Michael J. Connor, Ph.D.
California Director
P.O. Box 2364, Reseda, CA 91337-2364
Tel: (818) 345-0425
Email: mjconnor@westernwatersheds.org
Web site: www.westernwatersheds.org

*Working to protect and restore Western Watersheds*

By Email, Upload to Klamath National Forest Website, and CD by US Mail

July 4, 2014

Goosenest Ranger District
ATTN: Kelby Witherspoon
Goosenest Ranger District
37805 Hwy 97
Macdoel, CA 96058

Email: Kelby Witherspoon <kswitherspoon@fs.fed.us>

**Bray and Horsethief Grazing Allotment Project**
**Goosenest Ranger District**
**Klamath National Forest**

Dear District Ranger:

Western Watersheds Project, Klamath Forest Alliance, and Environmental Protection Information Center are pleased to provide the following scoping comments for the Bray and Horsethief Grazing Allotment Project on Goosenest Ranger District, Klamath National Forest ("Forest"). The legal notice for scoping for the project appeared in the May 6, 2014 Siskiyou Daily News, so these comments are timely. Please incorporate and address our concerns in your planning for this proposed livestock grazing project.

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 public lands, including the lands at issue here, and its wildlife, cultural and natural resources for health, recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project has over 1,400 members nationwide.

Klamath Forest Alliance is a non-profit grassroots conservation organization whose mission is to promote sustainable ecosystems and sustainable communities of the Klamath River Basin and surrounding watersheds. Klamath Forest Alliance's goal is to defend and protect the biodiversity, wildlife, waters and old growth forests of these wild and rugged watersheds. Since 1989, Klamath Forest Alliance has a history of vigilance in seeing that management agencies adhere to laws that safeguard our public lands, water and wildlife.

Environmental Protection Information Center ("EPIC") is a 501(c)3 nonprofit public interest organization that works to protect the long-term health of the ecosystems of Northern California. EPIC is dedicated to preserving, protecting, and restoring biodiversity, native species, watersheds and ecosystems in Northern California on behalf of its 3,000 members. EPIC's staff and members use and enjoy the national forests of Northern California, including Klamath National Forest, for recreational, scientific, educational, and aesthetic purposes. EPIC has actively opposed livestock grazing that harms watersheds and native species, such as salmon and steelhead. Grazing that degrades these resources impairs the use and enjoyment of the national forests in Northern California by EPIC's staff and members.

The governing Land Use Plan for this grazing project is the Klamath National Forest Land and Resource Management Plan ("LRMP") that was published in 1995 and amended in 2010. The project area is also within the 1994 Northwest Forest Plan planning area. The Bray allotment includes about 10,680 acres and the Horsethief allotment includes about 13,575 acres of Klamath National Forest Lands. The project area includes important riparian reserve, winter range, and late successional reserve lands. Horsethief allotment includes about 500 acres of northern spotted owl critical habitat. Both allotments include stream segments listed under 303(d) of the Clean Water Act.

Please consider and address the following issues and concerns in the NEPA documents for this grazing project.

***Need for an EIS***

The National Environmental policy Act ("NEPA") requires the preparation of a detailed Environmental Impact Statement ("EIS") for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C). To determine if a project will have a significant effect, the Forest Service may prepare an Environmental Assessment ("EA"). If the EA determines that there will be no significant effect, then an EIS need not be prepared. *Idaho Sporting Congress v. Rittenhouse*, 305 F.3d 957, 972 (9th Cir. 2002). If the Forest Service finds that impacts are significant, however, an EIS is required. *Id*.

The project area has many important and sensitive resources that are affected by commercial livestock grazing. Current monitoring indicates there are condition issues and failures to meet standards on some of the meadows but the review of these in the proposed action is vague at least in part because the Forest has not been monitoring most of the meadows. Both allotments include stream segments listed under 303(d) of the Clean Water Act. There are other special aquatic features such as a possible fen on Bull Meadow that need to be conserved.

Commercial grazing on public lands is highly controversial. In this case, the Forest is proposing to authorize livestock grazing in the Bray and Horsethief allotments for <u>an indefinite length of time</u>. In doing so, the Forest has elevated the level of controversy for this project.

Because of this project poses significant and unknown risks to the human environment and is highly controversial, the Forest should embark on the preparation of a full EIS immediately.

***Purpose and Need for Action***

Agencies are required to briefly specify the underlying purpose of and need for action in proposing alternatives including the proposed action. 40 C.F.R. § 1502.10 and § 1502.16. The Forest should clearly state the purpose and need for the project. While the proposed action for this project may be to reauthorize grazing on these two allotments, the purpose and need for the project is simply related to the need for the Forest to respond to a request for a grazing permit renewal. The Proposed Action erroneously implies that the need for this project arises from 36 CFR 222.2(c). That is incorrect. CFR 222.2(c) states "Forage producing National Forest System lands will be managed for livestock grazing and the allotment management plans will be prepared consistent with land management plans." There is nothing in that language that requires the Forest to continue authorize commercial livestock grazing on the Bray and Horsethief allotments.

