



January 12, 2023

William A. Dunkelberger, Forest Supervisor
Intermountain Region, USFS
324 25th Street, Ogden, Utah 84401

Submitted Via Email: objections-intermtn-regional-office@usda.gov

Re: Santa Rosa Rangeland Management Project Draft Decision Objection

Dear Mr. Dunkelberger,

Thank you for accepting this Objection of the Santa Rosa Rangeland Management Project Draft Decision on behalf of Western Watersheds Project (WWP). The mission of WWP is to protect and restore western watersheds and wildlife through education, public policy initiatives, and legal advocacy. Our 12,000 members and supporters, many who live in the state of Nevada and frequent the Santa Rosa Mountains, have a particular interest in this project due to the sensitive wildlife resources located in and near the project area.

The 45-day Objection Period started on November 30, 2022 when notice was published in the Great Basin Sun. This Objection is timely filed within the 45 day window.

This Objection is filed pursuant to, and in compliance with, 36 C.F.R. Part 218, Subparts A and B. All parties to this objection have filed timely, specific and substantive written comments in accordance with 36 C.F.R. 218(a).

As required by 36 C.F.R. § 218.8(d), Objectors provide the following information:

1. The name and contact information for the Objector is listed below.
2. This Objection was written on behalf of Objector, Adam Bronstein whose signature and contact information is below.
3. Western Watersheds Project is the Objector. Adam Bronstein is the Lead Objector for purposes of communication regarding this Objection.

Adam Bronstein



4. The project that is subject to this Objection is “Santa Rosa Rangeland Project EA.” The Responsible Official is Boyd Hatch, District Ranger for the Santa Rosa District.
5. Objector submitted timely, specific, and substantive comments during the scoping and NOPA comment periods. All of the issues raised in this Objection have been raised in previous comments and that were not rectified as part of the Draft Decision. These earlier comments are attached and incorporated into this document.
6. In the following Statement of Reasons, Objector provides the specific reasons why the decision is being appealed and the specific changes or suggested remedies that he seeks, along with the related evidence and rationale on why the decision violates applicable laws and regulations.

NOTICE OF OBJECTION

Pursuant to 36 C.F.R. § 218, Western Watersheds Project is filing an Objection regarding the Draft DN/FONSI for the Santa Rosa Management Project EA in the Santa Rosa District of the Humboldt-Toiyabe National Forest.

STATEMENT OF REASONS

1. An EIS is Required

An environmental impact statement (EIS) must be undertaken where impacts from the proposed action have the potential to be significant. 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.3. The Council on Environmental Quality's (CEQ) regulations define "significance" in terms of "context" and "intensity." *Id.* § 1508.27. "Context" means the significance of the action must be analyzed in several contexts (national, regional, and local), and include short- and long-term effects within the setting of the proposed action. *Id.* § 1508.27(a). "Intensity" refers to the severity of the impact and requires consideration of a number of factors listed in CEQ's regulations.

For example, the potential for disease transmission to bighorn sheep from cattle is known as are the potentially devastating impacts of such disease transmission, this is a unique risk that must be adequately addressed in an EIS before any decision can be made. 40 C.F.R. § 1508.27(b)(5) (degree to which effects are highly uncertain or involve unique or unknown risks). In addition, there is a substantial dispute about the importance and effect of keeping these lands open to cattle grazing and the proposal is significant under this intensity factor as well. 40 C.F.R. § 1508.27(b)(4) (effects controversy).

The cumulative significance factor is also triggered here: "Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 C.F.R. § 1508.27(b)(7). The NEPA decision-making process is designed to address significant effects that could otherwise be masked by "the tyranny of small decisions." *See Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1078 (9th Cir. 2002); *Pac. Coast Fed'n of Fishermen's Ass'ns v. Nat'l Marine Fisheries Serv.*, 265 F.3d 1028 (9th Cir. 2001).

In order to properly assess the potential impacts of grazing on the totality of the Santa Rosa District, the Forest Service must analyze the impacts of all twelve permit renewals in a single EIS. NEPA establishes that federal agencies must take such a comprehensive "hard look" by evaluating in a single EIS all actions that are "connected" or "similar"—meaning they have "common timing or geography"—or when they may have "cumulatively significant" impacts. *See* 40 C.F.R. § 1508.25(a)(2)-(3), § 1508.27(b)(7) & § 1508.7. Agencies—like the Forest Service—violate these NEPA requirements when they fail to address cumulative impacts of a proposed action along with effects of past, present or reasonably foreseeable future actions. *See Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985) (reversing for failure to analyze impacts of

related road and logging projects together); *Carmel-by-the-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1160-61 (9th Cir. 1997) (reversing because agency failed “both to catalogue adequately past projects in the area, and to provide useful analysis of the cumulative impact of past, present and future projects” with the proposed project); *Save the Yaak Comm. v. Block*, 840 F.2d 714, 720 (9th Cir. 1988) (an “assessment of connected actions is necessary even if the impact of the proposed action is not significant”).

Here, the Forest Service has decided to reauthorize grazing on 12 allotments covering 288,314 acres of public land that encompasses an entire ranger district, impacting threatened and sensitive species for a period of ten years. This constitutes a significant action and therefore an EIS is required. The FS appropriately conducted EISs for grazing reauthorizations in the Martin Basin and projects on the Jarbidge Ranger District and this project should be no exception. In sum, the Forest Service cannot rely on an EA to analyze the impacts of this action; it must complete an EIS.

Additionally, unique characteristics are present in the form of designated wilderness—the Santa Rosa-Paradise Peak Wilderness. There are also cumulatively significant impacts to several wildlife species, including sage-grouse. There are likely to be significant impacts to a number of other public resources as well. These include but are not limited to: pygmy rabbit, migratory birds, native plant species, wilderness, bighorn sheep, mule deer, antelope and elk, Lahontan cutthroat trout, riparian areas (and other ecologically critical areas), water quality, air quality, climate impacts, scenery, and recreation.

Remedy: Vacate the EA Draft Decision and develop an EIS.

2. Effects Analysis

In an EA or EIS, an agency must fully analyze all direct, indirect, and cumulative impacts from a proposed action in its environmental analysis. 40 C.F.R. § 1502.16. "Direct effects" include those "which are caused by the action and occur at the same time and place." *Id.* § 1508.8(a). "Indirect effects" include those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." *Id.* § 1508.8(b). "Cumulative impacts" result from the "incremental impact of the action" on the environment "when added to other past, present, and reasonably foreseeable future actions regardless of what agency [] or person undertakes such other actions." *Id.* § 1508.7. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. *Id.* Cumulative impact analyses include private, state, and federal action. *Id.*

Underlying all of NEPA's procedural requirements is the mandate that agencies take a "hard look" at all environmental impacts and risks of a proposed action. *See Natural Res. Def. Council*

v. Morton, 458 F.2d 827, 383 (D.C. Cir. 1972). This review cannot be superficial, but rather agencies must take this "hard look" in light of comments submitted by the public as well as high-quality scientific information. This "hard look" standard ensures the agency gathers the needed factual information and provides sufficient information to support its conclusions.

NEPA requires that the information an agency uses in conducting its environmental review must be "of high quality," and agencies "must insure the professional integrity, including scientific integrity," of their discussions and analyses, and "shall identify any methodologies used" and "scientific and other sources relied upon for their conclusions. *Id.* §§ 1500.1(b) and 1502.24. "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." *Id.* § 1500.1(b).

The Forest Service's planning regulations also emphasize science-based decisionmaking and require the use of the "best available scientific information." 36 C.F.R. §§ 219.1(c), 219.3. As the Forest Service acknowledged in the Martin Basin FEIS, "[o]ur scientific understanding of the impacts of grazing has evolved, and we need to incorporate this knowledge into our grazing management system." FEIS at S-2. This is still true, and the Forest Service must do so here. As one example, the reliance on limited and older sage-grouse science as it pertains to livestock grazing and habitat requirements did not permit the Forest Service to properly analyze the effects of the Draft Decision.

Remedy: As part of an EIS and in accordance with the regulations, please document "what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered." 36 C.F.R. § 219.3.

3. Flexible Grazing

The NOPA backed away from the initial proposal as part of scoping to authorize a year-round season of grazing use, but it has replaced that proposal with an effectively equal proposal that made its way into the Draft Decision, which would essentially authorize grazing during any time that it could practically occur. The Forest Service proposes to allow grazing during the snow-free months of March to November.

The EA aligns with a recent trend to allow "flexibility" in grazing on public lands. However, it is fraught with accountability issues, does not allow the Forest Service or the public to appropriately evaluate the environmental impact of grazing, and is fundamentally inconsistent with the concept of federal trustee management. It is also unnecessary because the Forest Service already has the ability to adjust grazing yearly based on environmental conditions. What

is the source of authority to allow flexible seasons of use? WWP does not know of any such authority.

Allowing permittees to decide when they will graze their livestock on public lands removes one of the few measures of accountability that permittees have to the agency and to the public. The ability to know when and where livestock are authorized is the most straightforward way for managers and the public to provide oversight of grazing on public lands. Even under the current system of defined seasons of authorized use, it can be difficult for the public to know for sure when livestock are authorized in a given location. To its credit, the Humboldt-Toiyabe National Forest makes an effort to post AOIs for each ranger district to its website to provide annual management terms to the public. However, in many cases, AOIs are not all posted until grazing for the year is well underway, particularly for allotments that have an earlier turnout date, and in some years, some AOIs are never posted. If permittees can choose when to graze at any point during a nine-month authorized season of use, allowable season of use becomes insider information from which the public is cut off. Even the Forest Service will be hampered in knowing that information, monitoring livestock use, and ensuring compliance with permit terms and conditions.

Further, and even more importantly, if seasons of use are not defined, there is no way to accurately consider what the impacts of grazing are, or monitor trends that would allow the Forest to make corrections or changes. Domestic livestock have very different impacts on different resources at different times of the year. There are many relevant examples. The impacts of allowing grazing of native grasses in the spring during their critical growth and reproductive cycles are different from grazing them in the fall, after they have set seed.

Allowing livestock in occupied LCT streams has a different impact to fish if they are spawning, or rearing, and in some cases, they may be present in certain reaches only during certain times of the year. Grazing in late spring and early summer impacts native wildlife during their breeding and nesting seasons, or when they have young offspring, while grazing in winter habitat may impact their wellbeing during that critical time, even when livestock are not present. Livestock have different impacts to uplands and riparian areas during mid-summer than they do during spring or fall. Grazing during sage-grouse nesting season has different impacts than grazing during late-brood rearing season. How can the Forest Service accurately analyze these impacts, to inform its own management and for disclosure to the public, if it does not know when grazing will occur in any given allotment? How will the Forest Service know what to correct if grazing harms resources?

Allowing private ranchers to choose when they will graze public lands is also an abrogation of the Forest Service's role as administrator of national forests. The federal government does not allow factories to choose how much waste water they will discharge, or allow timber companies

to choose how many trees they will log. The Forest Service is a regulatory agency and permitting private interests to remove “forage” from lands owned by all Americans is necessarily a prescriptive exercise of its responsibility. Rather than delegate its authority manage national forests to private ranchers, the Forest Service has the duty to manage activities that impact vegetation, water, and wildlife as a trustee of those resources for the public. As noted elsewhere (below) in this document, Congress made clear in FLPMA, which applies to grazing permits on national forests, that seasons of use are mandatory terms and conditions of grazing permits. 43 U.S.C. § 1752(e); Hodel, 618 F. Supp. at 869–70. The Humboldt Forest Plan also notes that grazing permits “specify ... the season of use.” LRMP at II-12. The Martin Basin Rangeland Project FEIS shows what the actual permitted seasons of use have been up to this point.

Finally, there is ample ability under the Forest Service’s current system of defining allowable seasons of use to provide for yearly adjustments because of soil condition, precipitation, and other considerations.

Remedy: As part of an EIS, the Forest Service must adopt an alternative that mandates fixed seasons of use. In addition, direct, indirect and cumulative impacts to affected species during this use period must be thoroughly understood.

4. Measurable Use Standards

The EA includes utilization and stubble height standards, but they are too permissive to protect sensitive resources based on scientific literature. The EA also fails to include a standard for bank alteration, which is critical to protect riparian species, water quality, and watershed function.

WWP advocates for the inclusion of a standard for riparian stubble height. But 4” is not sufficiently protective of sensitive resources, which requires a minimum of 6” of residual stubble height.¹ Requiring only 4” of residual vegetation is also very likely a decrease in protection from percentage utilization requirements under the existing regime, at a minimum for many sedge and rush species (which are common and desired native riparian species) in most management category classes.² For example, for Baltic rush and Nebraska sedge that would have been previously subject to a 35-45% utilization standard in most areas of the allotments at issue, those utilization rates would have resulted in a 9–15” residual stubble height.³ By the time

¹ Clary and Webster (1989) Managing grazing of riparian areas in the Intermountain Region. General Technical Report. INT-263. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station, 11 p.

² Kinney J. and Clary, W. (1994). A photographic Utilization Guide for Key Riparian Graminoids. USDA, Forest Service. Intermountain Research Station. General Technical Report INT-GTR-308.; Cowley, E.R. (1999). Stubble Height Based on Height-Weight Curves for Nine Key Riparian Graminoids.

³ Cowley

4” of residual stubble height is reached for many species, 70% utilization by weight will occur. Also, under Amendment II, maximum utilization rates by management category are only to be applied when plant communities are at the desired condition—not the case in many areas of the Santa Rosa allotments, including many upland springs and seeps. What is the justification for only requiring 4” of stubble height?

The blanket upland utilization standard of 50% is too high to protect native species. Holechek, citing various other sources, denotes that a utilization rate of around 25-35% is needed “for high nesting success by sage-grouse”⁴ as well as 35% generally for arid and semi arid areas; and Braun (2006)⁵ recommends no more than 30% utilization in sage-grouse habitat. What is the rationale for the proposed action to allow 50%? This is at least 15% higher than recommended for semi-arid areas and for sage-grouse habitat.

Further, in order to incorporate the best available science, as described below, and to comply with the 2015 Sage-grouse LRMP amendment, which the NFMA Assessment makes clear applies to this action,⁶ the permits need to incorporate a 7” upland residual perennial grass stubble height standard through June 15, as “should be applied” in sage-grouse breeding and nesting habitat per GRSG-LG-GL-035-Guideline, Table 3 in the 2015 Amended LRMP.⁷ ROD at 82. Likewise, a 4” upland residual stubble height standard needs to be applied in the same habitat areas after nesting occurs, from June 16 to October 30. *Id.*

The Draft Decision should have incorporated a bank alteration standard of 10% for every permit. This is a crucial metric for riparian health, especially related to aquatic species.⁸ The Fish and Wildlife Service described the importance of bank stability in the Martin Basin BO:

Streambank damage can reduce or eliminate fish habitat associated with banks (Armour 1977, Kauffman et al. 1983, Matthews 1996), alter stream morphology such as pool/riffle and width/depth ratios (Gunderson 1968; Platts 1979, 1991; Overton et al. 1994; Myers and Swanson 1995; Knapp and Matthews 1996; Lyons et al. 2000; Herbst et al. 2012), and cover spawning areas with sediment which reduces survival of fish embryos (Phillips et al. 1975; Myers and Swanson 1996a, 1996b; Wood and Armitage 1997; Herbst et al. 2012). In some areas of the affected allotments, particularly in meadows, hoof shear led to bank collapse, removing a habitat component important to

⁴ Holechek, J. L., R. D. Pieper, C. H. Herbel. 2010. RANGE MANAGEMENT: PRINCIPLES AND PRACTICES. 6th ed. Prentice-Hall. Upper Saddle River, NJ.

⁵ Braun, C. (2006). A Blueprint for Sage-grouse Conservation and Recovery. Grouse, Inc. Tucson, AZ. 42.pp.

