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Working to protect and restore Western Watersheds

By Email

December 18, 2015

Karen M. Doran
Bureau of Land Management
3801 Pegasus Drive
Bakersfield CA 93308

Email: <kdoran@blm.gov>

RE: LIVESTOCK GRAZING AUTHORIZATION
Freedom Hill Allotment, #00074,
Fay Canyon Allotment, #00079, and Lynch Canyon Allotment, #00083

Dear Field Manager:

Western Watersheds Project, Sequoia ForestKeeper, and Kern Kaweah Chapter of the Sierra Club thanks the Bureau of Land Management ("BLM") Bakersfield Field Office for this opportunity to provide comments as you embark on the environmental analysis for livestock grazing authorizations and other actions on Freedom Hill, Fay Canyon, and Lynch Canyon Allotments. The Scoping Package asks for comments to be submitted by midnight December 18, 2015, so these comments are timely.

Western Watersheds Project works to protect and conserve the public lands of the American West for its wildlife, wilderness character, and natural and cultural resources through education, scientific study, research, public policy initiatives, and litigation. Western Watersheds Project and its staff and members use and enjoy the Nation's public lands for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. We are submitting these comments because the proposed project will impact resources on these public lands that are important to Western Watersheds Project and its staff and members.

Please consider the following comments and concerns in your planning for this project:

Freedom Hill Allotment (#00074) consists of some 5,133 acres of public land; Fay Canyon Allotment (#00079) consists of 575 acres of public land; and, Lynch Canyon Allotment (#00083) consists of some 1,040 acres of public land (the record is inconsistent). The Field Office is proposing to renew grazing leases and expand the season of use on Freedom Hill, Fay Canyon, and Lynch Canyon Allotments for a 10-year period. These allotments are currently

grazed by a single permittee. Livestock grazing on these allotments is of considerable concern to both the public at large and to the local communities because the authorized livestock are impacting resources on the allotment lands and adjacent lands.

The current and proposed uses are as follows:

Current Authorized Use

Allotment	Number of Livestock	Kind	From	To	% PL	AUMs
Freedom Hill	216	Cattle	March 1	May 15	100	540
Fay Canyon	32	Cattle	March 1	April 30	100	64
Lynch Canyon	32	Cattle	March 1	April 30	100	64

Proposed Authorized Use

Allotment	Number of Livestock	Kind	From	To	% PL	AUMs
Freedom Hill	179	Cattle	March 1	May 31	100	541
Fay Canyon	21	Cattle	March 1	May 31	100	64
Lynch Canyon	21	Cattle	March 1	May 31	100	64

According to the Scoping Package, the BLM's rationale for extending the season of use by one month is:

> This extension allows the grazing use on the BLM allotments to correspond with the seasons of use on the related Forest Service grazing permits and allows flexibility to utilize spring forage as it becomes available.

Because livestock grazing on these allotments is clearly related to Forest Service grazing permits the BLM should analyze the related Forest Service permit renewals in the NEPA analysis for the three allotments. The BLM should also explain why extending the grazing period into the early summer "allows flexibility to utilize spring forage as it becomes available" since spring forage would be long gone by that time.

Purpose and Need Statement, & Range of Alternatives:

The comparison of alternatives is "the heart" of the NEPA review process, and the NEPA implementing regulations require an agency to analyze a range of reasonable alternatives. Here the BLM's stated purpose and need is in essence to issue a grazing permit. But the BLM knows full well that it does not have to issue a grazing permit. The courts have cautioned against constructing a purpose and need so narrowly as to exclude other alternatives. Simmons v. United States Army Corps of Engineers, 120 F.3d 664, 666 (7th Cir. 1997). The Field Office should restate its purpose and need such that it does pre-ordain the outcome of the NEPA analysis.

The EA needs to consider a range of alternatives. These must include current management (i.e. no change in season) and No Grazing alternatives to provide the environmental background so that the baseline for comparison of action alternatives is fully described and so that the effects of cattle grazing on all the allotment's public resources can be fully understood.