The Forest must first determine if the two allotments are suitable and capable for livestock grazing. The Forest also needs to prepare new Allotment Management Plans ("AMP"). The existing and proposed AMPs should be compared and analyzed in the EA so that the effectiveness of all action alternatives can be evaluated.

***Capability, Suitability & Carrying Capacity***

The Forest needs to determine the current capability and suitability of the allotments for commercial livestock grazing and needs to establish if sustained grazing is possible at any level.

The LRMP defines suitable as, "Lands supporting vegetation that can be used by both domestic and wild grazing animals without damage to wildlife, soil, or water resource values will be designated as 'suitable for livestock grazing." LRMP S&G 23-2. Capability, specific to grazing, are lands accessible to livestock, producing forage or having inherent forage-producing capability, and able to withstand grazing on a sustained basis under reasonable management practices. By its very nature, capability changes with time so the Forest cannot rely on any capability and suitability determinations that were incorporated into the 1995 LRMP. A number of issues have come into play since 1995 including long-term drought, climate change, and fire. These must be factored into any suitability determination for any continued use of the allotment by livestock.

The Forest must also undertake capability and suitability determinations for all Management Indicator Species ("MIS").

***Consistency with the Federal, Regional, State, and Local Land Use Plans, Policies and Controls***

The President's Council on Environmental Quality NEPA implementing regulations require that any possible conflicts between the proposed action and the objectives of any other Federal, regional, State, and local land use plans, policies and controls for the area concerned be reviewed and analyzed. 40 C.F.R. § 1502.16 and § 1506.2(d). Therefore the Forest must evaluate the goals and objectives for each alternative for their compatibility with all the controlling

agreements and plans. The Forest is required to ensure that the proposed action is based on best available science and that it complies with the Land and Resource Management Plan, the Northwest Forest Plan, the Wilderness Act, the Migratory Bird Treaty Act, the NEPA, the NFMA, the Federal Land Policy Management Act ("FLPMA"), the Clean Water Act, the Endangered Species Act, and the National Historic Preservation Act, as well as other state and federal laws concerning public lands.

***Proposed Action - Term of Permit***

The Proposed Action ("PA") document includes the following extraordinary statement: "The Klamath National Forest proposes to authorize livestock grazing in the Bray and Horsethief Allotments for an indefinite length of time". PA at 6.

The Forest has no authority to grant any permits for any activity for "an indefinite length of time." This certainly true of grazing permits, as the Supreme Court of the United States has clearly reiterated on several occasions. The Forest Service code echoes this by stating, "Grazing permits and livestock use permits convey no right, title, or interest held by the United States in any lands or resources." 36 CFR 223(b). That code applies to Klamath National Forest too.

The Forest Service is authorized to issue term grazing permits and develop allotment management plans ("AMP") pursuant to the Federal Land Policy Management Act ("FLPMA") 43 U.S. Code § 1752. Allotment Management Plans prescribe the manner in, and extent to, which livestock operations will be conducted in order to meet the multiple-use, sustained-yield, economic and other needs and objectives as determined for the lands by the Secretary concerned. 43 U.S.C. 1702(k). Allotment management plans shall be tailored to the specific range condition of the area to be covered by such plan, and shall be reviewed on a periodic basis to determine whether they have been effective in improving the range condition of the lands involved. 43 U.S.C. 1752(d). The term length for grazing permits is clearly specified:

> Sec. 402. [43 U.S.C. 1752] (a) Except as provided in subsection (b) of this section, permits and leases for domestic livestock grazing on public lands issued by the Secretary under the Act of June 28, 1934 (48 Stat. 1269, as amended; 43 U.S.C. 315 et seq.) or the Act of August 28, 1937 (50 Stat. 874, as amended; 43 U.S.C. 1181a-1181j), or by the Secretary of Agriculture, with respect to lands within National Forests in the sixteen [P.L. 95-914, 1978] contiguous Western States, shall be for a term of ten years subject to such terms and conditions the Secretary concerned deems appropriate and consistent with the governing law, including, but not limited to, the authority of the Secretary concerned to cancel, suspend, or modify a grazing permit or lease, in whole or in part, pursuant to the terms and conditions thereof, or to cancel or suspend a grazing permit or lease for any violation of a grazing regulation or of any term or condition of such grazing permit or lease.

Section b allows issuance of term permits for shorter periods under certain conditions. In this case, given the lack of monitoring data that establishes that livestock grazing can occur "without damage to wildlife, soil, or water resource values" choosing a shorter term permit would appear appropriate.

***Desired Future Condition***

The Forest must use the best available science to define the desired future conditions for all vegetation communities in the project action area. Under LRMP S&Gs 23-10 and 23-11, rangeland resources should be expressed in terms of a desired ecological status developed on a site by-site basis, and native species should be used to define the desired future conditions.

The Forest should offer grazing strategies capable of achieving these desired future conditions within a specific timeframe. Vague statements such as the range is (or will be) "moving toward" the desired future condition are an inadequate disclosure of both the current and desired range condition. The NEPA documents should include maps showing current and desired conditions for soils, vegetation communities, meadows, springs, streams, special aquatic features, and other riparian areas.