⁶ NFMA assessment at p.4, FN 6: “[T]his action refers to the 2015 Greater Sage Grouse Record of Decision for Idaho and Southwest Montana, Nevada and Utah and Land Management Plans for these areas”

⁷ Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3855559.pdf

⁸ Bridger-Teton NF whitepaper; Goss, L.M. and Roper, B.B. 2018. The Relationship Between Measures of Annual Livestock Disturbance in Western Riparian Areas and Stream Conditions Important to Trout, Salmon, and Char. Western North American Naturalist, 78(1):76-91. <http://www.bioone.org/doi/full/10.3398/064.078.0108>

trout. Increased sedimentation due to this collapse may decrease pool volume downstream, eliminating other important habitat (Duff 1983, McIntosh et al. 2000). Cattle grazing in watersheds supporting listed aquatic species could increase predation of fish by birds and mammals because of the effect the cattle have on streambanks. Channels become wider, shallower, and cover is eliminated on the banks and within the channel. Fish are more exposed and vulnerable to predation due to lack of escape cover.

Martin Basin BO at 27. In order to protect streambanks, a mandatory Term and Condition for Reasonable and Prudent Measure Number 1 in the Incidental Take Statement required that “livestock streambank alteration levels shall not exceed 10% within all pastures and allotments with occupied or essential stream reaches for LCT.” BO at 35. The Martin Basin ROD adopted that 10% bank alteration standard. What is the rationale for removing this streambank alteration that was previously in place? The Humboldt LRMP requires that the Forest Service achieve 90 percent bank stability for streams where LCT are present, and Amendment II requires it for Class I riparian areas. The Environmental Protection Agency commented on the Martin Basin FEIS that “[e]stablishing a 10 percent maximum streambank disturbance criterion for all streams inhabited by Lahontan cutthroat trout is a crucial mitigation measure.”⁹ How can the Forest Service ensure bank stability without a bank alteration standard?

The proposed 35% utilization rate for riparian woody vegetation is an increase for all allotments and pastures from the allowances under Amendment II, and significantly increases browse levels for many allotments that have previously been subject to a 20% riparian browse standard. See Martin Basin FEIS at 20–21. While 30-35% use may be an acceptable level of use for riparian areas in excellent condition, that is not the case for all of the allotments and pastures in the Martin Basin, and probably the other allotments outside the Martin Basin as well, and will contribute to the stagnation of riparian ecological condition at nonfunctional or functioning at risk in those areas.

Remedy: Change the utilization standards as part of all permits terms and conditions to comply with the LRMPA, Forest Plan (as amended) and rely on the best available science where clear direction cannot be found.

5. Forest Plan Amendments

The Forest Service did not properly implement Amendment II

The National Forest Management Act (NFMA) “requires that national forest planning ‘provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.’ ” *Seattle Audubon Soc. v.*

⁹ EPA Comments at 1-2 (2010)

Moseley, 798 F. Supp. 1484, 1489 (W.D. Wash. 1992), *aff'd sub nom. Seattle Audubon Soc. v. Espy*, 998 F.2d 699 (9th Cir. 1993) (citing 16 U.S.C. § 1604(g)(3)(B)). “[W]hen the section is read in light of the historical context and overall purposes of the NFMA, as well as the legislative history of the section, it is evident that section 6(g)(3)(B) requires Forest Service planners to treat the wildlife resource as a controlling, co-equal factor in forest management.” *Id.* (citing Charles F. Wilkinson & H. Michael Anderson, *Land and Resource Planning in the National Forests*, 64 Or. L. Rev. 1, 296 (1985)).

Under the 2012 planning rule, the agency is supposed to write land management plans that are “sustainable, integrated resource management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas.” 36 C.F.R. § 219.1(b). Consequently, the Forest Plan “must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.” 36 C.F.R. § 219.9(a)(1). The Forest Plan must also “include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area.” 36 C.F.R. § 219.9(a)(2). And, the regulations specifically require plan components “to maintain or restore[] ... [r]are aquatic and terrestrial plant and animal communities.” *Id.*

Specifically, the 2012 Planning Rule requires the Forest Service to first “determine whether or not the plan components . . . provide the ecological conditions necessary to . . . maintain a viable population of each species of conservation concern within the plan area.” 36 CFR 219.9(b)(4). If the Forest Service “determines that the plan components . . . are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.” In short, species-specific plan components—including those addressing species of conservation concern—compliment, and do not replace or supplant, the Forest’s general obligation under NFMA to “maintain” and “restore” the ecological integrity and diversity of native ecosystems and species across the planning area.

The Forest must also use the information gathered through the assessment process to develop forest-wide objectives and standards that minimize the adverse effects of grazing wherever it is authorized. 36 C.F.R. § 219.7(e)(1).

The NFMA and 1982 planning rule requires that plans provide for diversity of plant and animal communities “based on the suitability and capability of the specific land and in order to meet multiple-use objectives” 16 USC 1604 (g)(3)(B). The applicable 1982 regulation also requires that planning provide for diversity of plant and animal communities, consistent with multiple-use objectives. The regulations also provide that habitat are to be managed to maintain

viable populations of native and non-native vertebrates (16 USC 1604 (g)(3)(B); 36 CFR 219.26; 36 CFR 219.19).

We oppose the decision to amend the Humboldt Forest Plan to eliminate the applicability of Amendment II to the Santa Rosa Ranger District—apparently without ever having applied it in any meaningful way during the past 30 years. Amendment II provides a nuanced system of management that sets use levels according to grazing system, riparian values, and riparian condition. Because many pastures and allotments are in poor condition, applying blanket utilization rates to every allotment will result in higher levels of use in many areas. Referring to Amendment II, it is clear that the proposed action would set the herbaceous utilization standard for all areas at essentially the highest level for any habitat group and ecological condition class: 50%. Martin Basin FEIS at 25. The same is true for woody browse. *Id.*

Amendment II also provided that riparian grazing would be prohibited during the hot season (mid-July through August) for at least one of every three years.

Another aspect of Amendment II that is missing from the decision and would be missing if Amendment II was abandoned is the potential for adaptive management if monitoring revealed that a site had become more degraded or was trending downward. Instead of automatically applying a lower utilization rate to match that degraded site condition, the proposed action is silent as to what would happen in that situation, and it does not provide for lesser utilization levels.

The Forest Service has not provided any compelling rationale for the elimination of Amendment II, and the adoption of a less protective system of defining acceptable use.

a. Maximum Forage Utilization

The H-T disregards the maximum forage utilization standards for upland and riparian areas set forth in its 1990 Amendment II when determining percent utilization for key species in the EA. For uplands:

2. “The maximum utilization levels would normally be used only where the plan community is at or near the desired future condition.” And 3. “The listed value is the maximum rate which can be prescribed unless otherwise approved by the Forest supervisor”. *Id.* at 4.

The Draft Decision is not consistent with Amendment II. This includes specific direction for Class I riparian areas. While the scoping notice does not identify that the utilization levels

prescribed by Amendment 2 are strictly mandatory, previous interpretation by the Forest Service in the 2009 Martin Basin FEIS recognizes that the utilization levels from Amendment 2 are:

maximum within season utilization levels on riparian and upland forage use based on the grazing system that is being employed on the allotment. These utilization levels are applied as within season triggers that require the movement of livestock from the area when these levels are reached. Amendment 2 states that the listed utilization levels are “the maximum rate which can be prescribed unless otherwise approved by the Forest Supervisor.” These utilization levels are also envisioned as maximum default levels.

FEIS at 4. In addition to utilization level, and as discussed above, Amendment II sets requirements for bank stability which must be ensured through percentage bank alteration limits in the permits.

b. *Ecological Scorecards*

The H-T does not have ecological scorecards available so it must use, at a minimum, ecological condition trend, which the Forest has documented. Most allotments on the Santa Rosa Ranger District have significant percentages of sites that are not meeting desired conditions. In many allotments, only roughly half of areas are meeting desired conditions, and no allotment is meeting desired conditions on more than 85% of sites: Buffalo: 74%, Buttermilk: 77%, Granite Peak: 67%, Indian: 42%, Lamance: 59%, Martin Basin: 72%, North Fork: 42%, Paradise: 50%, Quinn River: 74%, Rebel Creek: 53%, West Side Flat: 51%, Wild Bill: 85%. See guidance as follows:

Page IV-32: Insert the following as the second paragraph in the column under Standards and Guidelines: in the absence of scorecards to define specific standards for vegetation condition, the minimum standard for satisfactory ecological condition is defined as either: 1) excellent or good range condition; or 2) fair range condition with an upward trend.

Other considerations

The Forest Service is poised to authorize higher utilization allowance for woody species on LCT streams than Amendment II allows.

The selected alternative does not comport with the following Amendment II provisions:

IV-48 Standard - Causes of riparian degradation will be eliminated

IV-49 Standard - Proper use criteria will be established that will protect or enhance riparian

Unless stocking rates are restricted from current use, livestock with direct access to streams will render both standards unattainable.

The Forest Service plans to unlawfully amend the Forest Plan through an “effective” amendment as part of this project

By not adhering to Amendment 2 for utilization, ecological health, riparian and species standards as outlined, the Forest Service is in effect amending the Forest Plan. The EA does admit as much and states:

Instead of applying the riparian utilization standards in Amendment 2, the proposed project-specific amendment would apply an average stubble height of 4-inches at the end of grazing season on herbaceous species across all wetlands, riparian areas, and meadows across the project area.

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To legally amend the H-T Forest Plan, the Forest Service must make the case why it needs to deviate from the Plan. The Forest has failed to make such a case and provides no/minimal justification through the identification of new information, changed circumstances or conditions that would warrant the weakening/changing of standards. § 219.14 requires a rationale, explanation of sustainability requirements, and discussion of how the best available scientific information was used to inform planning. Planning framework in the CFRs is outlined below and must be followed:

§ 219.5 Planning framework.

219.5 (2) (ii) The process for amending a plan includes: preliminary identification of the need to change the plan, development of a proposed amendment, consideration of the environmental effects of the proposal, providing an opportunity to comment on the proposed amendment, providing an opportunity to object before the proposal is approved, and, finally, approval of the plan amendment. The appropriate NEPA documentation for an amendment may be an environmental impact statement, an environmental assessment, or a categorical exclusion, depending upon the scope and scale of the amendment and its likely effects.

219.13 (b) *Amendment process*. The responsible official shall:

(1) Base an amendment on a preliminary identification of the need to change the plan. The preliminary identification of the need to change the plan may be based on a new assessment; a monitoring report; or other documentation of new

information, changed conditions, or changed circumstances. When a plan amendment is made together with, and only applies to, a project or activity decision, the analysis prepared for the project or activity may serve as the documentation for the preliminary identification of the need to change the plan;

§ 219.14 Decision document and planning records.

(a) *Decision document.* The responsible official shall record approval of a new plan, plan amendment, or revision in a decision document prepared according to Forest Service NEPA procedures (36 CFR 220). The decision document must include:

- (1) The rationale for approval;
- (2) An explanation of how the plan components meet the sustainability requirements of § 219.8, the diversity requirements of § 219.9, the multiple use requirements of § 219.10, and the timber requirements of § 219.11;
- (3) A statement of how the plan, plan amendment, or plan revision applies to approved projects and activities (§ 219.15);
- (4) The documentation of how the best available scientific information was used to inform planning, the plan components, and other plan content, including the plan monitoring program (§ 219.3);

Remedy: Vacate the Draft Decision and conduct a lawful analysis as part of an EIS that upholds Amendment II provisions.

6. Actual Use

Long-term actual use data is not considered when establishing baseline information comparing current conditions of forage resources and rangeland health. Current conditions are a result of actual use. There is a world of difference between what is authorized on paper and real-world stocking rates. No mention of using actual use data to determine stocking rates is to be found in the EA. “Actual use” is only mentioned once in the EA under the Design Elements chapter. *See* Rangeland Management section, referencing permittee reporting requirements. “Actual use reports are required to be submitted within 30 days after the seasonal off date for livestock.” *Id.* at 17. The Forest Service cannot begin to understand what future conditions would look like under this authorization without properly considering actual use information from the past.

Remedy: To satisfy the “hard look” requirement under NEPA, the Forest Service must utilize actual use data as part of their analyses and adjust permitted stocking rates accordingly. The FS must go back and conduct a proper analysis for each allotment.

7. Capability, Suitability, Carrying Capacity & Stocking Rates

In its EA and Draft Decision, the Forest Service authorizes substantially more head months (HM) for each allotment than were authorized previously. A new category of “maximum head months” increases the HMs available for each allotment by several hundred to several thousand, increasing the total HMs authorized for the ranger district by 10,516—or 26%. These additional HMs would supposedly be activated under “special circumstances” when “ample forage” is available. This category of maximum HMs for each permit must be eliminated because there is no rational basis for allowing increased grazing, as detailed below. In fact, the EA does not even justify continued grazing at previously authorized levels.

- a. The Forest Service has not demonstrated that it correctly determined the capability and suitability of the allotments for livestock grazing.

As WWP detailed in its comments, the Forest Service was required to analyze the capability and suitability of the allotments for livestock grazing. Several factors suggest that the agency improperly inflated the number of acres it deemed capable and suitable for cows.

First, the Forest Service has not demonstrated that it applied the correct criteria for determining capable acres on these allotments. One element of determining acres that are capable of being grazed requires eliminating land that cannot be reached by cows because it is too steep. The Humboldt LRMP uses a 30% slope cut-off for cows. Instead, the Forest Service used a 40% slope cut-off for cows, stating that it relied on 2004 Region 4 guidance to do so. However, when WWP requested this 2004 Region 4 Desk guide, the Forest Service provided a Region 2 Desk guide appendix instead. Region 4 guidance from 1998 and 2001 shows that the agency was using a 30% slope cutoff for C&H allotments in Region 4 at that time (Carter et al. 2020). Accordingly, the Forest Service has not shown that it appropriately disregarded the 30% slope criterion for C&H allotments required by the Humboldt LRMP and Region 4 guidance. Further, when coupled with the currently-accepted production cut-off of 200 lbs/acre, some of the Santa Rosa allotments or pastures may have virtually no capable grazing acres. For example, Buffalo allotment has only 645 acres out of 21,395 total acres that have less than 30% slope and produce more than 50 lbs/acre of forage (3%). Thus, there are likely even fewer acres on that allotment that have less than 30% slope and produce more than 200 lbs/acre. And because the analysis is not broken down by pasture, some relatively flatter pastures likely disguise effectively ungrazeable pastures in the same allotment when averaged.

In relying on its 2007 capability and suitability analysis (now 15 years old), the Forest Service says only that “nothing has changed” since 2007 that would require an updated analysis. This statement is baseless given the extreme drought during most of that period, fires, increased recreation by the public, changing public values, continued degradation, better understanding of

sensitive species' habitat requirements, higher quality mapping programs, better vegetation production data, better soil mapping, continued spread of invasive annual grasses, and other factors.

- b. The EA has no valid carrying capacity analysis to determine appropriate baseline AUMs.

Throughout its scoping process and in its Notice of Proposed Action, the Forest Service proposed to allow increased grazing to take advantage of “excess forage” that it claimed may be available on the allotments. While it has now replaced the “excess forage” language with the equally vague moniker “ample forage,” its premise remains the same—there is more grass available for cows than the past grazing permits authorized. The problem is that the Forest Service has not completed the basic range management planning to show that this is true.

WWP requested that the Forest Service conduct this carrying capacity analysis at several points in its earlier comments. Now, without having done so, it cannot justify increasing grazing levels based on extra resources when it has not answered the question of how much forage is available in a normal year.

An elementary stocking rate analysis would require the Forest Service to determine how many acres in each allotment were realistically capable of commercial grazing (as discussed above), measure forage production on those acres based on the applicable ecological site descriptions, apply a harvest coefficient, and thereby obtain an estimate of the number of HMs available for grazing in a normal year. Nowhere does the EA discuss any process to determine how much grazing the allotments can withstand.

As one illustration, again looking at the Buffalo allotment, the baseline stocking rate that would be authorized under the EA and draft decision could be as high as less than one acre per HM. Using the criteria found in the Humboldt LRMP with perennial water, only 645 capable acres exist on the Buffalo allotment, yet 652 HMs would be authorized normally, and up to 884 HMs might be authorized in a year when the Forest Service determined that “ample forage” was available. In the Great Basin, these stocking rates are unsustainable by any measure.