We propose two additional reasonable alternatives:

(1) Land Use Plan Grazing. Under this alternative grazing would be authorized only on the lands determined as available for grazing in the 2014 Bakersfield RMP with cattle numbers and AUMs pro-rated by allotment area. This is as follows:

Freedom Hill	2,278 acres (i.e. 44% of 5,133 acres)	96 Cattle and 240 AUM.
Fay Canyon	361 acres (i.e. 63% of 575 acres)	20 Cattle and 40 AUM.
Lynch Canyon	510 acres (i.e. 49% of 1040 acres)	16 Cattle and 32 AUM.

Unlike the BLM's proposed action the Land use Plan Grazing alternative would fully comply with the governing land use plan by authorizing grazing only on lands determined as available.

(2) Closure of Fay Canyon and Lynch Canyon Allotments. This alternative would protect public resources on these lands, reduce BLM administrative costs, reduce trespass on adjacent state and private lands by straying cattle, advance public safety, and protect significant resources such as listed species that the adjacent refuge lands are meant to protect all while allowing the permittee continued publically subsidized livestock grazing opportunities on Freedom Hill Allotment.

Compliance with the Land Use Plan, Grazing Regulations, and FLPMA:

The BLM's grazing regulations require that grazing authorizations comply with the governing land use plan for the area. The Federal Land Policy Management Act ("FLPMA") requires the BLM to prevent the unnecessary and undue degradation of public lands and its resources. To avoid "undue degradation", the BLM's own grazing regulations requires the BLM to ensure that the authorized livestock grazing use shall not exceed the livestock carrying capacity of the allotment. 43 C.F.R. § 4130.3-1.

Carrying capacity is defined in the regulations so:

> "Livestock Carrying Capacity" means the maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production. 43 C.F.R. § 4100.0-5.

The Field Office needs to determine the current carrying capacity of the three allotments given the current conditions, ongoing drought and climate change issues, and the consistent straying of cattle off these allotments and onto adjacent private and protected state lands.

Grazing Regulation § 4130.3-1 (c) requires full compliance with § 4180--Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration. Please include copies of the RHA and Determinations for the allotments with the NEPA documents.

Grazing Management and Range Improvements:

The NEPA documents should disclose all existing livestock management facilities including exclosures, water developments, miles of fence, gates/stiles for public access, and document livestock use areas. The NEPA documents should disclose the impacts of each of these developments on sensitive resources including wildlife and wilderness character. The NEPA documents should also describe how cattle will be moved on and off the allotment and the herding that will be conducted to prevent impacts to sensitive resources and wilderness values.

The NEPA documents should describe all aspects of grazing management that will have direct, indirect, and cumulative impacts on the area's resources including the driving of vehicles by permittees. Motorized cross-country travel should not authorized.

Environmental Effects:

The NEPA review must consider the direct, indirect and cumulative impacts of each proposed alternative on the following elements: ACEC; air quality; biological soil crusts; congressionally designated areas; cultural resources; floodplains; climate change (mandated by Department of the Interior Order No. 3226); invasive species; Native American concerns; riparian areas; sensitive species of wildlife and special status plants; soils; threatened and endangered species; Unusual Plant Assemblages; vegetation; watersheds; water quality; wilderness; and wildlife. Each alternative should be illustrated with maps that show the area to be grazed or trailed by livestock in relation to the allotment's resources including habitat for special status and sensitive species. Vegetation maps that show the distribution of communities, grasses, invasive species, any vegetation treatments, and fires should be provided.

Wilderness:

Wilderness character is a valuable resource and important use of public lands. The NEPA documents should fully analyze impacts of past and proposed livestock grazing on the wilderness characteristics of the Domeland Wilderness. BLM has identified "wilderness characteristics" to include naturalness or providing opportunities for solitude or primitive recreation. See, Instruction Memoranda (IMs) 2003-274 and 2003-275. Values associated with wilderness character include:

(a) Scenic Values – FLPMA specifically identifies "scenic values" as a resource of BLM lands for purposes of inventory and management (43 U.S.C. § 1711(a)).

(b) Recreation – FLPMA also identifies "outdoor recreation" as a valuable resource to be inventoried and managed by BLM. 43 U.S.C. § 1711(a). Lands with wilderness characteristics provide opportunities for primitive recreation, such as hiking, camping, hunting and wildlife viewing. Most, if not all primitive recreation experiences will be foreclosed or severely impacted if the naturalness and quiet of these lands are not preserved.