***Monitoring***

The NEPA documents should disclose the results of prior and proposed monitoring efforts on the two allotments, and include a candid analysis of the limitations in interpretation of the Forest's monitoring data because of the limited number and non-representative locations of monitored key sites. Data should be tabulated. Data collected from areas while they were being rested from grazing should be clearly marked and treated as such. Quantitative data should be emphasized so that trends can be determined objectively. The NEPA documents should clearly disclose that evaluations such "Proper Functioning Condition" assessments are non-quantitative, subjective assessments.

The NEPA documents should explicitly explain the entire suite of implementation and effectiveness monitoring activities that will be used by the Forest for this project and provide specific schedules for those monitoring actions. Reliance on utilization monitoring is inadequate to determine impacts of livestock grazing to the full suite of plant and animal species, cultural resources, riparian resources and other resources present in the project area. The NEPA documents should disclose the results of prior biological and cultural surveys and the dates when these surveys were conducted.

***Adaptive Management***

Adaptive management is not "*ad hoc*" management but is management that is intrinsically dependent on extensive, carefully planned resource monitoring. Adaptive management requires explicit designs that specify problem-framing and problem-solving processes, documentation and monitoring protocols, roles, relationships, and responsibilities, and assessment and evaluation processes (Stankey *et al*., 2005).

The management options available to the Forest if monitoring shows that change is needed must be disclosed and evaluated within the project level NEPA analysis (Quimby, 2001). The Forest needs to do more than simply list proposed adaptive management actions but must identify the specific monitoring criteria ("triggers") that will require implementation of those actions (Nie and Schultz, 2011). The Forest cannot simply claim that a specified action will

result in a "move towards desired condition" but must provide science-based justification. Nor can the Forest rely on utilization monitoring as a trigger because this simply a measure of forage use and is a completely inadequate metric to monitor impacts to the full suite of sensitive resources present.

According to the PA, "The Klamath National Forest proposes to authorize livestock grazing in the Bray and Horsethief Allotments for an indefinite length of time under updated allotment management plans (AMP) that incorporate an adaptive management strategy (AMS) and project design features." The NEPA analysis must include a clear definition of what Forest means by this term "Adaptive Management Strategy". It should document the specific actions and triggers, and a frank analysis of the expected success of this adaptive management.

The two allotments are within the Goosenest Adaptive Management Area. If Adaptive Management is effective, why does the Proposed Action include actions such as: "Evaluate status/condition of the possible fen site in Bull Meadow, and implement appropriate adaptive management techniques"? PA at 5. If adaptive management provisions have not been effective in preventing resource in the immediate past, why is the Forest continuing down this path?

The NEPA analysis should include a frank and honest review of the Forest's ability to provide the intensive monitoring that is required for effective adaptive management. Simply proposing that the Forest will use future "adaptive management" to address existing resource conflicts is inadequate disclosure under NEPA. *Western Watersheds Project and Randall Hermann v. United States Forest Service* CV-05-189-E-BLW.

***Alternatives***

The NEPA implementing regulations refers to the selection and review of alternatives as "the heart" of the environmental review. 40 C.F.R. § 1502.14. Comparison of the alternatives helps in "sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public." The regulations provide clear guidelines on how to select alternatives:

> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
> (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
> (d) Include the alternative of no action.
> (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
> (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

NEPA requires that an agency "succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration." 40 C.F.R. § 1502.15. Without a stable and detailed description of the baseline environmental conditions there is nothing with which to compare the alternatives considered. Therefore, in order to make an informed decision that complies with NEPA over whether to authorize livestock grazing on these allotments or not, the Forest must compare its proposed action with current management (which provides the existing baseline conditions) and "no grazing" which would permanently end grazing on these allotments. For all action alternatives, please include required range riding so as to protect riparian and forage resources. We expect that the Forest will conclude that the no grazing alternative is the environmentally preferable alternative.

The Forest should also consider the following obvious and reasonable alternatives:

**(A) Reduced Stocking Rate Alternative**

Because so much of the grazing occurs in meadows and other sensitive areas the Forest should consider a reduced stocking rate alternative. The stocking rate will be set at 50% of the average actual use over the last term permit.

**(B) Actual Use Alternative**

Under this alternative, the authorization would be restricted to average actual use over the prior permit period. Analysis of this alternative would ensure that the environmental baseline for comparison of the proposed action is a reality-based baseline.

**(C) No Adaptive Management**

Under this alternative livestock grazing would be authorized on the two allotments at the same stocking levels and season of use as the proposed action. However, this alternative would not incorporate an adaptive management strategy but would instead rely on the standard tools available to the District Ranger to correct and avoid resource impacts. This alternative would provide the essential baseline to determine the likely efficacy of the proposed adaptive management strategy.