Authorized HMs
645 capable acres/652 HMs=
.98 acres/HM

Maximum HMs
645 capable acres/884 HMs=
.73 acres/HM

- i. *Given the lengthened seasons of use, authorized HMs are likely already an increase from past grazing.*

In its comments, WWP also asked for data documenting the actual amount of grazing that had taken place under the terms of the previous grazing permits. This “actual use” information is important because it was the actual level of grazing that occurred—rather than the level authorized—that resulted in current conditions, which in many areas reflect serious ecological degradation. These actual use data are also very important to consider because they would likely show that grazing permittees grazed fewer HMs than their permits allowed because of shorter seasons of use than now proposed. With the lengthened seasons of use that the Forest Service is now poised to allow, permittees will very likely be able to utilize all their authorized HMs most years because they have 1-3 additional months to graze. Thus, even with no change to permitted baseline HMs, the Forest Service’s new grazing regime will result in higher grazing than in the past. Thus, the allowance of additional HMs up to the maximum HMs as proposed must be viewed in light of this hidden increase in baseline authorized HMs.

- ii. *Current conditions on the allotments show that even the past level of HMs cause serious ecological problems.*

Current ecological conditions on the allotments demonstrate that past levels of grazing were already unsustainable, and that increases in grazing are clearly unreasonable. In short, most allotments have significant percentages of sites that are not meeting desired conditions. In many allotments, only roughly half of areas are meeting desired conditions, and no allotment is meeting desired conditions on more than 85% of sites. This snapshot provides no basis for increasing grazing pressure:

Buffalo: 74%
Buttermilk: 77%
Granite Peak: 67%
Indian: 42%
Lamance: 59%
Martin Basin: 72%
North Fork: 42%
Paradise: 50%
Quinn River: 74%
Rebel Creek: 53%
West Side Flat: 51%
Wild Bill: 85%

- c. The EA includes no explanation of how maximum HMs were calculated and the criteria for authorizing excess HMs in a given year are vague and subjective.

Nowhere does the EA explain how the Forest Service arrived at the number of maximum HMs that the permits will allow. This number seems to be pulled from thin air or based on an across-the-board ~20% increase from the baseline HMs. An agency must provide some rational explanation of how it calculates figures such as this. Moreover, even if the Forest Service had conducted a robust carrying capacity and stocking rate analysis that justified a category of maximum HMs that could be used in some years (it has not), there is no quantified or objective process for activating additional HMs. According to the EA, the Forest Service will rely on “annual indicators.” Which annual indicators? Where? When? What must they indicate? How will the Forest Service decide that “special circumstances” are present, and that there is “ample forage” available? This vague, subjective process cannot withstand review.

- d. The Forest Service cites no authority for its authorization of additional head months, and none exists in the regulations.

Finally, WWP does not believe that the Forest Service’s regulations allow for increased grazing above authorized HMs on an annual basis and has found no authority for this action. The EA and draft decision also provide none.

In conclusion, the Forest Service proposal to increase grazing by more than 25% on the Santa Rosa Ranger District is unlawful. The increase is unwarranted based on degraded ecological conditions caused by grazing at previously authorized levels; unexplained at even a basic level; and would be applied through a vague and subjective process. Further, no regulation allows the agency to authorize ephemeral grazing above baseline levels. The Forest Service’s analysis of grazing capability and suitability, failure to consider carrying capacity or stocking rate, and its approval of increased grazing are arbitrary and capricious.

Remedy: The Forest Service must 1) remove the category of maximum HMs from the proposed decision; 2) conduct a valid capability and suitability analysis based on the correct criteria; and 3) conduct a carrying capacity and stocking rate analysis to determine if current vegetation resources and conditions dictate reductions, rather than increases, in authorized grazing.

8. NFMA Compliance

The Forest Service’s issuance of grazing permits and plan amendment must comply with all applicable laws, including NFMA, NEPA, the Clean Water Act, the Wilderness Act, and the ESA. 36 C.F.R. § 219.1(f). Congress enacted the National Forest Management Act in 1976 to reform the Forest Service’s management of the National Forest System, including by requiring greater recognition of wildlife in its multiple-use management, and to direct the agency to provide for greater public participation in forest management. NFMA directs the agency to

“develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest system.” 16 U.S.C. 1604(a).

The Forest Service manages grazing through a permit system under the Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1784, and NFMA implementing regulations. 36 C.F.R. Part 222. The Forest Service divides each allotment into units. The agency may authorize (or not authorize) different levels of grazing on each allotment or pasture. It may also alter times of grazing and levels of use from one grazing season to the next. The Forest Service authorizes and manages livestock grazing on specified allotments by issuing (1) a grazing permit pursuant to 43 U.S.C. § 1752(a) and 36 C.F.R. § 222; (2) an Allotment Management Plan pursuant to 43 U.S.C. § 1752(d) and 36 C.F.R. § 222.1(b); and (3) AOIs.

Under NFMA, all site-specific decisions (such as grazing authorizations) must be consistent with the Forest Plan. 16 U.S.C. § 1604(i), 36 C.F.R. § 219.15. Additionally, each project or activity approval document must describe how the project or activity is consistent with applicable plan components. *Id.* § 219.15(d).

The following forest plan goals, objectives, and standards were not fully analyzed nor implemented:

- “manage Lahontan cutthroat trout habitat to maintain or enhance their status”? LRMP at IV-5
- “Improve the quantity and quality of stream habitats.” LRMP at IV-4
- Improve the current productive level of wildlife habitat with emphasis on maintaining or improving limiting factors such as big game winter ranges. LRMP at IV-4.
- Establish and maintain desert bighorn sheep range and numbers. LRMP at IV-5.
- Manage all allotments to maintain suitable range presently in satisfactory ecological condition, and improve suitable range that is in less than satisfactory condition. LRMP at IV-5.
- Develop grazing systems which include periodic rest, where possible. LRMP at IV-5.
- Develop an acceptable balance between the available grazing capacity and livestock numbers through proper monitoring of allotment management plans, to insure that resource objectives are met. LRMP at IV-6
- Manage livestock to recognize the special needs relating to wet meadows and riparian areas, and fisheries habitat. LRMP at IV-6
- Reduce conflicts between livestock and wildlife for forage on key winter ranges. LRMP at IV-6.
- Maintain sensitive plant species. LRMP at IV-6.
- Emphasize control of noxious weeds. LRMP at IV-7.
- Comply with state water quality standards during land management activity. LRMP at IV-8.
- Secure instream flows of perennial streams and springs needed for maintenance of riparian and aquatic habitats. LRMP at IV-8.

- Design and implement practices on-the-ground that will re-establish acceptable soil, hydrologic, and vegetative conditions which are sufficient to secure and maintain favorable water flow. IV-9
 - Return degraded riparian ecosystems to their natural condition through completion of inventoried watershed restoration projects and implementation of grazing systems. IV-9.
 - Strive to achieve and maintain at least 90% of the natural bank stability for streams supporting Lahontan or Bonneville cutthroat trout. LRMP at IV-29.
 - Protect complexes comprised of moist habitats and adjacent security areas. LRMP at IV-29.
 - Protect sage-grouse breeding and nesting areas. LRMP at IV-30.
 - Implement grazing systems which provide for rest and deferment where feasible. Rest-rotation systems will be used when feasible and where significant area is in unsatisfactory ecological condition. LRMP at IV-32.
 - Identify and incorporate mitigation for sensitive and listed plant species into grazing plans. LRMP at IV-35.
 - Consider sensitive areas such as riparian areas and critical wildlife habitats to maintain or enhance special values. LRMP at IV-35.
 - Complete livestock adjustments needed to develop an acceptable balance between available capacity and livestock numbers. LRMP at IV-35.
 - Minimize livestock-big game conflicts on key winter range. LRMP at IV-35-36.
 - Minimize livestock/fisheries habitat conflicts in riparian areas. LRMP at IV-36.
 - Analysis or updates to Range Resource Inventory will be conducted according to regional guidelines. LRMP at IV-37.
 - Monitor compliance with state water quality standards. LRMP at IV-48.
 - The causes of degraded wetlands will be eliminated. LRMP at IV-48.
 - Protect and encourage the reestablishment of riparian vegetation. LRMP at IV-48.
 - Management actions in riparian areas will be monitored, and corrective action will be taken to prevent deterioration of riparian areas or degradation of water quality. LRMP at IV-49.
 - When developing or revising AMPs, establish proper use criteria that will protect or enhance riparian areas. LRMP at IV-49.
 - Strive to achieve and maintain at least 90% of the natural bank stability for streams supporting Lahontan or Bonneville Cutthroat trout and 80% on all other streams. LRMP at IV-49.
- Please also detail how the proposed action is consistent with the 2015 approved LRMP amendment for sage-grouse, which the NOPA says the action will comply with.

9. Wildlife

The Forest Service failed to take the required “hard look” by not considering readily available and reputable scientific information as it pertains to bighorn sheep, Lahontan cutthroat trout, sage-grouse, pygmy rabbit and other species identified to be in the project area. Please consider the following information:

Bighorn Sheep

Westwide, bighorn sheep populations have declined by more than 90% since the mid-nineteenth century, and bighorn sheep overall distribution has been reduced to less than 30% of the species' historic range.¹⁰ The primary causes of historic bighorn sheep declines include livestock diseases, overhunting, and forage competition with livestock.¹¹

Bighorn sheep remain at risk of disease from livestock pathogens throughout the West, with authorized grazing on public lands a limiting factor for many populations. Large areas of historic bighorn sheep habitat are unavailable for recolonization or artificial restocking due to the presence of livestock, including many areas in Nevada.¹² It is NDOW's policy that "[t]he Division will increase bighorn populations of all subspecies statewide to a level where all habitats are occupied and each herd is self-sustaining."¹³

Bighorn sheep are listed as a BLM Sensitive Species in Nevada, a Nevada state Species of Greatest Conservation Need, and a U.S. Fish and Wildlife Service Species of Concern. Bighorn sheep are a Forest Service Sensitive Species in Region 4, and are subject to management direction contained in FSM 2670. This includes direction to:

1. Assist states in achieving their goals for conservation of endemic species.
2. Review programs and activities as part of the National Environmental Policy Act of 1969 process through a biological evaluation, to determine their potential effect on sensitive species.
3. Avoid or minimize impacts to species whose viability has been identified as a concern.
4. Analyze, if impacts cannot be avoided, the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole. (The line officer, with project approval authority, makes the decision to allow or disallow impact, but the decision must not result in loss of species viability or create significant trends toward federal listing.)
5. Establish management objectives in cooperation with the states when projects on National Forest System lands may have a significant effect on sensitive species population numbers or distributions. Establish objectives for federal candidate species, in cooperation with the FWS or NOAA Fisheries and the states.

¹⁰ U.S. Forest Service. (2009). Addition of Bighorn Sheep to the Forest Service Intermountain Region Sensitive Species List.

¹¹ Besser, T., Cassirer, F., Highland, M., Wolff, P., Justice-Allen, A., Mansfield, K., Davis, M., Foreyt, W. (2013). Bighorn sheep pneumonia: Sorting out the cause of a polymicrobial disease. *Preventive Veterinary Medicine*, 108, 85–93.

¹² NDOW. (2001). Bighorn Sheep Management Plan.

¹³ *Id.*

Cattle grazing has the potential to negatively impact bighorn populations: cattle are known to carry pathogens that can be transmitted to bighorn sheep, cattle may displace bighorn sheep from optimal habitats, reducing foraging efficiency, and cattle contribute to the spread of noxious weeds which outcompete native vegetation, degrade bighorn sheep habitat, and increase fire risk.

Cattle have been implicated in pneumonia-related die-offs of bighorn sheep, as well as in outbreaks of Bovine Viral Diarrhea and other diseases impacting wild sheep. Bovine respiratory syncytial virus (BRSV) and bovine parainfluenza virus 3 have been identified as co-agents in pneumonia outbreaks in bighorn sheep populations, affecting bighorn herds exposed to primary agents *Mycoplasma ovipneumoniae* and *Mannheimia haemolytica*.^{14 15} *Mannheimia haemolytica* originating in cattle is believed to have been a primary respiratory disease agent in at least one bighorn sheep pneumonia outbreak.¹⁶

Cattle can transmit Bovine Respiratory Syncytial Virus and bronchopneumonia to bighorn sheep (Spraker et al. 1986, Wolfe et al. 2010). Wehausen (1986) discussed other non-native pathogens possibly transmitted from cattle to desert bighorn sheep, including epizootic hemorrhagic disease, blue tongue (commonly carried by cattle), and parainfluenza-3, which have all been implicated in the suppression of lamb recruitment. These may have been vectored by gnats. More research is needed. Wehausen (ibid., 22-23) stated that removal of the possible disease reservoirs in domestic cattle could relieve the local desert bighorn population from a significant stressor that “might produce a significant change in the demography of the bighorn population.”

There is evidence of cattle displacement of newly re-introduced bighorn sheep, in an Idaho study of California bighorn sheep. Bisonette and Steinkamp (1996) found that bighorn sheep movement increased when cattle were moved closer. When cattle were moved to within 800m, bighorn left the area. Personnel associated with moving cattle may have played a role in bighorn sheep sensitivity, which raises the question of how trucking in cattle, building new developments, range riders, and other livestock management activities will impact bighorn sheep. The authors conclude that, “Avoidance has implications for reintroductions of bighorn sheep. The total area of potential habitat may not be used by sheep if livestock are present” (ibid.: 323).

¹⁴ Spraker, T., Collins, J., Adrian, W., Otterman, J. (1986). Isolation and serologic evidence of a Respiratory Syncytial Virus in bighorn sheep from Colorado. *Journal of Wildlife Diseases*, 22(3), 416-418.

¹⁵ Dassanayake, R., Shanthalingam, S., Herndon, C., Subramaniam, R. Paulraj K. Lawrence, Bavananthasivam, J., Cassirer, F., Haldorson, G., Foreyt, W., Rurangirwa, F., Knowles, D., Besser, T., Srikumaran, S. (2010). *Mycoplasma ovipneumoniae* can predispose bighorn sheep to fatal *Mannheimia haemolytica* pneumonia. *Veterinary Microbiology*, 145, 354–359.

¹⁶ Wolfe, L. Diamond, B., Spraker, T., Sirochman, M., Walsh, D., Machin, C., Bade, D., Miller, M. (2010). A bighorn sheep die-off in southern Colorado involving a Pasteurellaceae strain that may have originated from syntopic cattle. *Journal of Wildlife Diseases*, 46(4), 1262-8.

There is literature on interference competition between bighorn sheep and cattle, social intolerance behavior (especially by ewes), competition for water sources (especially during drought years), carrying capacity of shared bighorn-cattle ranges, cattle straying farther into bighorn sheep ranges, and other bighorn-cattle interactions. This must also be analyzed.

Disease transmission from domestic sheep grazing is a significant threat to bighorn, and domestic cattle also have the potential to transmit disease bighorn sheep. The analysis should include detailed mapping of bighorn critical habitat, herd units, and movement with respect to allotment boundaries, roads, proposed new fences, water developments, and any salt supplements.