(c) Plant and Wildlife Habitat – FLPMA acknowledges the value of wildlife habitat found in public lands and recognizes habitat as an important use. 43 U.S.C. § 1702(c). Due to their unspoiled state, lands with wilderness characteristics provide valuable habitat for wildlife, thereby supporting additional resources and uses of the public lands. Wilderness quality lands support biodiversity, watershed protection and overall healthy ecosystems. The low route density, absence of development activities and corresponding dearth of motorized vehicles, which are integral to wilderness character, also ensure the clean air, clean water and lack of disturbance necessary for productive wildlife habitat.

(d) Cultural Resources – FLPMA recognizes the importance of "historical values" as part of the resources of the public lands to be protected. 43 U.S.C. § 1702(c). The lack of intensive human access and activity on lands with wilderness characteristics helps to protect these resources.

(e) Economic Benefits – The recreation opportunities provided by wilderness quality lands also yield direct economic benefits to local communities. According to the U.S. Fish & Wildlife Service, in 2001 State residents and non-residents spent $5.7 billion on wildlife recreation in California alone.

Recreation:

The NEPA documents should consider the impacts of livestock, fences, and other equipment and facilities associated with livestock production on non-motorized recreation. This should include impairment of the visual and esthetic experience, water quality issues, fear of encounters with cattle by hikers, and disturbance of wildlife and wildlife viewing by the presence of domestic livestock and range improvements, impairments of freedom of movement by fences, and impacts to hunting. The documents should review the effects of motorized vehicle use by the permittee on non-motorized and motorized recreation.

We do not oppose the closing of unauthorized routes. However, for restoration to be effective livestock should not be authorized in areas with closed routes, so that soil crusts and vegetation can recover. Without this, these unauthorized routes will remain visible and continue to act as attractive nuisances.

Soils:

The NEPA documents should include maps of soil types in the project area. Primary grazing on erosive soils of up to 40% slope can lead to massive erosion and sediment flows into canyons and washes during precipitation events, which can harm the plant and animal habitats. The environmental review should consider grazing impacts to all soils in the project area whether these are in primary, secondary, or incidental use areas.

Cultural Resources:

Livestock grazing may have profound harmful impacts to archeological resources and cultural sites (Broadhead, 1999[1]; Osborn *et al*., 1987[2]). Livestock, especially cattle, are known to impact archeological and cultural sites through a number of mechanisms including mechanical or physical impacts such as trampling, wallowing, and rubbing, dislodging and crushing artifacts; chemical impacts resulting from urine and feces; and, erosion impacts.

The BLM should disclose how much of the entire project area and the state lands and private areas into which the livestock would roam have been surveyed for cultural resources, review the existing inventory of cultural resources, and analyze the effects of each alternative on these. It should identify specific modifications to grazing management that will avoid and protect these irreplaceable resources, and provide specific monitoring protocols and time-tables.

Invasive Species:

Livestock are well-known vectors for invasive, non-native, or noxious species colonization on public lands. There is clear evidence that livestock grazing promotes invasive weed infestations through a variety of mechanisms (Belsky and Gelbard, 2000[3]). Livestock grazing has been found to be a factor in the proliferation of non-native plants by livestock transporting seeds on their coats, feet, and in their guts into uninfested sites (Belsky and Gelbard, 2000; Jones, 2000[4]; Chuong *et al*., 2015[5]) and livestock are much more effective transporters of invasive weed seeds than native ungulates (Bartuszevige and Endress, 2008[6]), livestock preferentially graze native plant taxa over non-native taxa (Belsky and Gelbard, 2000; Jones, 2001), livestock promote alien plant growth and harm native species (Kimball and Schiffman, 2003[7]), livestock preferentially graze perennial plants over annuals (Van Dyne and Heady, 1965[8]), livestock can change competitive relationships in ways that favor non-native taxa (Belsky and Gelbard, 2000; Jones, 2000), livestock create patches of bare, disturbed soils that act as non-native-plant seedbeds (Belsky and Gelbard, 2000; Jones, 2000), livestock destroy biological soil crusts that stabilize soils and inhibit non-native seed germination (Belsky and Gelbard, 2000; Belnap *et al*. 2001[9]), livestock create patches of nitrogen-rich soils, which favor