***Current Management & Actual Use***

The NEPA documents should describe current grazing management and actual use of the allotments including any reductions in annual authorized use that have been made in response to resource conditions. The documentation should include maps of use areas, maps of problem areas; a complete inventory of range developments including fences, corrals, water developments, and use of supplements; a description of movement of cattle onto and off the allotments; and the relationship between grazing on these allotments and adjacent allotments. Please provide an estimate of the miles of fences, and the source and volume of the water that is used to maintain commercial livestock grazing on the two allotments.

***Proposed Action – Grazing Management***

The Forest should include copies of the current and the proposed Allotment Management Plans in the NEPA document. The proposed action should be described with sufficient detail for

the reader to clearly understand what is being proposed and why it is being proposed. The NEPA documents should explain the need for any new range developments, the likely effectiveness of those developments, the expected life-span, include the cost-benefit analysis for each new development (required under LRMP S&G 23-5), and explain the monitoring program that will determine their effectiveness.

Because the grazing management system employed may profound, specific environmental impacts, the Proposed Action must fully disclose the grazing management system, which the permittee and Forest Service are proposing to use. The NEPA documents should include large-scale maps of all proposed range developments and expected concentrated use areas. The NEPA documents should explain how cattle will be moved around the allotments and disclose all impacts from those movements.

***Management Indicator Species & Sensitive Species***

In order to comply with NFMA and the LRMP, the Forest must conduct an effects analysis for LRMP Management Indicator Species in order to assess the effects of the proposed management activities on their populations and the populations of other species with similar habitat needs which they may represent. FSM2620.

The LRMP requires that "Project areas should be surveyed for the presence of sensitive species before project implementation. If surveys cannot be conducted, project areas should be assessed for the presence and condition of sensitive species habitat." LRMP at 4-22. The project area also includes special aquatic features that should be surveyed for amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens and arthropods.

***Biological Resources - Animals***

The project area provides important habitat for wildlife including several special status species and at least two federally listed species. Livestock grazing and grazing-related infrastructure may directly, indirectly and cumulatively impacts these species through direct trampling and disturbance of individuals, habitat disturbance, competition for forage, loss of cover, sedimentation/dust deposition, changes in shrub density, loss of prey species, spread of invasive plants and weeds, increased fire-risk (reviewed in Belsky and Gelbard, 2000), increased numbers of subsidized predator/competitors such as coyotes and ravens, and changes in hydrology and water quality. Fences and range developments may fragment habitat and populations. Rodents are important prey items for many raptures and meso-predators. Field research has shown that light to moderate grazing reduces rodent density and diversity (for examples see Jones, 2000; Moser and Witmer, 2000).

The Forest Service should provide baseline documentation of all surveys for special status species conducted in the project area so that the site-specific effects of the proposed action and alternatives can be evaluated. The Forest Service must ensure that adequate safeguards are in place to protect wildlife and their habitats, and that any impacts are adequately mitigated.

The California Natural Diversity Database ("CNDDB") lists occurrences of the state-threatened, Forest Service sensitive, greater sandhill crane, *Grus canadensis tabida*; the federal and state listed Gray wolf, *Canis lupus*; the northern goshawk, *Accipiter gentilis*; American marten, *Martes americana*; and pallid bat, *Antrozous pallidus*, in and adjacent to the project area. There are many other species that are expected to occur on these allotments.

**Northern Spotted Owl, *Strix occidentalis caurina*.**

The Forest has the responsibility under the Endangered Species Act to work to recover listed species. Threatened northern spotted owls occur in the project area and Horsethief allotment include designated critical habitat. The NEPA documents should disclose all impacts from the project to the owls and their critical habitat, and how those impacts will be mitigated.

Ravens are potential northern spotted owl predators/competitors (Forsman *et al*. 1984). Ravens benefit from livestock presence and will preferentially use stock tanks and livestock troughs. How do water systems and cattle primary use areas influence northern spotted owl in the project area? Are any of the proposed developments and cattle primary use areas within northern spotted owl Activity Centers?

The *Revised Recovery Plan for the Northern Spotted Owl* lists livestock grazing as one of the anthropogenic activities that have altered the landscape, and have so altered the patterns of vegetation and fuels and subsequent disturbance regimes, that contemporary landscapes no longer function as they did historically (2011 Revised Recovery Plan at III-22 to III-23[1]). The Forest must consider prior grazing in its cumulative effects analysis and should calculate the amount of critical habitat that has been adversely affected by livestock grazing activities.

**Gray Wolf, *Canis lupus*.**

The Gray wolf is listed under the state and federal Endangered Species Acts. Gray wolves are documented in the project vicinity: a new pack has become established in the Rouge-Siskiyou National Forest, just over the state line and one of those wolves, OR-7, has made California part of his home range for part of the last four years including making use of habitat on Horsethief allotment. The State of California fully expects the state's wolf population to increase and repopulate in California within the next decade (CDFG, 2011[2]). Gray wolves are key apex predators whose presence on the Forest will help restore the balanced ecosystem that is so important in maintaining biodiversity on these public lands.