The Sierra Bighorn Sheep Recovery Plan (2007), Appendix B, at 105 states:

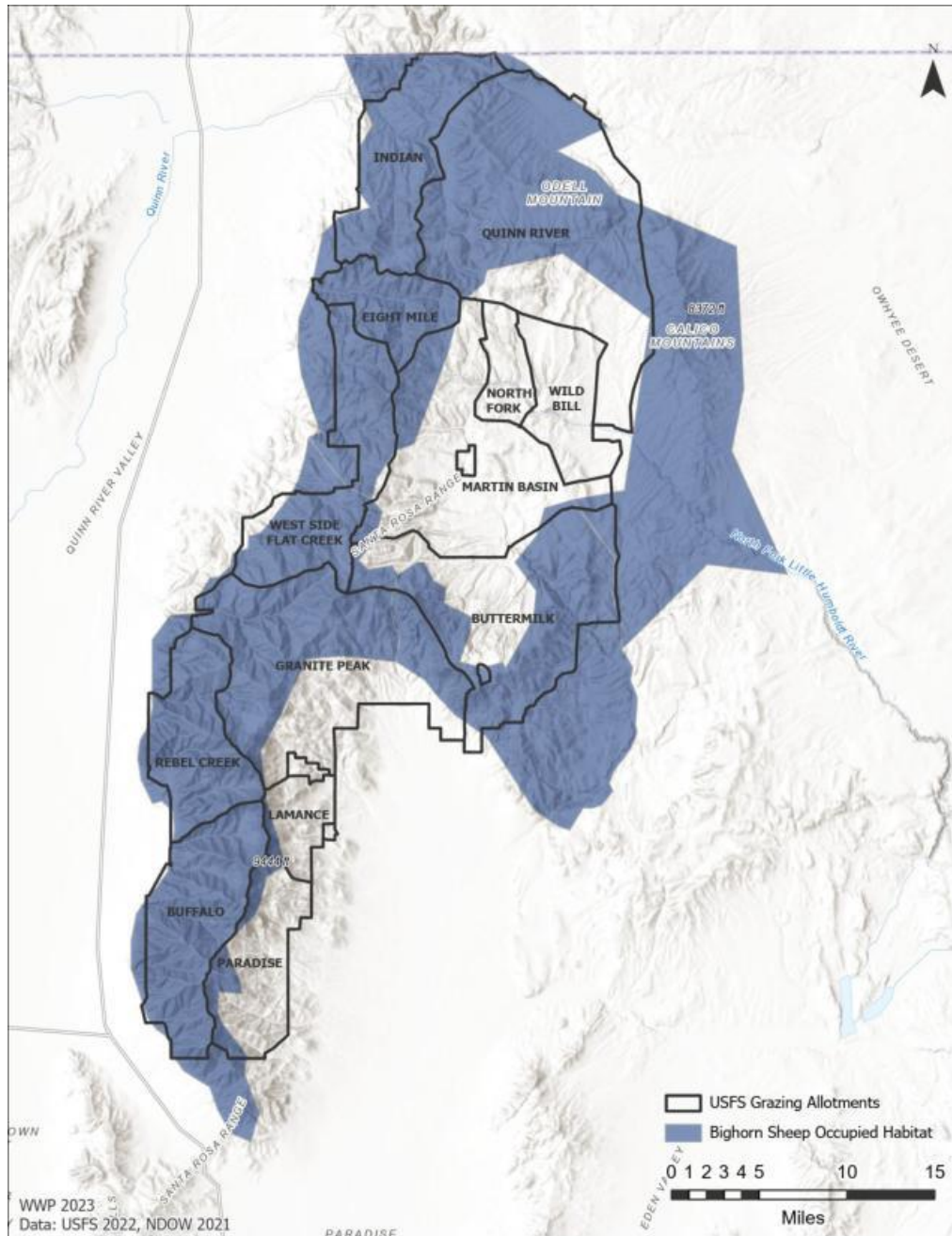
The impacts of domestic cattle (*Bos taurus*) grazing within bighorn sheep habitat have not been well documented. Bighorn sheep may avoid areas where cattle are grazed and not return to those areas for long periods after cattle are removed (King and Workman 1984). The potential for cross species transmission of diseases between cattle and wild ungulates may vary with local environmental conditions. Bovine viral diarrhea causes a complex of respiratory diseases, gastrointestinal diseases, and reproductive failure and may be transmitted between species. Hemorrhagic disease and pneumonia resulting from bluetongue virus (BTV) infection have been reported in bighorn sheep (Robinson et al 1967, Noon et al 2002). Because of prolonged viremia, cattle may be an important reservoir of BTV for *Culicoides* vectors (Osburn 2000) and, thus, a potential source of infection for other wild and domestic ungulates in areas climatically suitable for *Culicoides*. Singer et al (1997) studied cattle, bighorn sheep and mule deer (*Odocoileus hemionus*) in an area where the three species were known to utilize common areas. Only cattle were seropositive to BTV but deer and bighorn sheep were seropositive to *Babesia* sp. and *Psoroptes* mites were found only on bighorn sheep. Singer et al. (1997) concluded that cattle, deer, and bighorn sheep did not share similar patterns of exposure to the three pathogens and, thereby, proposed that cattle did not constitute a health risk for bighorn sheep in that area. Foreyt (1994) reported no adverse effects on healthy bighorn sheep in one co-pasturing study with domestic cattle. In a follow-up study, however, one of five bighorn sheep co-pastured with cattle developed a fatal pneumonia and died on day 6 post introduction (Foreyt and Lagerquist 1996). Although cattle may carry *Pasteurella* spp. that are pathogenic to bighorn sheep, those authors hypothesized that “the nose to nose contact required for transmission of *P. haemolytica* (renamed *Mannheimia haemolytica*) is less likely to occur between bighorn sheep and cattle” than with domestic sheep because the social interactive behavior between

bighorn sheep and cattle is less likely to result in nose to nose contact. They recommended that further studies be conducted to determine the compatibility of bighorn sheep and domestic cattle. Based on the limited information currently available, there is insufficient evidence to exclude cattle grazing in or near bighorn sheep habitat based on disease considerations. **However, if cattle grazing increases in proximity to bighorn sheep, disease considerations should be reconsidered.** (Emphasis ours)

We are concerned with this decision to continue cattle grazing in the Santa Rosa Mountains and the detrimental impacts to Bighorn Sheep populations that will continue to be felt. According to the Nevada Big Game Status Book,¹⁷ the Santa Rosa Range has a struggling herd of California bighorn sheep numbering 134 animals with a ratio of 73 rams:100 ewes: 66 lambs.

The Forest Service should require annual testing of any cattle before they are allowed in these allotments for these and other diseases that could potentially spread to bighorn. Vaccinations of cattle are apparently not viable, but this should be discussed in any environmental review. The Forest Service needs to understand, and take seriously, the ongoing threats to bighorn sheep from livestock grazing. The current population of sheep under threat of extirpation due to disease spread and the gene pool is diminishing.

¹⁷ Available at <https://www.ndow.org/wp-content/uploads/2022/01/2020-21-BIG-GAME-STATUS-BOOK-COMPLETE.pdf>



Pygmy Rabbit

Like the greater sage grouse, pygmy rabbits are sagebrush obligates. Consequently, pygmy rabbits face many of the same threats as sage grouse, including extensive habitat modification due to livestock grazing. Because grazing on the Santa Rosa Ranger District is widespread, there is “substantial concern about the species’ capability to persist over the long-term in the plan area.” 36 C.F.R. § 219.9. The Forest should therefore commit to maintaining a viable population of this rare and important indicator species. *See id.* Livestock grazing has been

shown to adversely affect pygmy rabbits in several ways. For instance, there is considerable evidence that livestock trample and destroy pygmy rabbit burrows. Pygmy rabbits dig simple shallow burrows in relatively deep, loose soils. Entrances to burrows may be concealed at the base of sagebrush plants. *Id.* Consequently, cattle can directly damage pygmy rabbit borrows through trampling. Austin (2002) documented cattle trampling of active burrows on public lands in southern Idaho. The burrows were subsequently abandoned. It is extremely likely the same phenomenon is occurring on the Santa Rosa Ranger District, and such impacts must be analyzed.

Livestock can also alter the structure of the sagebrush habitats on which pygmy rabbits depend. Direct impacts include: structural damage to dense stands of sagebrush by livestock, removal of current herbaceous growth or residual cover of native grasses and forbs, and increases in the density and distribution of various invasive weed species. In general, grazing removes vegetative cover, including shrub cover, which leaves pygmy rabbits vulnerable to both areal and ground predators. Cattle also compete directly with pygmy rabbits for forage. Male pygmy rabbits tend travel longer distances in recently grazed areas, where the nutritional value of preferred native grasses and forbs tends to be less. In addition, pygmy rabbits in recently grazed areas tend to make greater use of sagebrush for summer forage than their counterparts in ungrazed areas. *Id.* at 10388.

As noted, livestock use is ubiquitous across the sagebrush lands within the Forest. Because the impacts of livestock grazing directly influence pygmy rabbit habitat and population abundance, the forest should designate the pygmy rabbit as a species of conservation concern, and develop forest plan standards and objectives to limit livestock impacts to sagebrush ecosystems.

Remedy: As part of an EIS, the Forest should: take a hard look at the best available science as it pertains to pygmy rabbit and livestock impacts, conduct studies to identify burrow sites, establish a population baseline, population trends and monitor burrow sites for damage. Thresholds and responses (triggers) should include livestock destocking and pasture closures when rabbit populations are shown to be decreasing or burrows are being destroyed.

Sage Grouse

The EA and Draft Decision failed to incorporate the best available science on the effects of livestock grazing on sage-grouse and its habitat. The Forest Service also failed to incorporate management standards that should have flowed from the sage-grouse 2015 LRMPA. "Desired condition" is present, but the Draft Decision does not properly incorporate the Grazing Guidelines (see tables below). The Draft Decision also authorizes utilization level that is higher than appropriate for sage-grouse. There is no mention of sage-grouse focal areas, PHMA or other habitat types designated by LRMPA ROD.

SEASONAL HABITAT	GRAZING GUIDELINES
Areas managed for brood rearing and summer habitat ¹	When grazing occurs post breeding and nesting season (from July 1 to November 30) retain an average stubble height of 4 inches for herbaceous riparian/mesic meadow vegetation in all ⁷ greater sage-grouse habitat. ^{8,10}
Winter ¹	≤35% utilization of sagebrush.

Table 2. Grazing Guidelines for Greater Sage-grouse Seasonal Habitat.

SEASONAL HABITAT	GRAZING GUIDELINES
Areas managed for breeding and nesting ¹ within 5.3 miles of occupied leks	Perennial grass height:² When grazing occurs during breeding and nesting season (from March 15 to June 30) manage for upland perennial grass height of 7 inches.^{3,5,6} Measure average droop height, assuming current vegetation composition has the capability to achieve these heights. Heights will be measured at the end of the nesting period (Connelly et al. 2000). When grazing occurs post breeding and nesting season (from July 1 to November 30) manage for 4 inches^{5,9} of upland perennial grass height.

The Forest Service’s discussion in the Wildlife BE is very limited, relying on only a small handful of papers that are decades old. We have included the same scientific information below that was included in our NOPA comments, which was ignored.

With respect to one of the most critical factors for sage-grouse—residual vegetation—the best available science, and indeed, the preponderance of evidence, has established that at least 7 inches (18 cm) of residual stubble height needs to be provided in nesting and brood-rearing habitats throughout their season of use. According to Gregg et al. (1994: 165)¹⁸,

“Land management practices that decrease tall grass and medium height shrub cover at potential nest sites may be detrimental to sage grouse populations because of increased nest predation.... Grazing of tall grasses to <18 cm would decrease their value for nest concealment.... Management activities should allow for maintenance of tall, residual grasses or, where necessary, restoration of grass cover within these stands.”

Hagen et al. (2007)¹⁹ analyzed all scientific datasets up to that time and concluded that the 7-inch threshold was the threshold below which significant impacts to sage grouse occurred (see also Herman-Brunson et al. (2009)²⁰. Prather (2010)²¹ found for Gunnison sage grouse that

¹⁸ Gregg, M.A., J.A. Crawford, M.S. Drut, and A.K. DeLong. 1994. Vegetational cover and predation of sage grouse nests in Oregon. *J. Wildl. Manage.* 58:162-166.

¹⁹ Hagen, C.A., J.W. Connelly, and M.A. Schroeder. 2007. A meta-analysis of greater sage-grouse *Centrocercus urophasianus* nesting and brood-rearing habitats. *Wildlife Biology* 13:42–50.

²⁰ Herman-Brunson, K.M., K.C. Jensen, N.W. Kaczor, C.C. Swanson, M.A. Rumble, and R.W. Klaver. 2009. Nesting ecology of greater sage-grouse *Centrocercus urophasianus* at the eastern edge of their historic distribution. *Wildl. Biol.* 15: 395-404.

²¹ Prather, P.R. 2010. Factors affecting Gunnison sage-grouse (*Centrocercus minimus*) conservation in San Juan County, Utah. PhD Dissertation, Utah State Univ., 134 pp.

occupied habitats averaged more than 7 inches of grass stubble height in Utah, while unoccupied habitats averaged less than the 7-inch threshold. According to Taylor et al. (2010:4),

“The effects of grazing management on sage-grouse have been little studied, but correlation between grass height and nest success suggest that grazing may be one of the few tools available to managers to enhance sage-grouse populations. Our analyses predict that already healthy populations may benefit from moderate changes in grazing practices. For instance, a 2 in increase in grass height could result in a 10% increase in nest success, which translates to an 8% increase in population growth rate.”

Foster et al. (2014) found that livestock grazing could be compatible with maintaining sage grouse populations, but notably stubble heights they observed averaged more than 18 cm during all three years of their study, and averaged more than 10.2 inches in two of the three years of the study.

Doherty et al. (2014)²² found a similar relationship between grass height and nest success in northeast Wyoming and south-central Montana but did prescribe a recommended grass height. While there are those who have attempted to cast doubt on the necessity of maintaining grass heights to provide sage-grouse hiding cover, based on timing differences in grass height measurements between failed nests and successful nests, these concerns have been refuted for Wyoming. The significance of the Doherty et al. (2014) study was explicitly tested by Smith et al. (2018), who confirmed that grass height continued to have a significant effect on nest success for this Wyoming study after correction factors were applied to the data.

Connelly et al. (2000)²³ reviewed the science of that time and recommended an 18-cm residual stubble height standard. Stiver et al. (2015)²⁴ recommended 18 cm grass height for all breeding and nesting habitats, and explicitly stated that this and other established measures should not be altered unless scientific evidence definitively indicates that the 7-inch threshold is inappropriate.

Jankowski et al. (2014)²⁵ studied stress hormone levels in Greater sage-grouse with a focus “on the effects of cattle grazing because of the potential negative effects on sage-grouse habitats and

²² Doherty, K.E., D.E. Naugle, J.D. Tack, B.L. Walker, J.M. Graham, and J.L. Beck. 2014. Linking conservation actions to demography: Grass height explains variation in greater sage-grouse nest survival. *Wildlife Biology* 20:320-325.

²³ Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. *Wildl. Soc. Bull.* 28:967-985.

²⁴ Stiver, S.J., E.T. Rinkes, D.E. Naugle, P.D. Makela, D.A. Nance, and J.W. Karl, eds. 2015. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. Bureau of Land Management and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

²⁵ Jankowski, M. D., Russell, R. E., Franson, J. C., Dusek, R. J., Hines, M. K., Gregg, M. and Hofmeister, E. K. 2014. Corticosterone Metabolite Concentrations in Greater sage-grouse are Positively Associated with the Presence of Cattle Grazing. *Rangeland Ecology and Management*. 67(3): 237-246. doi: <http://dx.doi.org/10.2111/REM-D-13-00137.1>

because cattle grazing practices can be influenced by management decisions.” They found that residence in a cattle-grazed habitat was associated with increased stress hormone levels in a large sample of greater sage-grouse (329 sage-grouse, 160 from grazed sites and 169 from ungrazed sites). They found higher immunoreactive corticosterone metabolites in greater sage-grouse in cattle-grazed versus ungrazed sites and found a positive correlation of immunoreactive corticosterone metabolites in greater sage-grouse with cattle fecal pat count.

An EIS should also consider the impacts of infrastructure associated with increased grazing. New water developments facilitate sage-grouse predators and predation. Ravens are significant predators on sage-grouse eggs and chicks. They are visual foragers and use manmade structures as perch sites to increase their visual fields. There is published evidence that ravens show a preference for developed livestock waters rather than natural springs as a water source (Knight et al. 1998)²⁶. Livestock presence is already beneficial to ravens, coyotes, and other subsidized predators in other ways, for example by providing carcasses and disturbances that facilitate raven presence and foraging. There is also the risk that adding new developed waters may encourage raven use of the allotment and thus facilitate the distribution of West Nile Virus across the allotment carried by affected ravens. Livestock infrastructure and livestock themselves also promote increases in ravens (Coates et al. 2016)²⁷.