[1] Broadhead, W. 1999. Cattle, Control, and Conservation. Cultural Resource Management, 22: 31-32.
[2] Osborn, A., Vetter, S., Hartley, R., Walsh, L. and Brown, J. 1987. Impacts of Domestic Livestock Grazing on the Archeological Resources of Capitol Reef National Park, Utah, pp. 1-136: Midwest Archeological Center Occasional Studies in Anthropology.
[3] Belsky, J. and Gelbard, J. L. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon National Desert Association, Bend, OR. 1-31.
[4] Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. Western North American Naturalist, 60: 155-164.
[5] Chuong, J., Huxley, J., Spotswood, E. N., Nichols, L., Mariotte, P. and Suding, K. N. 2015. Cattle as Dispersal Vectors of Invasive and Introduced Plants in a California Annual Grassland. Rangeland Ecology & Management, in press.
[6] Bartuszevige, A. M. and Endress, B. A. 2008. Do ungulates facilitate native and exotic plant spread? Seed dispersal by cattle, elk and deer in northeastern Oregon. Journal of Arid Environments, 72: 904-913.
[7] Kimball, S. and Schiffman, P. M. 2003. Differing Effects of Cattle Grazing on Native and Alien Plants. Conservation Biology. 17(6): 1681-1693.
[8] Van Dyne, G. M. and Heady, H. F. 1965. Botanical composition of sheep and cattle diets on a mature annual range. Hilgardia, 36: 465-470.
[9] Belnap, J., Rosentreter, R., Leonard, S., Kaltenecker, J. H., Williams, J. and Eldridge, D. 2001. Biological soil crusts: ecology and management. Technical Reference 1730-2. USDA BLM National Science and Technology

nitrogen-loving non-native species (Belsky and Gelbard, 2000), livestock reduce concentrations of soil mycorrhizae required by most western native taxa (Belsky and Gelbard, 2000), and livestock accelerate soil erosion that buries non-native seeds and facilitates their germination (Belsky and Gelbard, 2000).

The BLM should include a current inventory of invasive species and noxious weeds in the project area, surrounding area, and in the multiple prior locations of the cattle that are moved onto the allotments, so that the risks posed by the project can be fully analyzed in the NEPA documents. The distribution of invasive species on the allotment should be mapped. The contribution of historic and current cattle grazing on invasive species distribution on the allotment should be analyzed including the ongoing damage to sensitive biological soil crusts that can retard the spread of invasive plants. The cumulative impacts of past, current and future cattle grazing on the spread and establishment of invasive species must be fully analyzed.

Grazing and Fire:

The environmental documents should fully review the fire history of the area and connections between livestock grazing, fuel loads, and fire risks. There is extensive literature showing that livestock may increase the risks of high intensity fires by altering the dominance of shrub and forb species, reducing fine fuels, and by compacting soil and reducing moisture content and infiltration (see literature cited above in the invasive species comments). In addition to spreading weeds cattle leave copious amounts of dry waste behind. Cattle fecal pats readily ignite, are a common source of spot fires, and release extreme amounts of energy when burning (Scasta *et al*., 2014[10]).

Biological Resources:

The allotments and surrounding area are habitat for several rare and sensitive plant species including:

Alkali mariposa lily, *Calochortus striatus* CRPR 1B.2
Calico monkeyflower, *Mimulus pictus* CRPR 1B.2
California androsace, *Androsace elongata* ssp. *acuta* CRPR 4.2
Charlotte's phacelia, *Phacelia nashiana* CRPR 1B.2
Clokey's cryptantha, *Cryptantha clokeyi* CRPR 1B.2
Crowned muilla, *Muilla coronata* CRPR 4.2
Hoover's eriastrum, *Eriastrum hooveri* CRPR 4.2
Inland gilia, *Gilia interior* CRPR 4.3
Kelso Creek monkeyflower, *Mimulus shevockii* CRPR 1B.2
Kern Canyon clarkia, *Clarkia xantiana* ssp. *parviflora* CRPR 4.2
Kern County evening primrose, *Camissonia kernensis* ssp. *kernensis* CRPR 4.3
Kern River evening primrose, *Camissonia integrifolia* CRPR 1B.3

Center Information and Communications Group, P.O. Box 25047, Denver, CO 80225-0047. BLM/ID/ST-01/001+1730

[10] Scasta, J. D., Weir, J. R., Engle, D. M. and Carlson, J. D. 2013. Combustion of Cattle Fecal Pats Ignited by Prescribed Fire. Rangeland Ecology & Management, 67: 229-233.