Under teh ESA, the Forest Service is independently responsible for decisions affecting a listed species. 16 U.S.C. § 1536(a)(1) & (2). In addition to agency obligations to protect listed species under the Endangered Species Act, the LRMP specifically directs the Forest to "Assist in recovery efforts for Threatened and Endangered species". LRMP at 4-6. Gray wolves were hunted almost to extinction precisely because they are apex predators that on occasion will take

[1] http://www.fws.gov/arcata/es/birds/nso/documents/USFWS2011RevisedRecoveryPlanNorthernSpottedOwl.pdf
[2] CDFG. 2011. Gray Wolves in California: an Evaluation of Historical Information, Current Conditions, Potential Natural Recolonization and Management Implications. California Department of Fish and Game. 36 pp. Online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=76636&inline=1

livestock. The Ranger District should consider the risks posed by renewing the grazing leases on gray wolf. Wolf recovery in the state reiterates the need to require permit holders to provide range riders.

**Willow Flycatcher, *Empidonax traillii*.**

The state-endangered willow flycatcher is a Management Indicator Species and Region 5 sensitive species. Surveys for willow flycatcher are a monitoring requirement of the 1994 LRMP.

**Humboldt Marten, *Martes caurina humboldtensis***.

On June 20, 2014 the USFWS announced it was initiating a status review of the Humboldt marten[3]. The NEPA analysis should consider the effects of the proposed grazing project on marten prey and other food items. The diet of Humboldt martens includes mammals (in 93 percent of scats) and berries (in 85 percent of scats), birds (in 21 percent of scats), insects (in 20 percent of scats), and reptiles (in 7 percent of scats) (USFWS, 2012[4]). Martens are also susceptible to predation by grazing-subsidized predators such coyotes (*ibid*.).

**Fisher, *Martes pennanti*.**

The project area is within the range of the imperiled fisher. The USFWS is undertaking a status review of the West Coast Distinct Population Segment of the Fisher (commonly known as the "Pacific fisher")[5], and this candidate species will likely be listed as endangered or threatened before the grazing decision is implemented.

Fishers are opportunistic predators with a diverse diet, which includes birds, squirrels, hare, mice, shrews, voles, reptile, insects, deer carrion, vegetation, and fruit (Zielinski *et al*., 1999; Powell *et al*., 2003). Livestock and livestock grazing activities attract and subsidize cowbirds and ravens which impact small birds and other fisher prey. Livestock impact Fisher foraging habitat by inhibiting regeneration of oak trees (see: Borchert *et al*., 1989; Pavlik *et al*., 1992) and other hardwoods, and inhibiting the growth of herbaceous and shrub vegetation that is needed to support an adequate prey base.

Livestock grazing impacts riparian ecosystems, a key fisher habitat. Riparian areas are very important to fishers because they provide important rest site elements, including broken tops, snags, and coarse woody debris. Riparian areas are also known to provide vital transportation corridors for fishers. Riparian areas with intact vegetation are not only important

[3] http://www.fws.gov/cno/press/release.cfm?rid=623

[4] USFWS. 2012. Endangered and Threatened Wildlife and Plants; Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the Humboldt Marten as Endangered or Threatened. Federal Register March 19, 2013, 78(53): 168284-16829. Online at: http://www.fws.gov/arcata/es/mammals/HumboldtMarten/documents/Humboldt_Marten_90_Day_Finding_FR Doc. 2012-479.pdf

[5] USFWS. 2013. Endangered and Threatened Wildlife and Plants; Status Review of the West Coast Distinct Population Segment of the Fisher as Endangered or Threatened. Federal Register March 19, 2013, 78(53): 168284-16829. Online at: http://www.gpo.gov/fdsys/pkg/FR-2013-03-19/pdf/2013-06214.pdf

resting sites and transportation corridors but also provide important habitat for a number of fisher prey species. Grazing may impact riparian vegetation, reduce cover in riparian zones necessary for fishers, reduce regeneration of riparian trees, shrubs, and emergent vegetation, reduce structural diversity, all important habitat elements necessary for the terrestrial birds that fishers hunt. Cattle can reduce the structural diversity of fisher resting sites, denning sites, foraging areas, and dispersal areas in oak woodlands, riparian zones including meadows, and mountain ridges and other landscape features used as transportation corridors.

Habitat connectivity is important to maintaining fisher within a landscape. "Riparian corridors (Heinemeyer and Jones, 1994) and forested saddles between major drainages (Buck, 1983) may provide important dispersal habitat or landscape linkages for the species" (USFWS, 2003[6]). Fishers will probably use patches of preferred habitat that are interconnected by other forest types, whereas they will not likely use patches of habitat that are separated by sufficiently large open areas (Buskirk and Powell, 1994).

The Fisher has undergone an extensive range contraction in California and its population is now fragmented into isolated southern and northwestern populations. Moreover, public-land range conditions have generally worsened in recent decades perhaps due to the reduced productivity of these lands caused by past grazing in conjunction with a changing climate (Beschta *et al*., 2012; Beschta *et al*., 2014).

**Other Wildlife:**

The project area provides important habitat for native ungulates. Big game hunting is a popular, dispersed recreational activity that provides economic returns to the region. Cattle compete with deer and elk for resources (Kie *et al*., 1991; Loft *et al*., 1991; Stewart *et al*., 2002).