Water developments indirectly impact sage-grouse in other ways. The addition of man-made water sources may increase the distribution or abundance of West Nile virus mosquito vectors in sage-grouse habitat, placing the local sage-grouse population at risk (Walker and Naugle 2011)²⁸. Mortality associated with fence collisions can be dramatic in sage-grouse habitat. For example, Stevens (2011)²⁹ found that corrected landscape-scale sage-grouse collision rates ranged from 0.12-0.70 strikes/km in 2009 and 0.18-0.75 strikes/km in 2010 (Stevens 2011 p. 63). Avian fence collision surveys in sagebrush-steppe habitats should be conducted with less than 2-week sampling intervals to reduce the impact of survival bias on collision rate estimates and caution should be used when aggregating or comparing uncorrected collision data from areas with differing vegetation, as detection probabilities are likely different between sites (Stevens et al. 2011 p. 447). Marking fences may help reduce collision rates, but collisions still

²⁶ Knight, R. L., Camp, R. J. and Knight, H. A. L. 1998. Ravens, Cowbirds, and Starlings at Springs and Stock Tanks, Mojave National Preserve, California. *Great Basin Naturalist*. 58(4): 393-395.

²⁷ Coates P. S., Brussee, B. E., Howe, K. B., Gustafson, K. B., Casazza, M. L. and Delehanty, D. J. 2016. Landscape characteristics and livestock presence influence common ravens: relevance to greater sage-grouse conservation. *Ecosphere*, 7(2): e01203. 10.1002/ecs2.1203

²⁸ Walker, B. L. and Naugle, D. E. 2011. West Nile Virus ecology in sagebrush habitats and impacts on Greater Sage-Grouse populations. Chapter 10, In: *Ecology and Conservation of Greater Sage-Grouse: A Landscape Species and Its Habitats*.

²⁹ Stevens, B. S. 2011. Impacts of Fences on Greater Sage-Grouse in Idaho: Collision, Mitigation, and Spatial Ecology. M.Sc. Thesis, University of Idaho.

occurred at marked fences <500m from large leks and moving or removing fences may be necessary (Stevens et al. 2012 p. 297)³⁰.

Remedy: As part of an EIS, the Forest should: take a hard look at the best available sage-grouse science as it pertains to livestock grazing, monitor site-specific population trends and mortality caused by fence collisions. The FS should develop thresholds and responses to help sage-grouse, which include triggers that would destock cows and close pastures. Fences where there are the most collisions should be identified for removal.

Lahtonan cutthroat trout

Lahontan cutthroat trout (LCT) streams in the project area are degraded from cattle grazing and “Likely to Adversely Affect (LAA)” determinations were made for all LCT bearing streams in the project area. *See Fisheries Biological Assessment*. Protecting LCT (a federally listed species) should have been a priority for the Forest Service but this Draft Decision only puts the trout in further jeopardy by removing protections, including those imposed by the Martin Basin BiOps (2009 and 2016 LAA determinations) and increasing utilization of woody plants in riparian areas in violation of Amendment II. Both the Martin Basin BiOps and H-T Forest Plan Amendment II call for 10% bank alteration standards (and 20% for non-LCT streams), which were not applied as part of this Draft Decision. Despite claiming that the “proposed action was established to provide proper grazing management to improve or maintain allotment condition” (BA at 112) the Forest Service provides no evidence to support this claim.

Monitoring data collected for LCT streams is outdated. General Aquatic Wildlife Surveys (GAWS) data collected between 2007 and 2017 with three of seven LCT streams trending downward in the Habitat Condition Index. The average age of “recent” GAWS data used to determine occupied LCT stream health is nearly 10 years old. Using this outdated and inconsistent information does not provide a recent/current snapshot of conditions and does not support informed decision making. The Forest Service cannot say how LCT stream standards are trending under current management regimes and has no baseline to understand the impacts of its management changes as part of the Draft Decision.

Also of note, grazing is proposed during the spawn and cows will cause both direct and indirect effects to reproducing fish, further endangering their populations.

The EA should have incorporated information on the impact to LCT from livestock grazing from the Martin Basin BO:

³⁰ Stevens, B. S., Reese, K. P., Connelly, J. W. and Musil, D. D. 2012. Greater sage-grouse and fences: Does marking reduce collisions? *Wildlife Society Bulletin*, 36(2): 297-303.

Livestock grazing can affect riparian areas by changing, reducing, or eliminating vegetation, and by the actual loss of riparian areas through channel widening, channel degradation, or lowering of the water table. Effects on fish habitat include reduction of shade and cover and resultant increases in water temperature, changes in stream morphology, and the addition of sediment due to bank degradation and off-site soil erosion. Behnke and Zarn (1976) identified livestock grazing as the greatest threat to the integrity of stream habitat in the western United States. Numerous symposia and publications have documented the detrimental effects of improper livestock grazing on streams and riparian habitats (Johnson and Jones 1977; Meehan and Platts 1978; Behnke and Raleigh 1978; Bowers et al. 1979; Cope 1979; AFS 1980; Platts 1981, 1990, 1991; Ohmart and Anderson 1982; Peek and Dalke 1982; Kauffman et al. 1983; Menke 1983; Kauffman and Krueger 1984; Johnson et al. 1985; General Accounting Office (GAO) 1988; Clary and Webster 1989; Gresswell et al. 1989; Kinch 1989; Minshall et al. 1989; Chaney et al. 1990, 1993; Clary et al. 1992; Fleischner 1994; Vavra et al. 1994; Fitch and Adams 1998; Larson et al. 1998; Belsky et al. 1999; Holechek et al. 1999; Brookshire et al. 2002; Clary and Kruse 2004; Wyman et al. 2006; Gregory and Gamett 2009; Peterson et al. 2010; Poff et al. 2011; Herbst et al. 2012; Beschta et al. 2013; Batchelor et al. 2015).

Martin Basin BO at 24.

Remedy: As part of an EIS, the Forest Service should develop and select an alternative that closes all pastures that contain LCT streams.

Conclusion: Thank you for considering our points of objection. WWP would like to request a resolution meeting with the Forest Service as part of the Objection process.

Sincerely,

Adam Bronstein

Adam Bronstein - Oregon/Nevada Director
Western Watersheds Project





WWP Nevada-Oregon



Working to protect and restore Western Watersheds and Wildlife

May 18, 2020

By online submission through the project website at <http://www.fs.usda.gov/project/?project=52282> and by email to boyd.hatch@usda.gov, joseph.garrotto@usda.gov, and douglas.clarke@usda.gov
Literature/attachments by email only

Joe Garrotto
District Ranger
Santa Rosa Ranger District
3272 Fountain Way
Winnemucca, Nevada 89445

Re: Santa Rosa Rangeland Management Project, Notice of Proposed Action

Dear District Ranger Garrotto:

Thank you for the opportunity to provide input on the Santa Rosa Ranger District Rangeland Management Project Notice of Proposed Action (NOPA). Please accept the following comments on behalf of Western Watersheds Project (WWP).

WWP is a non-profit, membership-based conservation organization dedicated to protecting and conserving the public lands and natural resources in the West. The organization has over 12,000 members and supporters, with staff in Nevada and other states. WWP has long-standing interests in conserving sagebrush ecosystems and curbing ecologically harmful grazing on public lands, including on the Humboldt-Toiyabe National Forest in Nevada. WWP has a long history of involvement with grazing oversight and management in the Santa Rosa Ranger District, and has been heavily involved in previous grazing management planning and analysis for the area. WWP undertakes a wide range of activities to protect public lands in Nevada and throughout the West, including education, advocacy, scientific study, and litigation; and communicates to the public and policy-makers about the values of public lands and native wildlife. Our members, staff, and supporters use and enjoy the public lands within the Santa Rosa Ranger District for aesthetic, recreational, and many other purposes, and frequently work, study, hike, hunt, camp, photograph, and observe wildlife there, and will continue to do so into the future.

Overview

We have significant concerns with the proposed action, detailed below. In summary, we strongly oppose the proposal to allow increased grazing on the Santa Rosa District, particularly given the lack of any regulatory authority for authorizing “excess” forage, and the lack of a proper capability and suitability analysis—or any carrying capacity analysis. The Forest Service proposes to allow increased grazing on every allotment during undefined periods of excess forage without explaining why additional grazing could be allowed when even the existing levels have caused significant degradation of the project area. Further, the proposed action must include measureable use standards that protect sensitive species and habitats, and include fixed seasons of use with alternating years of rest. The proposed action must include livestock numbers as a mandatory term of each grazing permit. The Forest Service must analyze the best available science with respect to the impacts of livestock grazing on native species and public resources in an EIS. The EIS needs to consider a robust range of alternatives that are less harmful to the landscape and the species that inhabit it than the proposed action. The proposed action must comply with the Federal Land Policy and Management Act (FLPMA) as applicable, the National Forests Management Act (NFMA), the Clean Water Act, and the Endangered Species Act (ESA), as well as all applicable regulations.

Public Input

We request an opportunity to comment on a draft NEPA document prior to the Forest Service issuing a proposed/draft decision. The Forest Service has offered two comment periods thus far—scoping and on the NOPA—but the agency did not provide detailed, site-specific information and analysis prior to either comment period.

NEPA has two primary goals. The first goal is to ensure that a government agency carefully gathers and evaluates relevant information about the potential impact of a proposed agency action on the environment. *Southern Utah Wilderness Alliance v. Norton*, 301 F.3d 1217, 1237 (10th Cir. 2002) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)); *see also* 40 C.F.R. § 1500.1(b). The second goal is to ensure “that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process” thereby guaranteeing that public is involved in and aware of agency processes. *Committee to Preserve Boomer Park v. Dept. of Transportation*, 4 F.3d 1543, 1554 (10th Cir. 1993) (citing *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 97, 103 (1983)); *see also* 40 C.F.R. 1500.1(b); 1500.2(d); 1506.6.

NEPA requires the Forest Service and other federal agencies to, in the fullest extent possible, “[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment.” 40 C.F.R. § 1500.2(d); *see also National Park and Conservation Ass’n v. Federal Aviation Admin.*, 998 F.2d 1523, 1531 (10th Cir. 1993) (“Congress, through . . . NEPA, has determined that the public has a right to participate in actions affecting public lands.”); *Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (NEPA “provides for broad-based participation” and requires “a cross-pollination of views.”). Specifically, NEPA’s public participation regulations require the Forest Service to “(a) [m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures” and to “(b) [p]rovide public notice of NEPA-related hearings, public meetings, and the availability of

environmental documents so as to inform those persons and agencies who may be interested or affected." 40 C.F.R. § 1506.6(b).

The public needs to be able to review and comment on a full NEPA analysis prior to the objection stage. *Anderson v. Evans*, 314 F.3d 1006, 1016 (9th Cir. 2002) (interpreting NEPA's public notice requirement to mean that the "public must be given an opportunity to comment on draft EAs and EISs"); *see also Citizens for Better Forestry v. U.S. Dep't of Ag.*, 341 F.3d 961 (9th Cir. 2003). The Forest Service's planning regulations also require that "[t]he responsible official shall provide opportunities to the public for . . . commenting on the proposal *and the disclosure of its environmental impacts in accompanying National Environmental Policy Act (NEPA) documents.*" 36 C.F.R. § 219.4(a) (emphasis added).

WWP previously commented on the scoping notice for this proposal, and our scoping comments are attached and incorporated here.

We ask that you post all comments received on the project website.

Objections

Please make clear whether this proposal will be subject to the objection regulations that include 36 C.F.R. § 218.22(c) (project level) or § 219.50 (planning level), and why.

Need for EIS

An environmental impact statement (EIS) must be undertaken where impacts from the proposed action have the potential to be significant. 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1508.3. The Council on Environmental Quality's (CEQ) regulations define "significance" in terms of "context" and "intensity." *Id.* § 1508.27. "Context" means the significance of the action must be analyzed in several contexts (national, regional, and local), and include short- and long-term effects within the setting of the proposed action. *Id.* § 1508.27(a). "Intensity" refers to the severity of the impact and requires consideration of a number of factors listed in CEQ's regulations.

The context of the proposed action demonstrates the likelihood of significant impacts. The proposed action is to issue grazing permits on twelve allotments. NOPA at 1. These twelve allotments constitute an entire ranger district of the Humboldt-Toiyabe National Forest, which is approximately 280,000 acres. Additionally, this proposed action follows a previous process for which the Forest Service issued a draft and final EIS, the Martin Basin Rangeland Project, which included only a subset of eight of the allotments that are part of this proposal: Bradshaw, Buttermilk, Granite Peak, Indian, Martin Basin, Rebel Creek, and West Side Flat. *See Martin Basin FEIS at Introduction.*¹ In context, it does not make sense that the Forest Service would undertake anything but an EIS when it previously issued an EIS for an action that included 1/3 fewer allotments than this proposal. The Jarbidge Ranger District Rangeland Project was also analyzed under an EIS. What justifies the Forest Service's change in approach now? Further,

¹ Available at https://www.fs.usda.gov/nfs/11558/www/nepa/2498_FSPLT2_033418.pdf

the proposed action includes a LRMP amendment, signifying a major change in management approach. See 36 C.F.R. §. 219.10(f), FSM 1926.51 and 1926.52.

Likewise, at a minimum, several of the NEPA intensity factors are present here. For example, unique characteristics are present in the form of designated wilderness—the Paradise Peak Wilderness. Much of the ranger district is designated as Sagebrush Focal Areas under the 2015 Sage-grouse Plan Amendment. There are also cumulatively significant impacts to several wildlife species, including sage-grouse. Large areas of adjacent habitat in the Owyhee desert burned in the Martin Fire, which has a cumulative negative impact to sagebrush dependent wildlife in conjunction with the proposed action. This proposed action is also likely to adversely affect Lahontan cutthroat trout, a federally threatened species. There are likely to be significant impacts to a number of other public resources as well. These include: pygmy rabbit, migratory birds, native plant species, wilderness, bighorn sheep, mule deer and elk, riparian areas (and other ecologically critical areas), water quality, air quality, climate impacts, scenery, and recreation. The LRMP amendment also ensures that the action here will be precedential for grazing on the Santa Rosa Ranger District even after the individual permits issued expire. In sum, the Forest Service cannot rely on an EA to analyze the impacts of this action; it must complete an EIS.

Purpose and Need

The purpose for the action, as defined by the NOPA, is to continue to authorize grazing on the Santa Rosa Ranger District. A more appropriate purpose and need statement, which would not prejudice the selection of alternatives, would be to consider whether or not to continue to authorize grazing on the Santa Rosa Ranger District allotments, and if so, at what levels of use.

Proposed Action

We have serious concerns with the proposed action, as detailed below.

“Excess” Forage Available

The proposed action would increase grazing on every allotment, in some cases by several thousand Head Months.² This would be done in years when “excess forage was available on the allotment.” NOPA at 14. There is no explanation or justification for this increased grazing allowance. How did the forest calculate max Head Months? What is the basis for substantially increasing grazing on these allotments when even existing levels have caused resource damage? What is the regulatory authority for this increase in grazing use? Who determines what is “excess” forage, and how? How much forage is there in a normal year?

² For clarity, the EIS should explain how this process defines a “head month” as definitions sometimes vary by forest. Does a Head Month here mean the amount defined by the Forest Service regulations? 36 C.F.R. § 222.50.

As an initial matter, allocating “excess” forage does not appear to be authorized by Forest Service regulations or policy, unlike BLM’s regulations, which do provide for temporary, non-renewable use in certain circumstances. What is the authority for this proposal?

The lack of explanation for this back-door increase to authorized grazing levels is underscored by the lack of any accompanying information on the baseline carrying capacity of each allotment and pasture. The Forest Service simply cannot make a reasoned decision to allocate “excess” forage if it has not undertaken a robust analysis of normal carrying capacity. As we noted in our scoping comments, the Forest Service should base all of its decisions as to the level of allowable grazing on a robust and current carrying capacity analysis to ensure that it has not authorized more forage than can be grazed without unduly damaging public resources, as a quantified analysis often reveals.³ This should follow a valid capability and suitability analysis. See 36 C.F.R. § 219.1(g), 219.20. We appreciate the Forest Service making its capability and suitability analysis available in response to our request. However, the analysis likely needs to be updated, and needs to be revised based on current Regional guidance, before carrying capacity can be accurately determined. The EIS needs to clearly explain the process of determining capable and suitable acres, and carrying capacity.