Limestone dudleya, *Dudleya abramsii* ssp. *calcicola* CRPR 4.3
Mason's neststraw, *Stylocline masoni* CRPR 1B.1
Mojave tarplant, *Deinandra mohavensis* CRPR 1B.3
Onyx Peak bedstraw, *Galium angustifolium* ssp. *onycense* CRPR 1B.3
Palmer's mariposa lily, *Calochortus palmeri* var. *palmeri* CRPR 1B.2
Pinyon rock-cress, *Boechera dispar* CRPR 2.3
Rose-flowered larkspur, *Delphinium purpusii* CRPR 1B.3
Shevock's bristle-moss, *Orthotrichum shevockii* CRPR 1B.3
Shevock's golden-aster, *Heterotheca shevockii* CRPR 1B.3
Short bracted bird's beak, *Cordylanthus rigidus* ssp. *brevibracteatus* CRPR 4.3
Sierra monardella, *Monardella candicans* CRPR 4.3
Slender clarkia, *Clarkia exilis* CRPR 4.3
White pygmy-poppy, *Canbya candida* CRPR 4.2

In order to evaluate the on-the-ground situation, field surveys following established plant survey protocols are requisite. Surveys for the plants and plant communities should follow California Native Plant Society ("CNPS") and CDFW floristic survey guidelines[11] and should be documented as recommended by CNPS[12] and California Botanical Society policy guidelines. The full floral inventory of all species encountered in the surveys should be documented.

Vegetation mapping needs to occur at a large enough scale to be useful for evaluating grazing impacts. Vegetation mapping should be at such a scale to provide an accurate accounting of riparian, meadow and other unique areas and adjacent habitat types that will be directly or indirectly affected by the proposed action. A half-acre minimum mapping unit size is recommended, such as has been used for other projects. Habitat classification should follow CNPS' Manual of California Vegetation[13] and follow the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities[14].

Results from repeat surveys conducted in the appropriate season for each species should be provided in order to evaluate the existing project area conditions and to determine population trends. Due to unpredictable precipitation, arid-adapted organisms have evolved to survive in these harsh conditions and if surveys are performed at inappropriate times or year or in particularly dry years, many plants that are in fact on-site may not be apparent during single season surveys.

These plants are susceptible to being eaten by cattle, trampling by cattle, smothering by cow pats, and by cattle modification of habitat and local hydrology. The Field Office must ensure that adequate safeguards are in place to protect these species and their habitats and that any impacts to them are adequately mitigated. The NEPA analysis should disclose how many of the known populations of these species that occur on public lands are in grazing allotments.

[11] http://www.cnps.org/cnps/rareplants/inventory/guidelines.php and http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf
[12] http://www.cnps.org/cnps/archive/collecting.php
[13] http://www.cnps.org/cnps/vegetation/manual_2ed.php
[14] http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf

The NEPA document must also disclose and analyze impacts to the many special status wildlife species found in the project area. BLM Manual 6840 requires the BLM to manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat, by determining, to the extent practicable, the distribution, abundance, population condition, current threats, and habitat needs for sensitive species, and evaluating the significance of BLM-administered lands and actions undertaken by the BLM in conserving those species.

There are many rare and sensitive species found in the project area such as Le Conte's thrasher (*Toxostoma lecontei*), Southern Sierra legless lizard (*Anniella campi*), foothill yellow-legged frog (*Rana boylii*), sensitive bats species, and tricolored blackbird (*Agelaius tricolor*). Fay Canyon includes habitat for the listed southwestern willow flycatcher (*Empidonax traillii*) and potential habitat for the recently listed yellow-billed cuckoo (*Coccyzus americanus*).