***Birds Protected Under the Migratory Bird Treaty Act***

The project area provides habitat for birds protected under the Migratory Bird Treaty Act ("MBTA"). The MBTA protects individual migratory birds and their nests, not populations. "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, ... <u>any migratory bird, any part, nest, or egg of any such bird</u>". 16 USC § 703(a) (our emphasis added). The correct threshold of significance for effects to migratory birds is whether an action complies with the take prohibition in the MBTA.

The Forest Service entered into a Memorandum of Understanding ("MOU") with the U.S. Fish and Wildlife Service to guide the protection and conservation of migratory birds on Forest Service administered lands. Among other things, the MOU requires the Forest Service to evaluate the impacts of agency actions on migratory birds during the NEPA process, and to mitigate the incidental take of migratory birds or their nests. Specifically, as part of the NEPA process, the Forest Service must:

[6] USFWS. 2003. Endangered and Threatened Wildlife and Plants; 90-day Finding for a Petition to List a Distinct Population Segment of the Fisher in Its West Coast Range as Endangered and to Designate Critical Habitat. Federal Register July 10, 2003 68(132): 41169-41174. Online at: http://ecos.fws.gov/docs/federal_register/fr4123.pdf

> Consider approaches, to the extent practicable, for identifying and minimizing take that is incidental to otherwise lawful activities, including such approaches as…altering the season of activities to minimize disturbances during the breeding season.

MOU at 7.

Accordingly, the NEPA analysis should include taking a hard look at impacts to migratory birds. The U.S. Fish and Wildlife Service maintains a list of birds protected under the MBTA on its website.[7]

***Biological Resources - Plants***

There are a number of rare plants found on the allotments and the project vicinity and the project area includes important, sensitive plant habitats. 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[8] and should be documented as recommended by CNPS[9] 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[10] and follow the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities[11].

Results from repeat surveys 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.

Rare plants recorded in the CNDDB and the LRMP that occur on the allotments and environs include:

Greene's mariposa-lily, *Calochortus greenei*, RPR 1B.2
Columbia yellow cress, *Rorippa columbiae*, RPR 1B.2

---

[7] http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html – accessed January 3, 2013.
[8] 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
[9] http://www.cnps.org/cnps/archive/collecting.php
[10] http://www.cnps.org/cnps/vegetation/manual_2ed.php
[11] http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf

Three-ranked hump moss, *Meesia triquetra,* RPR 4.2

The Forest Service needs to perform a site-specific review and analysis of the effects of the proposed action and alternatives on each of these species. These plants are susceptible to being eaten by cattle, trampling by cattle, and by cattle modification of habitat and local hydrology. Three-ranked hump moss grows in wet meadows that the Forest frequently claims are little grazed by cattle, but the CNDDB description of the population just south of Bray allotment shows evidence of heavy impacts from cattle. The site-specific review and analysis is also required to comply with NFMA, 16 USC 1600 *et seq*., its implementing regulations, and the LRMP. The Forest Service 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 the National Forest are in grazing allotments.

***Riparian Areas, Springs, and Meadows***

The NEPA documents should include maps showing all special aquatic features such as fens, riparian areas, meadows, springs, and developed waters on the allotments. 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.

Direct effects of grazing on riparian areas include increased sediment deposition in streams, water quality impacts such as elevated levels of fecal coliform bacteria, head-cutting and localized changes in hydrology, breakdown of stream banks, disturbance and/or destruction of streambeds, destruction of riparian vegetation, and impairment of the ability of riparian vegetation to recover. Indirect effects include alteration of fire intervals which affect plant reproduction, changes to microenvironments including nutrient cycling and thermal effects, and increase risks for spread and establishment of invasive species.

The NEPA documents should fully describe the extent, chronology, and any past remediation for impacts to riparian resources. The NEPA analysis should also discuss how these riparian impacts were supposed to be managed under the prior grazing decisions for these allotments. This will be valuable in determining the likely effectiveness of any proposed adaptive management.

***Cumulative Watershed Effects and Water Quality***

The Forest should conduct a cumulative watershed effects ("CWE") analysis for the watersheds in the project area. The NEPA documents should disclose the percent of equivalent roaded acres in the watershed, the threshold of concern, the natural suitability index, and how the allotment (combined with both past and anticipated future projects on both private and public land) will impact these key indices. The documents should also discuss the measures that will be taken to eliminate or reduce these effects. The documents should describe the condition of the watersheds in terms of CWE, ownership patterns, land disturbance history, sensitive habitat, and

other issues. In addition, the documents should disclose when, and how many, surveys have been conducted in these watersheds and whether or not these field surveys suggested upgrading the risk of cumulative watershed effects in the affected watersheds. The documents should consider the cumulative impacts of past, present, and future projects (including those on private land) within these watersheds and discuss ways to minimize or eliminate these impacts.

Cattle can severely impact watersheds and water quality (Derlet *et al*., 2010). The Forest must consider the impacts of the proposed action and each alternative on water quality.