Under NFMA, the Forest Service must “determine . . . the availability of lands and their suitability for resource management.” 16 U.S.C. § 1604(e). NFMA further provides that the forest planning regulations shall include: “specifying guidelines which[] require the identification of the suitability of lands for resource management.” *Id.* § 1604(g)(2)(A). In turn, the planning rules provide that:

[T]he suitability and potential capability of National Forest System lands for producing forage for grazing animals . . . shall be determined as provided in [] this section. Lands so identified shall be managed in accordance with direction established in forest plans.

(a) Lands suitable for grazing and browsing shall be identified and their condition and trend shall be determined. The present and potential supply of forage for livestock . . . shall be estimated. The use of forage by grazing and browsing animals will be estimated. Lands in less than satisfactory condition shall be identified and appropriate action planned for their restoration.

[. . .]

36 C.F.R. 219.20. Capability is “the potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity.” 36 CFR 219.3. It “depends upon *current resource conditions* and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.” *Id.* (emphasis added).

³ See, e.g., Carter, J. Vasquez, E. and Jones, A. 2020. Spatial Analysis of Livestock Grazing and Forest Service Management in the High Uintas Wilderness, Utah. Journal of Geographic Information System, 2020, 12, 45-69. Scientific Research Publishing.

As a starting point, the agency should determine the average forage production values for lands on the allotments based on ecological site, verified by actual forage measurements, with those areas producing less than 200 lbs/acre excluded, based on Forest Service Region 4 guidance. However, other factors that should be used to determine the capability and suitability of the allotment for livestock grazing, and ultimate stocking rate, include:

- Excluding private lands within the allotments (guidance refers to “national forest system lands”);
- Forage allocated to wildlife and conservation;
- Areas incapable of being grazed (e.g. mines, roads, quarries, etc.);
- Areas unsuitable for grazing due to conflicts with other uses like habitat and recreation;
- Areas unsuitable for grazing due to highly erosive soils;
- Distance to currently available water (must be within 1 mile);
- Slope (maximum of 30% for cattle);
- Forage demand of livestock based on weight of animals;
- Sustainable utilization levels including trampling, use by rodents and insects;
- Required residual vegetation heights (such as for sage-grouse nesting, and LCT streams);
- Season of use, regular rest, deferment of grazing during critical growth periods;
- Weather, including drought;
- Use mapping and actual use.

When the Forest Service fails to adequately explain how it uses capability criteria to reach a determination on acres capable for livestock grazing, and declines to share the data it uses, or show allotment-by-allotment capability, it violates NFMA, as well as NEPA’s “hard look” doctrine. *W. Watersheds Proj. v. U.S. Forest Serv.*, No. 05-cv-189-BLW, 2006 WL 292010, at *6–*7 (D. Idaho Feb.7, 2006); *see also* 40 C.F.R. § 1502.24 (agency must disclose methodology).

We look forward to a clear explanation in the EIS of how the Forest Service determined capability and suitability, and ultimately how it will determine carrying capacity, but our initial impressions suggest a number of deficiencies.

First, there is a question whether the analysis, performed in 2007, remains accurate. The March 2020 memo to the Santa Rosa Rangeland Project file states that since 2007, “nothing has changed that would prevent the rangelands in the project from meeting the capability criteria used.” However, there is no explanation of why this is true, and why the analysis remains “current” as required by the regulations. As just one example, since 2007, a west-wide “mega drought” has continued to develop.⁴ How has this affected the availability of seasonal and perennial water in the project area? There is also no indication that the Forest Service has undertaken an updated inventory of ecological condition in the past 13 years that could impact production values.

⁴ See <https://www.bbc.com/news/science-environment-52312260> (last visited April 27, 2020).

Further, aerial imagery and a variety of GIS and remote imaging technologies have become available recently that would allow the Forest Service to more accurately address the deficiencies in data that it identified in the 2007 analysis.⁵ For example, the analysis states that it did not exclude private lands, small streams, and roads, and did not consider soil mapping. It excluded soil mapping because it stated that information was not available for 80% of the Forest, without stating whether it was available for the Santa Rosa Ranger District. According to the USDA, this information is now available.⁶

Second, the analysis assumes the availability of seasonal water in its determination of capable acres, without explaining why. Since the grazing seasons for many allotments run well into fall (or have the potential to because they are not specified), there is a likelihood that seasonal water is not available throughout the season of use. What is the definition of seasonal water, and how late does water defined as “seasonal” persist into summer or fall?

Third, capable acres need to be delineated by pasture rather than just allotment. This is clear because in a number of allotments, some pastures may be essentially incapable of grazing by cows. Therefore, those pastures should not be included when factoring stocking rate. Stocking rate should be done by pasture.

Fourth, the capability analysis used “potential” plant community for production, without stating or determining that communities were at their potential. In many or even most areas, they are not. The analysis also does not state if this calculation is correctly limited to *forage* production or is total production. Since much of the project area is sagebrush steppe, a significant portion of the total vegetation production is not forage.

Fifth, the capability and suitability memo to file uses capable acreage totals assuming a <40% slope for cattle, even though the current Region 4 guidance (1998) uses a 30% cut off for cattle. The capability analysis must use 30% in order to comply with current policy. It should also exclude areas, such as ridgetops, where slope is less than 30% but which could only be accessed by climbing areas that are far steeper than 30%.

Sixth, the final chart in the analysis at page 9, which appears to be the ultimate calculations, is unclear in several respects. It seems to be binary in that it only shows one class of forage production for each slope criterion. So, for the correct slope (<30%), it only includes forage production of what we assume is >50 lbs. per acre. For the correct forage production of >200 lbs. per acre, it only applies the incorrect <40% slope. This needs to be recalculated to show the capable acres applying both <30% slope and >200 lbs./acre.

Even taking the incorrect, higher range of capable acres using 40% slope, as the Forest Service did, it is clear that much of the project area is not capable of livestock grazing. This appears to be particularly true in the southerly allotments in the Santa Rosa Range proper, where only roughly half of the acres or less are capable of being grazed. Six of the 12

⁵ Carter et al., *supra*.

⁶ See <https://websoilsurvey.nrcs.usda.gov/DataAvailability/SoilDataAvailabilityMap.pdf> (last visited April 22, 2020).

allotments analyzed have less than 60% capable acres. Using the figures in the analysis and the NOPA—which again, are inflated—capable acres out of total acres are:

- **Buffalo** – $4,379/21,395 = 20.4\%$ **capable**
- Buttermilk – $22,274/36,653 = 60.7\%$ capable
- **Granite Peak** – $21,278/41,686 = 51.0\%$ **capable**
- Indian – $14,026/19,715 = 71.1\%$ capable
- **Lamance** – $3,564/6,376 = 55.8\%$ **capable**
- Martin Basin – $28,996/34,740 = 83.4\%$ capable
- North Fork – $5,314/5,871 = 90.5\%$ capable
- **Paradise** – $6,561/15,156 = 43.2\%$ **capable**
- Quinn River – $43,595/56,389 = 77.3\%$ capable
- **Rebel Creek** – $4,789/16,591 = 28.8\%$ **capable**
- **West Side Flat Creek** – $9,744/21,221 = 45.9\%$ **capable**
- Wild Bill – $11,341/12,035 = 94.2\%$ capable

This has significant implications for setting the stocking rate. In fact, there is no analysis of carrying capacity or stocking rate, which we expect to be detailed in the EIS, using the appropriate capability criteria. How does the Forest Service get from its calculations of capable and suitable acres to the proposed Head Months detailed in the NOPA?

These southern allotments are characterized by steep, “V-shaped” canyons, with narrow riparian areas along their bottoms, and very steep slopes. The attached photo of McConnell Creek illustrates these features, common on various allotments, particularly on the west side of the Santa Rosa Range. Clearly these are not suitable areas for livestock, especially cattle.



Finally, the suitability analysis is a conclusory single paragraph that does not analyze any of the suitability considerations that are suggested in the R4 guidance, except one: administrative and recreation areas. What about areas with noxious weed infestations? What about sensitive wildlife habitats? Are occupied and potential Lahontan cutthroat trout streams truly suitable for grazing? What about sage-grouse leks and nesting habitat? A much more robust suitability analysis should be undertaken that does not take for granted that the most sensitive wildlife habitats on the Ranger District should be available for grazing. The demand for the Santa Rosa Ranger District in 2020 is not the same as it was in 1970, and non-consumptive public uses are far more important than they were in the past. Recreation, scenery, ecosystem services, and other uses that are incompatible with commercial livestock grazing must take precedence in more areas of the Santa Rosa Ranger District.

Numbers of Livestock

While the NOPA is not fully clear, it does not appear to include a permit term for numbers of permitted livestock. NOPA at Table 5. Instead, it indicates that BLM would manage only using Head Months. Under the Federal Land Policy and Management Act (FLPMA), the Forest Service is required to specify maximum numbers of permitted livestock as a mandatory term and condition of a grazing permit. 43 U.S.C. § 1752(e); 36 C.F.R. § 222.3(c)(1)(vi)(E); *see also Nat. Res. Defense Council v. Hodel*, 618 F. Supp. 848, 869–70 (E.D. Cal. 1985). The Humboldt Forest Plan also notes that grazing permits “specify the type and number of livestock.” LRMP at II-12. In accordance with the plan, “livestock numbers . . . will be monitored.” LRMP at IV-39. Thus, the permits must include specific limits on allowable livestock numbers.

Season of Use

The NOPA appears to have backed away from its initial proposal to authorize a year-round season of grazing use, but it has replaced that proposal with an effectively equal proposal, which would essentially authorize grazing during any time that it could practically occur. The Forest Service proposes to allow grazing during the snow-free months of March to November. NOPA at 14.

This proposal aligns with a recent trend to allow “flexibility” in grazing on BLM public lands. However, it is fraught with accountability issues, does not allow the Forest Service or the public to appropriately evaluate the environmental impact of grazing, and is fundamentally inconsistent with the concept of federal trustee management. It is also unnecessary because the Forest Service already has the ability to adjust grazing yearly based on environmental conditions. What is the source of authority to allow flexible seasons of use?

Allowing permittees to decide when they will graze their livestock on public lands removes one of the few measures of accountability that permittees have to the agency and to the public. The ability to know when and where livestock are authorized is the most straightforward way for managers and the public to provide oversight of grazing on public lands. Even under the current system of defined seasons of authorized use, it can be difficult for the public to know

for sure when livestock are authorized in a given location. To its credit, the Humboldt-Toiyabe National Forest makes an effort to post AOIs for each ranger district to its website to provide annual management terms to the public. However, in many cases, AOIs are not all posted until grazing for the year is well underway, particularly for allotments that have an earlier turnout date, and in some years, some AOIs are never posted. If permittees can choose when to graze at any point during a nine-month authorized season of use, allowable season of use becomes insider information from which the public is cut off. Even the Forest Service will be hampered in knowing that information, monitoring livestock use, and ensuring compliance with permit terms and conditions.

Further, and even more importantly, if seasons of use are not defined, there is no way to accurately consider what the impacts of grazing are, or monitor trends that would allow the Forest to make corrections or changes. Domestic livestock have very different impacts on different resources at different times of the year. There are many relevant examples. The impacts of allowing grazing of native grasses in the spring during their critical growth and reproductive cycles is different than grazing them in the fall, after they have set seed. Allowing livestock in occupied LCT streams has a different impact to fish if they are spawning, or rearing, and in some cases, they may be present in certain reaches only during certain times of the year. Grazing in late spring and early summer impacts native wildlife during their breeding and nesting seasons, or when they have young offspring, while grazing in winter habitat may impact their wellbeing during that critical time, even when livestock are not present. Livestock have different impacts to uplands and riparian areas during mid-summer than they do during spring or fall. Grazing during sage-grouse nesting season has different impacts than grazing during late-brood rearing season. How can the Forest Service accurately analyze these impacts, to inform its own management and for disclosure to the public, if it does not know when grazing will occur in any given allotment? How will the Forest Service know what to correct if grazing harms resources?

Allowing private ranchers to choose when they will graze public lands is also an abrogation of the Forest Service's role as administrator of national forests. The federal government does not allow factories to choose how much waste water they will discharge, or allow timber companies to choose how many trees they will log. The Forest Service is a regulatory agency and permitting private interests to remove "forage" from lands owned by all Americans is necessarily a prescriptive exercise of its responsibility. Rather than delegate its authority manage national forests to private ranchers, the Forest Service has the duty to manage activities that impact vegetation, water, and wildlife as a trustee of those resources for the public. As noted above, Congress made clear in FLPMA, which applies to grazing permits on national forests, that seasons of use are mandatory terms and conditions of grazing permits. 43 U.S.C. § 1752(e); *Hodel*, 618 F. Supp. at 869–70. The Humboldt Forest Plan also notes that grazing permits "specify ... the season of use." LRMP at II-12. The Martin Basin Rangeland Project FEIS shows what the actual permitted seasons of use have been up to this point. FEIS at 15.

Finally, there is ample ability under the Forest Service's current system of defining allowable seasons of use to provide for yearly adjustments because of soil condition, precipitation, and other considerations. In fact, the NOPA notes a range of on- and off-dates for

at least one allotment. See, e.g., NOPA at 4 (Buffalo on-date between June 16 and 24, off-date between August 4 and 31). These minor variances can be determined through AOIs. Therefore, a wholesale change to undefined seasons of use is not warranted.

Pasture moves/schedules

Each allotment has between 2 and 7 pastures. Similar to numbers of livestock and seasons of use, the permits must state when each pasture can be used, and for how long.

Measurable Use Standards

The proposed action includes utilization and stubble height standards, but they are too permissive to protect sensitive resources based on scientific literature. The NOPA also fails to include a standard for bank alteration, which is critical to protect riparian species, water quality, and watershed function.

WWP supports the inclusion of a standard for riparian stubble height. But 4" is not sufficiently protective of sensitive resources, which requires a minimum of 6" of residual stubble height.⁷ Requiring only 4" of residual vegetation is also very likely a decrease in protection from percentage utilization requirements under the existing regime, at a minimum for many sedge and rush species (which are common and desired native riparian species) in most management category classes.⁸ For example, for Baltic rush and Nebraska sedge that would have been previously subject to a 35-45% utilization standard in most areas of the allotments at issue, those utilization rates would have resulted in a 9–15" residual stubble height.⁹ By the time 4" of residual stubble height is reached for many species, 70% utilization by weight will occur. Also, under Amendment II, *maximum* utilization rates by management category are only to be applied when plant communities are at the desired condition—not the case in many areas of the Santa Rosa allotments, including many upland springs and seeps. What is the justification for only requiring 4" of stubble height?

The blanket upland utilization standard of 50% is too high to protect native species. Holechek, citing various other sources, denotes that a utilization rate of around 25-35% is needed "for high nesting success by sage-grouse"¹⁰ as well as 35% generally for arid and semi

⁷ Clary and Webster (1989) Managing grazing of riparian areas in the Intermountain Region. General Technical Report. INT-263. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station, 11 p.

⁸ Kinney J. and Clary, W. (1994). A photographic Utilization Guide for Key Riparian Graminoids. USDA, Forest Service. Intermountain Research Station. General Technical Report INT-GTR-308.; Cowley, E.R. (1999). Stubble Height Based on Height-Weight Curves for Nine Key Riparian Graminoids.

⁹ Cowley

¹⁰ Holechek, J. L., R. D. Pieper, C. H. Herbel. 2010. RANGE MANAGEMENT: PRINCIPLES AND PRACTICES. 6th ed. Prentice-Hall. Upper Saddle River, NJ.

arid areas; and Braun (2006)¹¹ recommends no more than 30% utilization in sage-grouse habitat. What is the rationale for the proposed action to allow 50%? This is at least 15% higher than recommended for semi-arid areas and for sage-grouse habitat.