Public Safety and Willful Trespass:

Cattle placed on the Fay Canyon allotment #00079 move onto Fay Ranch Road. This places residents at risk of being in vehicle/livestock collision, and may block emergency access into and out of this box canyon. Residents have expressed these valid concerns to the BLM and the Field Office must consider the public safety concern with cows wandering on Fay Ranch Road as a primary issue with renewing this Fay Canyon BLM allotment #00079.

Because the permit holder does not control his animals to stay within the allotment boundary, following their release on the allotment the livestock rarely are found on the allotment. The livestock predictably head west out of the allotment to the nearest part of the spring-fed Fay Creek on private property where water is flowing during the permit period. Fay Creek flows through private residential parcels, the private sanctuary Audubon Kern River Preserve, and through the Fay Canyon portion of the Canebrake Ecological Reserve managed by California Department of Fish and Wildlife. By issuing a permit to graze livestock on Fay Canyon allotment the BLM is enabling the permit holder to turn out his cattle at a time and place which makes it certain that they would leave the open public land and go at once to state land and private land. A 1911 Supreme Court case involved a rancher in Colorado who "turned his cattle out at a time and a place which made it certain that they would leave the open public lands and go at once to the [Forest] Reserve where there was good water and fine pasturage." The U.S. Supreme Court said: "Even a private owner would be entitled to protection against willful trespasses," and the open range laws "do not give permission to the owner of cattle to use his neighbor's land as a pasture." Light v. U.S., 220 U.S. 523 (1911).

The Fay Canyon allotment #00079 is immediately adjacent to the CDF&W managed land in the Canebrake Ecological Reserve in Fay Canyon, which would, if this EA is approved, be impacted by the "willful trespass" of the permit holder's livestock because the BLM allotment is not fenced and the permit holder does not control his animals that are immediately attracted away from the BLM allotment by Fay Creek, which is on the CDF&W and private lands, which are to the west of the BLM allotment.

The BLM Bakersfield RMP clearly states that, "The decisions outlined in this document will enable the BLM to manage and protect resources on public lands within the Bakersfield Decision Area to achieve desired future conditions and management objectives. Planning decisions in this document do not apply to state-, county- or privately-owned lands or other federal lands not managed by BLM." But in the case of the Fay Canyon allotment, if BLM authorizes the allotment's continued use by cattle it is authorizing the continued risk and impacts to public resources off those allotment lands as well. The BLM should therefore designate the Fay Canyon allotment #00079 as unavailable for livestock grazing.

Socioeconomic Values and Environmental Justice:

The analysis should consider the contribution that recreational uses of these lands make to the economic and social wellbeing of the community by providing opportunities for economic diversity. The BLM should consider the economic benefits of eliminating livestock grazing to the community not just the cost to individual permittees.

The NEPA analysis should include a cost-benefit analysis for the construction of any range developments.

Riparian Areas:

The NEPA documents should include maps showing all riparian areas, creeks, important washes, drainage ditches, flood zones, meadows, springs and any developed waters. The NEPA documents should fully document the condition of these important areas, including water quality, and document any prior impacts and measures that have been taken to mitigate these impacts so that the public and the decisionmaker can evaluate the likely effectiveness of the proposed action.

Climate Change:

As with the rest of the planet, land and habitats on these public lands are undergoing adaptation to climate change, which will affect the distribution and diversity of the species on the landscape[15]. In the western United States, both the frequency of heavy precipitation events and the frequency of periods of drought have increased over the past century (Christensen *et al*., Regional Climate Projections, IPCC Fourth Assessment[16]).

According to Secretary Jewell[17], "At Interior, we are more focused than ever on contributing to the climate change revolution – fostering clean energy development, reducing harmful carbon emissions, building climate resilient communities, recognizing the benefits of forests, wetlands, grasslands and oceans to carbon sequestration, and supporting investments in sound science." As part of the Department of Interior, this focus also applies to the BLM. The BLM must evaluate the alternatives in the context of climate change as both a baseline issue and a cumulative impact to the resources.

