project should also be modeled to fully assess and disclose cumulative impacts to air quality resources. This includes any large-scale development of conventional and/or coal bed natural gas wells in geologic areas such as the Absaroka Thrust, and Prospect-Darby Hogback Thrust, or in the Frontier-Adaville-Evanston natural gas unit.

EPA's Rating

EPA has a responsibility to provide an independent review and evaluation of the potential environmental impacts associated with this Draft EIS. Based on the procedures EPA uses to evaluate the adequacy of the information and potential impacts of the Preferred Alternative, EPA is rating the Draft EIS as Environmental Concerns- Inadequate Information. "EC-2." "EC" signifies that EPA's review of this Draft EIS has identified environmental impacts that should be avoided in order to fully protect the environment. The rating of "2" indicates that the Draft EIS lacks sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. EPA remains concerned about the potential for cumulative emissions leading to visibility impairments and/or exceedances of air quality standards. The air quality dispersion modeling conducted for the Moxa Arch Infill development should be considered and should inform mitigation measures disclosed in the Final EIS and included in the record of decision (ROD). A full description of EPA's EIS rating system is enclosed.

4

Appendix B – Public Response Documents

00061

EPA recognizes the complexity and diversity of the proposed resource management actions and supports BLM's intention to update this plan based on emerging issues and changing circumstances. We expect that oil and gas development, air quality, OHV use, and the protection of sensitive and unique land and water resources will continue to be among the issues and circumstances monitored as the plan is implemented. If you would like to discuss these comments, or any other issues related to the review of the Draft EIS, please contact Rich Mylott at 303-312-6654 or Joyel Dhieux at 303-312-6647.

Sincerely,



Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosures

00061

**Detailed Comments by the Region 8 Environmental Protection Agency
Draft Environmental Impact Statement
Kemmerer Resource Management Plan
Kemmerer, Wyoming**

**Detailed Comments by the Region 8 Environmental Protection Agency
Draft Environmental Impact Statement
Kemmerer Resource Management Plan
Kemmerer, Wyoming**

Air Quality Monitoring

EPA would support efforts to assess air quality monitoring in the Kemmerer planning area to determine whether more monitoring is needed. We note that there are few air quality monitors operating within the field office boundaries. Considering the extent of existing and projected emissions sources and increasing concern about cumulative regional air quality impacts, efforts to assess monitoring in the Kemmerer planning area are necessary to ensure that future resource management decisions adequately protect air quality resources and values. BLM has identified the need for enhanced monitoring to improve management in the planning area, and makes a commitment in the RMP Draft EIS to work to "enhance existing criteria pollutant and AQRV monitoring on a project-specific or as-needed basis" (Table 2-3). EPA encourages discussions between BLM, the State of Wyoming, other federal agencies and industry groups to achieve this goal. The air quality dispersion modeling conducted for Moxa Arch may also inform this discussion.

Protection of sensitive and unique resources

EPA supports BLM's efforts to designate special protection areas for natural and cultural resources in the Kemmerer planning area and encourages BLM to consider if more designations are appropriate. We note that while ACEC designation was considered for several areas and special populations, many were excluded as ACECs or MAs under the Preferred Alternative. Conversations with BLM indicate that although many of these areas meet the criteria for ACEC and/or other special natural and cultural management status designations, BLM believes that existing use restrictions and stipulations related to sensitive slopes and soils, riparian areas, threatened and endangered species, cultural resources are sufficient to protect identified resource values.

EPA has some concern that, in some areas, this approach may not fully protect natural and wilderness characteristics and habitat for sensitive and rare species. We understand that proposals to develop natural gas resources are increasing in parts of the planning area that are not currently leased, a trend that may test BLM's ability to maintain and preserve resource uses and values other than resource extraction. Significant natural, cultural, historical and wildlife resources have been identified in several areas which, despite the applicability of some management restrictions and stipulations, are considered open for future oil and gas leasing. Some additional analysis in Chapter 4 would be helpful in providing a more detailed rationale for the Preferred Alternative's decision to not manage these areas as unavailable for leasing. This would be especially useful information for lands and riparian areas such as

Appendix B – Public Response Documents

00061

Bridger Butte, Dry Fork, Upper Tributary, Lower Tributary, Fossil Basin, Rock Creek and Bear River Divide that have been considered for ACEC, natural area, wild and scenic and other special designations.

Off-highway vehicle use

EPA has also identified a general travel management concern related to Off-Highway Vehicle (OHV) use. Chapter 3-126 in the Draft EIS cites an increase in OHV use in the Kemmerer area as a management challenge, with a specific reference in Chapter 3-122 to adverse impacts to wintering herds of elk and mule deer associated with increased OHV use to collect shed antlers. Based on BLM's characterization of this management challenge, we assume that this anecdote is just one of many examples of adverse impacts associated with OHV use in the planning area.

The information presented in the Draft EIS on OHV use, trends and management designations is very limited and could be strengthened to form the basis of a planning strategy to identify and address future impacts to resources. While BLM has identified the lack of information as an issue and has committed to more comprehensive travel management planning in the RMP, we recommend that Chapter 3's treatment of Off-Highway Vehicles be supplemented with any additional quantitative or qualitative information that may illuminate current use, trends and impacts. For example, figures on percentages of the planning area designated "limited to existing roads and trails" versus "limited to designated roads and trails" and other OHV use designations would be helpful. If unavailable for the planning area as a whole, information or estimates on use and trends in localized, sensitive areas would also be useful.

As mentioned above, BLM's Preferred Alternative acknowledges a lack of information on OHV use and impacts and makes a commitment to conduct travel management planning for identified areas within the next five to ten years. However, EPA is concerned that while these plans are being developed, localized impacts to soils, vegetation, water quality, wildlife and other values may continue unabated. This is a particular concern in areas that will continue to be managed under the current, and presumably most common, use designation limiting OHV use to "existing roads and trails." EPA recommends that while plans are being completed for Travel Management Areas that contain sensitive or unique resources, limiting OHV traffic under the more restrictive "designated roads and trails" use designation should be considered and applied as appropriate.

This column intentionally left blank.