Further, in order to incorporate the best available science, as described below, and comply with the 2015 Sage-grouse LRMP amendment, which the NFMA Assessment makes clear applies to this action,¹² the permits need to incorporate a 7" upland residual perennial grass stubble height standard through June 15, as "should be applied" in sage-grouse breeding and nesting habitat per GRSG-LG-GL-035-Guideline, Table 3 in the 2015 Amended LRMP.¹³ ROD at 82. Likewise, a 4" upland residual stubble height standard needs to be applied in the same habitat areas after nesting occurs, from June 16 to October 30. *Id.*

The proposed action needs to incorporate a bank alteration standard of 10% for every permit. This is a crucial metric for riparian health, especially related to aquatic species.¹⁴ The Fish and Wildlife Service described the importance of bank stability in the Martin Basin BO:

Streambank damage can reduce or eliminate fish habitat associated with banks (Armour 1977, Kauffman *et al.* 1983, Matthews 1996), alter stream morphology such as pool/riffle and width/depth ratios (Gunderson 1968; Platts 1979, 1991; Overton *et al.* 1994; Myers and Swanson 1995; Knapp and Matthews 1996; Lyons *et al.* 2000; Herbst *et al.* 2012), and cover spawning areas with sediment which reduces survival of fish embryos (Phillips *et al.* 1975; Myers and Swanson 1996a, 1996b; Wood and Armitage 1997; Herbst *et al.* 2012). In some areas of the affected allotments, particularly in meadows, hoof shear led to bank collapse, removing a habitat component important to trout. Increased sedimentation due to this collapse may decrease pool volume downstream, eliminating other important habitat (Duff 1983, McIntosh *et al.* 2000). Cattle grazing in watersheds supporting listed aquatic species could increase predation of fish by birds and mammals because of the effect the cattle have on streambanks. Channels become wider, shallower, and cover is eliminated on the banks and within the channel. Fish are more exposed and vulnerable to predation due to lack of escape cover.

Martin Basin BO at 27. In order to protect streambanks, a mandatory Term and Condition for Reasonable and Prudent Measure Number 1 in the Incidental Take Statement required that "livestock streambank alteration levels shall not exceed 10% within all pastures and allotments with occupied or essential stream reaches for LCT." BO at 35. The Martin Basin ROD adopted

¹¹ Braun, C. (2006). A Blueprint for Sage-grouse Conservation and Recovery. Grouse, Inc. Tucson, AZ. 42.pp.

¹² NFMA assessment at p.4, FN 6: "[T]his action refers to the 2015 Greater Sage Grouse Record of Decision for Idaho and Southwest Montana, Nevada and Utah and Land Management Plans for these areas"

¹³ Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3855559.pdf

¹⁴ Bridger-Teton NF whitepaper (attached); Goss, L.M. and Roper, B.B. 2018. The Relationship Between Measures of Annual Livestock Disturbance in Western Riparian Areas and Stream Conditions Important to Trout, Salmon, and Char. Western North American Naturalist, 78(1):76-91. <http://www.bioone.org/doi/full/10.3398/064.078.0108>

that 10% bank alteration standard. What is the rationale for removing this streambank alteration that was previously in place? The Humboldt LRMP requires that the Forest Service achieve 90 percent bank stability for streams where LCT are present, and Amendment II requires it for Class I riparian areas. The Environmental Protection Agency commented on the Martin Basin FEIS that “[e]stablishing a 10 percent maximum streambank disturbance criterion for all streams inhabited by Lahontan cutthroat trout is a crucial mitigation measure.”¹⁵ How can the Forest Service ensure bank stability without a bank alteration standard?

The proposed 35% utilization rate for riparian woody vegetation is an increase for all allotments and pastures from the allowances under Amendment II, and significantly increases browse levels for many allotments that have previously been subject to a 20% riparian browse standard. See Martin Basin FEIS at 20–21. While 30-35% use may be an acceptable level of use for riparian areas in excellent condition, that is not the case for all of the allotments and pastures in the Martin Basin, and probably the other allotments outside the Martin Basin as well, and will contribute to the stagnation of riparian ecological condition at nonfunctional or functioning at risk in those areas.

Periodic Rest

The proposed action should include regular periods of rest for every allotment, preferably alternating years of rest rather than deferred use. The Forest Plan makes clear that the Forest Service should incorporate rest “where possible” and “where feasible.” LRMP at IV-5, 32. Is rest-rotation grazing here “possible” and “feasible”? If not, why not?

Rest following wildfire, and drought actions

The proposed action must include defined minimum periods of rest from livestock grazing following disturbance including wildfire, with grazing only resuming after objective mandatory vegetation recovery standards have been reached. The Forest Plan states that “[l]ivestock grazing will not be allowed for two years following prescribed fire, plantings, or seedings” and that “a burned area should not be grazed by livestock for two growing seasons following the burn.” LRMP at IV-37, 47. The minimum period of rest should be two years,¹⁶ but should extend until standards have been reached.¹⁷ These standards should reflect habitat

¹⁵ EPA Comments at 1-2 (2010) (attached).

¹⁶ Longer periods of time are likely required. *E.g.* Yeo, J. 2012. Revitalization of a native Wyoming Big Sagebrush/ Bluebunch Wheatgrass Community in Idaho: a 10-year Summary. BLM Technical Bulletin 2014-1 (recommending 4–5 years of rest following reseeding); Pyke, D.A., Chambers, J.C., Pellant, M., Miller, R.F., Beck, J.L., Doescher, P.S., Roundy, B.A., Schupp, E.W., Knick, S.T., Brunson, M., and McIver, J.D., 2017, Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat—Part 3. Site level restoration decisions: U.S. Geological Survey Circular 1426, 62 p., <https://doi.org/10.3133/cir1426> (recommending up to 4-6 years of rest depending on vegetation type).

¹⁷ See Veblen, Post Fire Grazing Management in the Great Basin, Great Basin Factsheet Series, No. 7 (2015) (available at <http://www.sagegrouseinitiative.com/wp->

needs of native wildlife and include criteria for establishment of grasses, forbs, and woody plants.

The proposed action also needs to be explicit about what management actions will occur if there is drought. The NOPA notes that during drought, “alternative and additional management may be undertaken” in response to drought, but does not signify what that action could be, or how drought is measured. The proposed action should clearly define drought triggers and management responses so that all parties have a common understanding of modifications that will need to occur during drought.

Monitoring Plan

The NOPA provides only a vague description of monitoring that would take place, making essentially no commitments as to time frames, methods, or corrective actions that would occur if standards are not met. It fails to instill confidence that the Forest Service is committed to ensuring that monitoring, and ecological recovery, will actually take place.

AMPs

Does the proposed action contemplate issuance of Allotment Management Plans?

Annual Report

The Martin Basin FEIS specified that an annual report would be issued “summarizing management actions, monitoring, and allotment administration” and distributed to interested public. FEIS at 30. The proposed action should provide for the same.

BMPs

How does the proposed action ensure water quality and compliance with state and federal water quality standards? How does the proposed action incorporate Region 4 Best Management Practices?

Predator Killing

Please discuss if this proposal includes authorization of predator killing actions on national forest lands.

Alternatives

In an EIS, the Forest Service must study, develop, and describe alternatives to the proposed action, and analyze “all reasonable alternatives.” 40 U.S.C. § 4332(C)(iii); 40 C.F.R. § 1502.14. The alternatives analysis is “the heart of the environmental impact statement,” and the agency must “rigorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R.

[content/uploads/2015/07/7 Post-fire Grazing.pdf](#)) (last visited August 13, 2019); Pyke et al. 2017, *supra*.

§ 1502.14. “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992) (quotation omitted).

NEPA’s alternatives requirement also serves to inform the public of “reasonable alternatives that would avoid or minimize impacts,” 40 C.F.R. § 1502.1, or that “might be pursued with less environmental harm.” *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005). The EIS’s alternatives analysis must “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public.” 40 C.F.R. § 1502.14.

The NOPA states that alternatives to the proposed action may be generated from public comments. As we previously recommended in our scoping comments, the Forest Service should analyze a reasonable range of management alternatives that would best fulfill the Forest Service’s obligation to manage the public’s resources in the best interest of the public, by improving ecological health and function, and providing for wildlife. These include:

- Implementation of Amendment II, if and where it has not been implemented.;
- Changes in season of use to avoid sensitive times of the year for focal species. For example, no grazing on LCT streams during spawning and when vulnerable young are present; no grazing during sage-grouse breeding and nesting seasons; no grazing during bighorn sheep lambing season, etc.;
- Changes to frequency of authorized grazing including alternating years of rest from grazing on every allotment;
- Reduction of intensity of grazing, including an alternative for grazing at 50% of recent actual use measured by Head Month;
- Change to stocking rate based on a valid carrying capacity analysis, by pasture;
- Reduction of intensity of grazing by applying measureable use standards that protect sensitive wildlife, including 30% utilization of upland grasses and shrubs, 6-inch riparian stubble height, and 10% bank alteration;
- Reduction of areas authorized for grazing: removal of grazing from LCT watersheds, wet meadows, and sage-grouse nesting habitat, wilderness, and aspen stands;
- Removal of livestock infrastructure (water developments, dams, dugouts, and other impoundments) to promote proper ecological function, restoration, and recovery of the landscape; and
- Requiring active herding by permittees to increase distribution and lessen impacts to riparian areas;

The NOPA also appropriately states that the Forest Service will analyze a no action (no grazing) alternative. This alternative is critical because it serves to establish the baseline conditions absent grazing. Analysis of species, habitat, and ecological processes without livestock grazing will help present the impacts of grazing in comparative form and inform the Forest Service and the public what the effects would be if the Forest Service declined to continue to authorize grazing on the Ranger District. The analysis of this alternative should be just as detailed and robust as every other alternative.

Please denote the environmentally preferable alternative. 36 C.F.R. § 220.3.

Environmental Baseline

The EIS should include a detailed description of the environmental baseline conditions because “[w]ithout establishing the baseline conditions . . . there is simply no way to determine what effect the [action] will have on the environment, and consequently, no way to comply with NEPA.” *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). This information should also be part of the land amendment assessment process. 36 C.F.R. § 219.6.

BLM must provide current data on:

Existing grazing use. Both the NOPA and the scoping notice include a background section on previous livestock use going back over 100 years. This is informative to a degree, but overall seems calculated to create a narrative that grazing as proposed would occur at only a fraction of historic levels. It is well understood that levels of grazing during the unregulated period prior to the creation of the National Forests and the passage of the Taylor Grazing Act, and in the decades after the passage of the TGA as well, were so high that they in many cases caused permanent damage to the landscape and vegetation communities. Thus, the comparison with historic levels is largely irrelevant in a modern management context. However, what is instructive in the timeline is that the levels of grazing that have caused the current ecological problems on the Santa Rosa District appear to have been essentially unchanged since 1970. The proposed action would maintain those grazing levels that have led to continued damage to the public lands over the past 50 years.

The NOPA includes some information on current grazing operations, under existing permits, but the EIS must include much more specific information on how grazing has occurred under the previous/existing permits, when, and how often. This needs to be provided on a pasture level. Please provide actual use for the past 10 years, including livestock numbers, seasons of use, and HMs actually grazed; rotations; and monitoring results.

Ecological condition. What areas have been assessed and when? How were they assessed? For which areas does the Forest have GAWS and PFC data, or other riparian monitoring? What about water quality and temperature data? How have uplands been monitored? What is the current condition of uplands, streams, water quality, aspen groves, springs, seeps, etc. Have sage-grouse habitat assessments been completed? Where are weed

infestations? All of this information is relevant and necessary to determining where and when livestock could be authorized, and at what levels.



Medusahead infestation on BLM land, below Forest boundary above Abel Creek.

Sage-grouse populations. Garton et al. 2015¹⁸ found that the sage grouse population in the Northern Great Basin population (in Management Zone IV) declined from an estimated 40,000 lek attending males in 1965, to just 7,429 in 2007 and then declined 65% in 2013 to just 2,573. The Western Great Basin population (in Management Zone V) also declined significantly. The Santa Rosa Range lies at the intersection of these two populations and management zones. The most current lek counts for Nevada (2019) show continued declines. What is the status and trend for each PMU within the project area? What is the status of affected leks? In which units have hunting seasons been closed due to low population numbers?

We also reiterate our request that the EIS presents high quality, detailed mapping that includes:

- Sage-grouse seasonal habitats (leks, with status; nesting; early and late brood rearing; winter)

¹⁸ Garton, E.O. et al. 2015. Greater Sage-Grouse Population Dynamics and Probability of Persistence. Final Report to PEW Charitable Trusts, Portland, OR. Available at <https://www.pewtrusts.org/~media/assets/2015/04/garton-et-al-2015-greater-sagegrouse-population-dynamics-and-persistence-31815.pdf> (last visited August 15, 2019).

- Sage-grouse habitat management areas
- Sage-grouse habitat monitoring locations
- Bighorn sheep occupied habitat
- Pygmy rabbit habitat
- LCT occupied, historic, and potential streams
- Columbia spotted frog potential habitat
- Mule deer, elk, moose, and pronghorn seasonal habitat
- Recreation sites
- Grazing allotments showing pasture divisions
- All existing livestock infrastructure (fences, water developments, tanks, corrals, pipelines, troughs, etc.)
- All existing livestock exclosures
- Grazing capability and suitability
- Soil maps
- Livestock trailing routes
- Waterways (clearly showing riparian category/class)
- Condition of waterways based on GAWS Monitoring, PFC, etc.
- Springs, seeps, and wet meadows with current condition
- Water quality designations (e.g. impaired waterways)
- Water diversions on Forest Service land
- Aspen, bitterbrush, mahogany, and limber pine
- Sensitive or special status plants
- Invasive plant species occurrences (including medusahead, *Ventenata*, cheatgrass, whitetop, and other noxious weeds)
- Seedings, and other vegetation manipulation
- Fire History

Effects Analysis

In an EA or EIS, an agency must fully analyze all direct, indirect, and cumulative impacts from a proposed action in its environmental analysis. 40 C.F.R. § 1502.16. "Direct effects" include those "which are caused by the action and occur at the same time and place." *Id.* § 1508.8(a). "Indirect effects" include those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." *Id.* § 1508.8(b). "Cumulative impacts" result from the "incremental impact of the action" on the environment "when added to other past, present, and reasonably foreseeable future actions regardless of what agency [] or person undertakes such other actions." *Id.* § 1508.7. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. *Id.* Cumulative impact analyses include private, state, and federal action. *Id.*

Underlying all of NEPA's procedural requirements is the mandate that agencies take a "hard look" at all environmental impacts and risks of a proposed action. *See Natural Res. Def. Council v. Morton*, 458 F.2d 827, 383 (D.C. Cir. 1972). This review cannot be superficial, but rather agencies must take this "hard look" in light of comments submitted by the public as well

as high-quality scientific information. This "hard look" standard ensures the agency gathers the needed factual information and provides sufficient information to support its conclusions.

NEPA requires that the information an agency uses in conducting its environmental review must be "of high quality," and agencies "must insure the professional integrity, including scientific integrity," of their discussions and analyses, and "shall identify any methodologies used" and "scientific and other sources relied upon for their conclusions. *Id.* §§ 1500.1(b) and 1502.24. "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." *Id.* § 1500.1(b).

The Forest Service's planning regulations also emphasize science-based decisionmaking and require the use of the "best available scientific information." 36 C.F.R. §§ 219.1(c), 219.3. As the Forest Service acknowledged in the Martin Basin FEIS, "[o]ur scientific understanding of the impacts of grazing has evolved, and we need to incorporate this knowledge into our grazing management system." FEIS at S-2. This is still true, and the Forest Service must do so here. To that end, we request that the Forest Service consider all of the literature cited and attached here in its NEPA analysis. In accordance with the regulations, please document "what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered." 36 C.F.R. § 219.3.

Sage-grouse

The EIS must incorporate the best available science on the effects of livestock grazing on sage-grouse and its habitat.

With respect to one of the most critical factors for sage-grouse—residual vegetation—the best available science, and indeed, the preponderance of evidence, has established that at least 7 inches (18 cm) of residual stubble height needs to be provided in nesting and brood-rearing habitats throughout their season of use. According to Gregg et al. (1994: 165),¹⁹

"Land management practices that decrease tall grass and medium height shrub cover at potential nest sites may be detrimental to sage grouse populations because of increased nest predation.... Grazing of tall grasses to <18 cm would decrease their value for nest concealment.... Management activities should allow for maintenance of tall, residual grasses or, where necessary, restoration of grass cover within these stands."

Hagen et al. (2007)²⁰ analyzed all scientific datasets up to that time and concluded that the 7-inch threshold was the threshold below which significant impacts to sage grouse occurred

¹⁹ Gregg, M.A., J.A. Crawford, M.S. Drut, and A.K. DeLong. 1994. Vegetational cover and predation of sage grouse nests in Oregon. *J. Wildl. Manage.* 58:162-166.