The NEPA documents must include full consideration of the local segments of the Klamath, Shasta, Butte Valley, Butte Creek rivers that are listed under Clean Water Act Section 303(d).

***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 streams, which will harm the fisheries habitats, fish, and aquatic invertebrates in these 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; Osborn *et al*., 1987). 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 NEPA documents should disclose how much of the project area has 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. It should explain how LRMP direction has been implemented in the project area.

***Invasive Species***

The Forest must include a current inventory of invasive species and noxious weeds in the project area, surrounding area, and the 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. Cattle are effective agents in dispersing exotic species and may disperse more than an order of magnitude more seeds than elk and deer per animal (Bartuszevige and Endress, 2008). Cattle break soil crusts and deplete native plant species that may reduce the ability of invasive species to become established. The risks of the spread and establishment of noxious weeds by cattle must be fully

analyzed effects for the proposed action and alternatives. 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. The analysis should consider any risks associated with allowing cattle to graze private land inholdings within the allotments that may host exotic species.

Livestock and livestock grazing operations facilitate locally increased populations of predatory species such as ravens and coyotes that are subsidized by anthropogenic resources. Results from the Breeding Bird Survey indicate that the raven population is increasing. The EA should consider effects of this on rare and special status species.

***Grazing and Fire***

The environmental documents should fully review the connections between livestock grazing, fuel loads, and fire risks. There is an 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 (Belsky and Blumenthal, 1997). 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).

***Recreation***

The NEPA documents should consider the impacts of livestock, fences and other equipment associated with livestock production on recreation. This should include impairment of the visual and esthetic experience, water quality issues, fear of encounters by hikers, and disturbance of wildlife and wildlife viewing by the presence of domestic livestock and range improvements, and impacts to hunting.

***Climate Change***

As with the rest of the planet, land and habitats on Klamath National Forest are undergoing adaptation to climate change, which will affect the distribution and diversity of the species on the landscape[12]. 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[13]).

The Forest Service must evaluate the proposed decision in the context of climate change as both a baseline issue and a cumulative impact to the resources. Including such an analysis is required by the Forest Service's own policy. See U.S. Forest Service, Climate Change Considerations in Project Level NEPA Analysis, memorandum from Forest Service Chief Abigail Kimbell dated January 13, 2009 ("*This document provides initial Forest Service*

[12] http://www.epa.gov/wed/pages/projects/globalclimatechange/Vegetationredistribution.pdf
[13] http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter11.pdf

*guidance on how to consider climate change in project-level National Environmental Policy Act (NEPA) analysis and documentation*.")

The livestock sector contributes a larger share of carbon emissions than does transport (Steinfeld *et al*., 2010). 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 Klamath National Forest that contribute to global warming. Range cattle produce more greenhouse gas emissions (methane and carbon dioxide) than cattle in feed lots (Capper, 2012). 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 from Klamath National Forest.

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). 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. Removing or reducing livestock would both alleviate a widely recognized and long-term stressor (Derlet *et al*., 2010) and make these public lands less susceptible to the effects of climate change (Beschta *et al*., 2012; Beschta *et al*., 2014).

***Economic Analysis***

The NEPA analysis should consider the contribution that recreational uses of these lands make to the economic and social wellbeing of people by providing opportunities for economic diversity for communities that depend on range resources (FSM 2202.14). he Forest must also consider the economic benefit of eliminating livestock grazing to the local community not just the cost to one or two individual ranchers. The economic analysis should include considering the benefits to the local community of having unimpaired wilderness quality lands and water with improved hunting and recreational opportunities that would be engendered by the removal of cattle and range developments. The forage consumed by livestock should be valued in terms of the value of deer and other wildlife species that are displaced, and the loss of important revenue generating hunting and wildlife watching opportunities (USFWS *et al*., 2011[14]).

The LRMP requires that a cost-benefit analysis be conducted for construction of any range developments. LRMP S&G 23-5(4).

[14] USFWS. 2011. U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. 122 pp. including app. On-line at: https://www.census.gov/prod/2012pubs/fhw11-nat.pdf

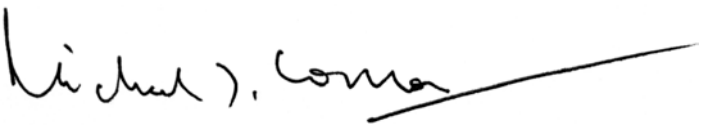
***Cumulative Impacts***

The NEPA analysis needs to consider the cumulative impacts of all other grazing authorizations and ground-disturbing projects on Klamath National Forest so that it can fully analyze the contribution that this grazing allotment project makes to the cumulative impacts to sensitive resources. This must be done so that all the sensitive resources found in the project area are protected against the impacts of incremental grazing decisions.

Western Watersheds Project, Klamath Forest Alliance, and Environmental Protection Information Center thank you for this opportunity to assist Klamath National Forest by providing scoping comments for this proposed grazing project. We have uploaded/emailed copies of the literature we have cited or have provided links to publically available materials on government websites. Please consider all the submitted literature in the NEPA analysis.