[15] http://www.epa.gov/wed/pages/projects/globalclimatechange/Vegetationredistribution.pdf
[16] http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter11.pdf
[17] https://www.doi.gov/pressreleases/secretary-jewell-statement-cop21-climate-framework-agreement

The livestock sector contributes a larger share of carbon emissions than does transport (Steinfeld *et al*., 2010[18]). The environmental analysis should document the expected greenhouse gas emissions from the project for each alternative over the ten-year life of the permit, and the contribution this project will make to overall greenhouse gas emissions on the Ridgecrest resource Area that contribute to global warming. Range cattle produce more greenhouse gas emissions (methane and carbon dioxide) than cattle in feed lots (Capper, 2012[19]).

The NEPA documents should disclose and analyze the changes that are likely to occur in the project area due to global climate change over the 10-year period of the proposed permit. While uncertainties remain regarding the timing and extent of impacts from climate change, modeling indicates that on average, California will likely experience higher temperatures in all seasons; longer dry periods; heavy precipitation events; more frequent droughts; and increased wildfire risk. These changes will affect the landscape of project area, especially riparian and water resources and the species that depend on them as well as the amount and availability of forage. Landscapes that are less fragmented provide greater opportunity for species to shift ranges without being blocked (Opdam and Wascher, 2004[20]). Fragmentation of the landscape through vegetation removal or grazing infrastructure such as fencing exacerbates the challenges that species are already dealing with in trying to adapt to a changing climatic regime. Permanent removal or reducing livestock would both alleviate a widely recognized and long-term stressor and make these public lands less susceptible to the effects of climate change (Beschta *et al*., 2012[21]; Beschta *et al*., 2014[22]).

Cumulative Effects:

The agency is required to consider the cumulative impacts of the proposed livestock grazing on the environment. 40 CFR §1508.7. The BLM should assess the cumulative impacts of other proposed projects in the area that will impact the same resources impacted by the proposed grazing. The cumulative effects analysis should include a frank evaluation of the increased risks of unauthorized off-road vehicle use and incursion consequent to the continued authorization of vehicle travel by the permittee.

Because re-authorizing livestock grazing on these allotments will have highly uncertain effects, will impact wilderness character, will impact sensitive resources, and threatens public

[18] Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., de Haan, C. 2006. Livestock's long shadow Environmental issues and options. 390 pp. Food and Agriculture Organization of the United Nations. Available at: ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf

[19] Capper, J. L. 2012. Is the Grass Always Greener? Comparing the Environmental Impact of Conventional, Natural and Grass-Fed Beef Production Systems. Animals, 2: 127-143. doi:10.3390/ani2020127

[20] Opdam, O. and Wascher, D. 2004. Climate change meets habitat fragmentation: linking landscape and biogeographical scale levels in research and conservation. Biological Conservation, 117: 285-29.

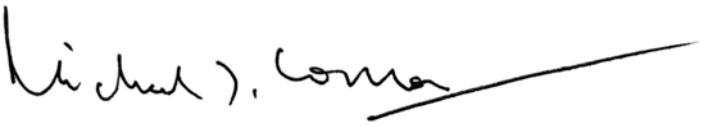
[21] Beschta, R. L., DellaSala, D. A., Donahue, D. L., Rhodes, J. J., Karr, J. R. O'Brien, M. H., Fleischner, T. L. and Deacon-Willams, C. 2012. Adapting to climate change on western public lands: addressing the impacts of domestic, wild and feral ungulates. Environmental Management, DOI 10.1007/s00267-012-9964-9

[22] Beschta, R. L., Donahue, D. L., DellaSala, D. A., Rhodes, J. J., Karr, J. R., O'Brien, M. H., Fleischner, T. L. and Williams, C. D. 2014. Reducing Livestock Effects on Public Lands in the Western United States as the Climate Changes: A Reply to Svejcar et al. Environmental Management, 53(6): 1039-1042.

safety, the BLM should be working with the public to close these allotments to further commercial livestock use. The BLM will need to complete a full environmental impact statement if it wishes to go forward with authorizing livestock grazing on these allotments.

Please continue to keep Western Watersheds Project, Sequoia ForestKeeper and Kern Kaweah Chapter of the Sierra Club informed of all further substantive stages in the NEPA process for these projects.

Sincerely,



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