We ask the Forest to post the various specialist reports on the Forest website as these are prepared since these specialist reports will form the basis for the analysis presented in the draft NEPA documents. Please send copies of the forthcoming NEPA documents to all of our offices. If you have any questions on our comments please feel free to contact me by telephone (818-345-0425) or by email at <mjconnor@westernwatersheds.org>.

Sincerely,



Michael J. Connor, Ph.D.
California Director
WESTERN WATERSHEDS PROJECT
P.O. Box 2364
Reseda, CA 91337-2364
818-345-0425
<mjconnor@westernwatersheds.org>

Kimberly Baker
Executive Director
KLAMATH FOREST ALLIANCE
P O Box 21
Orleans, CA 95556
707-822-7711

<kimberly@wildcalifornia.org>

Natalynne DeLapp
Executive Director
ENVIRONMENTAL PROTECTION INFORMATION CENTER
145 G. St., Suite A
Arcata, CA 95521
<natalynne@wildcalifornia.org>

## References.


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.

Belsky, A. J. and Blumenthal, D. M. 1997. Effects of livestock grazing on stand dynamics and soils of upland forests of the interior west. Conservation Biology, 10(5): 315-327.

Belsky, A. J. and Gelbard, J. L. 2000. Livestock Grazing and Weed Invasions in the Arid West. Oregon Natural Desert Association, Bend, OR. 31pp.

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

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.

Borchert, M. I., Davis, F. R, Michaelsen, J. and Oyler, L. D. 1989. Interactions of factors affecting seedling recruitment of blue oak (*Quercus douglasi*) in California. Ecology, 70: 389-404.

Broadhead, W. 1999. Cattle, Control, and Conservation. Cultural Resource Management, 22: 31-32.

Buskirk, S. W. and Powell, R. A. 1994. Habitat ecology of fishers and American martens. Pp. 283-296. in Buskirk, S.W., A.S. Harestad, M.G. Raphael, and R.A. Powell (editors), Martens, sables, and fishers: biology and conservation. Cornell University Press, Ithaca, NY.

Derlet, R. W., Goldman, C. and Connor, M. J. 2010. Reducing the Impact of Summer Cattle Grazing on Water Quality in the Sierra Nevada Mountains of California: A Proposal. Journal of Water and Health, 8(2): 326-333.

Forsman, E. D., Meslow, C. E. and Wight, H. M. 1984. Distribution and biology of the spotted owl in Oregon. Wildl. Monogr., 87: 1-64.

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

Kie, J. G., Evans, C. J., Loft, E. R. and Menke, J. W. 1991. Foraging behavior by mule deer: the influence of cattle grazing. J. Wild. Management, 55: 665-674.

Loft, E. R., Menke, J. W. and Kie, J. G. 1991. Habitat Shifts by Mule Deer: the Influence of Cattle Grazing. Journal of Wildlife Management, 55(1): 16-26.

Moser, B. W. and Witmer, G. W. 2000. The effects of elk and cattle foraging on the vegetation, birds, and small mammals of the Bridge Creek Wildlife Area, Oregon. International Biodeterioration & Biodegradation, 45(3-4): 151-157.

Nie, M. and Schultz, C. 2011. Decision Making Triggers in Adaptive Management. Report to USDA Pacific Northwest Research Station. 65 pp.

Olson, D. M., DellaSala, D.A., Noss, R.F., Strittholt, J. R., Kaas, J., Koopman, M. E. and Allnutt, T. F. 2012. Climate change refugia for biodiversity in the Klamath-Siskiyou ecoregion. Natural Areas Journal, 32: 65-74.

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.

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.

Pavlik, B. M., Muick, P. C., Johnson, S. G. and Popper, M. 1991. Oaks of California. Los Olivos, CA: Cachuma Press.

Powell, R. A., Buskirk, S. W. and Zielinski, W. J. 2003. Fisher and marten. Wild Mammals of North America: Biology, Management, and Conservation, pp. 635-649.

Quimby, C. 2001. A Practical Approach to Adaptive Management with a Specific Focus on Livestock Management NEPA Based Decisions. Forest Service Rocky Mountain Region. Available at: http://www.swrcb.ca.gov/water_issues/programs/nps/docs/wqmp_forests/mtg082410/adpt_mngt.pdf

Stankey, G. H., Clark, R. N. and Bormann, B. T. 2005. Adaptive management of natural resources: theory, concepts, and management institutions. Gen. Tech. Rep. PNW-GTR-654. Portland, OR: U.S.D.A. Forest Service, Pacific Northwest Research Station. 73 pp.

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. Online at: ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf

Stewart, K. M., Bowyer, R. T., Kie, J. G., Cimon, N. J. and Johnson, B. K. 2002. Temporospatial distributions of elk, mule deer, and cattle: resource partitioning and competitive displacement. Journal of Mammalogy, 83(1): 229-244.

Zielinski, W. J., Duncan, N. P., Farmer, E. C., Truex, R. L., Clevenger, A. P. and Barrett, R. H. 1999. Diet of fishers (*Martes pennanti*) at the southernmost extent of their range. Journal of Mammalogy, 80: 961-971.