²⁰ Hagen, C.A., J.W. Connelly, and M.A. Schroeder. 2007. A meta-analysis of greater sage-grouse *Centrocercus urophasianus* nesting and brood-rearing habitats. *Wildlife Biology* 13:42–50.

(see also Herman-Brunson et al. 2009).²¹ Prather (2010)²² found for Gunnison sage grouse that occupied habitats averaged more than 7 inches of grass stubble height in Utah, while unoccupied habitats averaged less than the 7-inch threshold. According to Taylor et al. (2010:4),

“The effects of grazing management on sage-grouse have been little studied, but correlation between grass height and nest success suggest that grazing may be one of the few tools available to managers to enhance sage-grouse populations. Our analyses predict that already healthy populations may benefit from moderate changes in grazing practices. For instance, a 2 in increase in grass height could result in a 10% increase in nest success, which translates to an 8% increase in population growth rate.”

Foster et al. (2014) found that livestock grazing could be compatible with maintaining sage grouse populations, but notably stubble heights they observed averaged more than 18 cm during all three years of their study, and averaged more than 10.2 inches in two of the three years of the study.

Doherty et al. (2014)²³ found a similar relationship between grass height and nest success in northeast Wyoming and south-central Montana but did prescribe a recommended grass height. While there are those who have attempted to cast doubt on the necessity of maintaining grass heights to provide sage-grouse hiding cover, based on timing differences in grass height measurements between failed nests and successful nests, these concerns have been refuted for Wyoming. The significance of the Doherty et al. (2014) study was explicitly tested by Smith et al. (2018), who confirmed that grass height continued to have a significant effect on nest success for this Wyoming study after correction factors were applied to the data.

Connelly et al. (2000)²⁴ reviewed the science of that time and recommended an 18-cm residual stubble height standard. Stiver et al. (2015)²⁵ recommended 18 cm grass height for all breeding and nesting habitats, and explicitly stated that this and other established measures should not be altered unless scientific evidence definitively indicates that the 7-inch threshold is inappropriate.

²¹ Herman-Brunson, K.M., K.C. Jensen, N.W. Kaczor, C.C. Swanson, M.A. Rumble, and R.W. Klaver. 2009. Nesting ecology of greater sage-grouse *Centrocercus urophasianus* at the eastern edge of their historic distribution. *Wildl. Biol.* 15: 395-404.

²² Prather, P.R. 2010. Factors affecting Gunnison sage-grouse (*Centrocercus minimus*) conservation in San Juan County, Utah. PhD Dissertation, Utah State Univ., 134 pp.

²³ Doherty, K.E., D.E. Naugle, J.D. Tack, B.L. Walker, J.M. Graham, and J.L. Beck. 2014. Linking conservation actions to demography: Grass height explains variation in greater sage-grouse nest survival. *Wildlife Biology* 20:320-325.

²⁴ Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. *Wildl. Soc. Bull.* 28:967-985.

²⁵ Stiver, S.J., E.T. Rinkes, D.E. Naugle, P.D. Makela, D.A. Nance, and J.W. Karl, eds. 2015. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. Bureau of Land Management and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

Jankowski et al. 2014²⁶ studied stress hormone levels in Greater sage-grouse with a focus “on the effects of cattle grazing because of the potential negative effects on sage-grouse habitats and because cattle grazing practices can be influenced by management decisions.” They found that residence in a cattle-grazed habitat was associated with increased stress hormone levels in a large sample of greater sage-grouse (329 sage-grouse, 160 from grazed sites and 169 from ungrazed sites). They found higher immunoreactive corticosterone metabolites in greater sage-grouse in cattle-grazed versus ungrazed sites and found a positive correlation of immunoreactive corticosterone metabolites in greater sage-grouse with cattle fecal pat count.

The EIS should also consider the impacts of infrastructure associated with increased grazing. New water developments facilitate sage-grouse predators and predation. Ravens are significant predators on sage-grouse eggs and chicks. They are visual foragers and use manmade structures as perch sites to increase their visual fields. There is published evidence that ravens show a preference for developed livestock waters rather than natural springs as a water source (Knight et al. 1998).²⁷ Livestock presence is already beneficial to ravens, coyotes, and other subsidized predators in other ways, for example by providing carcasses and disturbances that facilitate raven presence and foraging. There is also the risk that adding new developed waters may encourage raven use of the allotment and thus facilitate the distribution of West Nile Virus across the allotment carried by affected ravens. Livestock infrastructure and livestock themselves also promote increases in ravens (Coates et al. 2016).²⁸

Water developments indirectly impact sage-grouse in other ways. The addition of man-made water sources may increase the distribution or abundance of West Nile virus mosquito vectors in sage-grouse habitat placing the local sage-grouse population at risk (Walker and Naugle 2011).²⁹

Mortality associated with fence collisions can be dramatic in sage-grouse habitat. For example, Stevens (2011)³⁰ found that corrected landscape-scale sage-grouse collision rates ranged from 0.12-0.70 strikes/km in 2009 and 0.18-0.75 strikes/km in 2010 (Stevens 2011 p. 63). Avian fence collision surveys in sagebrush-steppe habitats should be conducted with less than 2-week sampling intervals to reduce the impact of survival bias on collision rate estimates

²⁶ Jankowski, M. D., Russell, R. E., Franson, J. C., Dusek, R. J., Hines, M. K., Gregg, M. and Hofmeister, E. K. 2014. Corticosterone Metabolite Concentrations in Greater sage-grouse are Positively Associated with the Presence of Cattle Grazing. *Rangeland Ecology and Management*. 67(3): 237-246. doi: <http://dx.doi.org/10.2111/REM-D-13-00137.1>

²⁷ Knight, R. L., Camp, R. J. and Knight, H. A. L. 1998. Ravens, Cowbirds, and Starlings at Springs and Stock Tanks, Mojave National Preserve, California. *Great Basin Naturalist*. 58(4): 393-395.

²⁸ Coates P. S., Brussee, B. E., Howe, K. B., Gustafson, K. B., Casazza, M. L. and Delehanty, D. J. 2016. Landscape characteristics and livestock presence influence common ravens: relevance to greater sage-grouse conservation. *Ecosphere*, 7(2): e01203. 10.1002/ecs2.1203

²⁹ Walker, B. L. and Naugle, D. E. 2011. West Nile Virus ecology in sagebrush habitats and impacts on Greater Sage-Grouse populations. Chapter 10, In: *Ecology and Conservation of Greater Sage-Grouse: A Landscape Species and Its Habitats*.

³⁰ Stevens, B. S. 2011. Impacts of Fences on Greater Sage-Grouse in Idaho: Collision, Mitigation, and Spatial Ecology. M.Sc. Thesis, University of Idaho.

and caution should be used when aggregating or comparing uncorrected collision data from areas with differing vegetation, as detection probabilities are likely different between sites (Stevens et al. 2011 p. 447). Marking fences may help reduce collision rates, but collisions still occurred at marked fences <500 m from large leks and moving or removing fences may be necessary (Stevens et al. 2012 p. 297).³¹

Native vegetation communities and soils

The Forest Service must consider the best available science on the impacts to native bunchgrasses and soil crusts, and the attendant increases in invasive annual grasses, from livestock grazing. The literature indicates that livestock grazing is the most important cause of the introduction, persistence, and spread of cheatgrass, medusahead wildrye, *Ventenata dubia*, and other invasive annual grasses that have degraded the shrubsteppe and other habitat in the Great Basin ecosystems across Nevada, and continue to spread.

Biological soil crusts are a natural component of the sagebrush steppe, occurring in the interspaces between shrubs and bunchgrasses. Soil crusts are composed of lichen, moss, algae, fungi, and cyanobacteria (Rosentreter et al. 2007;³² Belnap et al. 2001).³³ Crusts provide an effective barrier to germination of annual grasses like cheatgrass (Deines et al. 2007).³⁴ Because soil crusts maintain open areas between plants, rather than continuous vegetation, they also act as a deterrent to fire spread (Belnap et al. 2001). Similarly, the presence of native bunchgrasses inhibits germination and growth of cheatgrass (Reisner et al. 2013).³⁵ Studies have found that intact sagebrush steppe habitat, with presence of shrubs, robust native grasses, and intact soil crusts, effectively deter establishment of cheatgrass and other native grasses (Condon and Pyke

³¹ Stevens, B. S., Reese, K. P., Connelly, J. W. and Musil, D. D. 2012. Greater sage-grouse and fences: Does marking reduce collisions? Wildlife Society Bulletin, 36(2): 297-303.

³² Rosentreter, R. et al. 2007. A field guide to biological soil crusts of western US drylands. U.S. Government Printing Office, Denver, Colorado.

³³ Belnap, J. et al. 2001. Biological Soil Crusts: Ecology and Management. BLM TR 1730-2 (2001). U.S. Department of Interior.

³⁴ Deines, L. et al. 2007. Germination and Seedling Establishment of two annual Grasses on Lichen-dominated Biological Soil Crusts. Plant Soil (2007) 295:23–35. DOI 10.1007/s11104-007-9256-y

³⁵ Reisner, M. D., Grace, J. B., Pyke, D. A. and Doescher, P. S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. Journal of Applied Ecology, 50(4): 1039-1049. doi: 10.1111/1365-2664.12097

2018;³⁶ Ponzetti 2007).³⁷ Established bunchgrass outcompetes cheatgrass (Mazzola 2008).³⁸

Time-series data and results in Williamson et al. (2019)³⁹ indicate that grazing corresponds with increased cheatgrass occurrence and prevalence regardless of variation in climate, topography, or community composition, and provide no support for the notion that contemporary grazing regimes or grazing in conjunction with fire can suppress cheatgrass.

However, both crusts and bunchgrasses are reduced by grazing pressure. Soil crusts are fragile and easily destroyed by heavy livestock and hooves (Belnap 1995).⁴⁰ As a result, loss of soil crusts and native bunchgrasses allows cheatgrass to thrive (Reisner et al. 2013; Chambers et al. 2007;⁴¹ Condon and Pyke 2018). Forest Service research has shown that rest from grazing can lead to “substantial recovery” of biological crusts.⁴²

Another study, Root et al. (2019),⁴³ published in *Ecological Applications*, sampled random sites in Idaho’s Snake River Plain, and measured biocrust communities and vegetation across low, medium, and high grazing intensities. They found biocrust cover and species richness negatively related to grazing intensity, with plots with the lowest grazing intensity having highest biocrust diversity and cover. Additionally, they found that exotic annual grasses were substantially more abundant in plots with higher grazing intensity. Their results indicated that reduction of biocrust cover and richness favored exotic annual grasses and disfavored

³⁶ Condon, L.A. & Pyke, D.A. Fire and Grazing Influence Site Resistance to *Bromus tectorum* Through Their Effects on Shrub, Bunchgrass and Biocrust Communities in the Great Basin (USA). *Ecosystems* (2018) 21: 1416

³⁷ Ponzetti, Jeanne M., Bruce McCune, David A. Pyke. 2007. Biotic soil crusts in relation to topography, cheatgrass and fire in the Columbia Basin, Washington. *The Bryologist*, 110(4):706-722

³⁸ Mazzola, M. et al. SPATIO-TEMPORAL HETEROGENEITY AND HABITAT INVASIBILITY IN SAGEBRUSH STEPPE ECOSYSTEMS: A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Ecology, Evolution and Conservation Biology. May 2008.

³⁹ Williamson, M.A. et al. (2019). Fire, livestock grazing, topography, and precipitation affect occurrence and prevalence of cheatgrass (*Bromus tectorum*) in the Central Great Basin, USA. *Biol Invasions*. <https://doi.org/10.1007/s10530-019-02120-8>

⁴⁰ Belnap, J. 1995. Surface Disturbances: Their Role in Accelerating Desertification. *Environmental Monitoring and Assessment*. 37: 39–57.

⁴¹ Chambers, J. et al. 2007. What makes Great Basin Sagebrush Ecosystems Invasible by *Bromus tectorum*? *Ecological Monographs*, 77(1), 2007, pp. 117–145. The Ecological Society of America

⁴² J.H. Kaltenecker, et al., *Biological Soil Crusts in Three Sagebrush Communities Recovering From a Century of Livestock Trampling*, SHRUBLAND ECOTONES, RMRS-P-11 222-226 (USDA Forest Service, Rocky Mountain Research Station, Ogden, Utah 1999).

⁴³ Root, H., Miller, J., and Rosentreter, R. 2019. Grazing disturbance promotes exotic annual grasses by degrading soil biocrust communities. *Ecological Applications*, 0,(0), 2019, e02016. <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/eap.2016>

perennial grasses, highlighting the importance of biocrust cover in maintaining site resistance to invasion by exotic annual grasses.

Livestock preferentially graze the large, native bunchgrasses that are naturally present in the sagebrush steppe. Because of this preferential emphasis on native species, Young (1992)⁴⁴ cautioned that “[c]ontinued grazing of medusahead-dominated grasslands is extremely deleterious on remnant perennial grasses because of differential grazing preference.” Young and Clements, 2007: 19,⁴⁵ state that: “Once the cheatgrass is mature, the still green native perennial grasses are selectively overgrazed by cattle. If the density of native perennials is low, even low levels of trespass grazing are sufficient to selectively over-utilize the native perennial grasses.” Native bunchgrasses in the Great Basin evolved without significant herbivory and there therefore highly sensitive to grazing, diminishing or disappearing when grazed by livestock (Mack and Thompson 1982;⁴⁶ Anderson 1991;⁴⁷ Reisner et al. 2013).

Lahontan cutthroat trout

The EIS should incorporate information on the impact to LCT from livestock grazing from the Martin Basin BO:

Livestock grazing can affect riparian areas by changing, reducing, or eliminating vegetation, and by the actual loss of riparian areas through channel widening, channel degradation, or lowering of the water table. Effects on fish habitat include reduction of shade and cover and resultant increases in water temperature, changes in stream morphology, and the addition of sediment due to bank degradation and off-site soil erosion. Behnke and Zarn (1976) identified livestock grazing as the greatest threat to the integrity of stream habitat in the western United States. Numerous symposia and publications have documented the detrimental effects of improper livestock grazing on streams and riparian habitats (Johnson and Jones 1977; Meehan and Platts 1978; Behnke and Raleigh 1978; Bowers *et al.* 1979; Cope 1979; AFS 1980; Platts 1981, 1990, 1991; Ohmart and Anderson 1982; Peek and Dalke 1982; Kauffman *et al.* 1983; Menke 1983; Kauffman and Krueger 1984; Johnson *et al.* 1985; General Accounting Office (GAO) 1988; Clary and Webster 1989; Gresswell *et al.* 1989; Kinch 1989; Minshall *et al.* 1989; Chaney *et al.* 1990, 1993; Clary *et al.* 1992; Fleischner 1994; Vavra *et al.* 1994; Fitch and Adams 1998; Larson *et al.* 1998; Belsky *et al.* 1999; Holechek *et al.* 1999; Brookshire *et al.* 2002; Clary and Kruse 2004; Wyman *et al.* 2006; Gregory and Gamett 2009, Peterson *et al.* 2010, Poff *et al.* 2011; Herbst *et al.* 2012; Beschta *et al.* 2013; Batchelor *et al.* 2015).

⁴⁴ Young, J.A. 1992. Ecology and Management of Medusahead (*Taeniatherum Caput-Medusae* SSP. *Asperum*) Great Basin Naturalist, 52(3) pp.245-252.

⁴⁵ Young, J.A and Clements, C.D. Cheatgrass and Grazing Rangelands. Rangelands, 29 (6): 15-20. December 2007.

⁴⁶ Mack, R. and Thompson, J. Evolution in Steppe with few large, hooved mammals. American Naturalist, Vol. 11, No. 6. June 1982.

⁴⁷ Anderson, Loren D. 1991. Bluebunch wheatgrass defoliation: effects and recovery a review. BLM, Salmon, Idaho. BLM-ID-PT-91-010-4350.

Martin Basin BO at 24.

Riparian Values

The Humboldt Forest Plan states that less than 1% of the forest's land base is riparian areas, but recognizes that "the relative value of these small, scattered riparian areas far exceeds that of the surrounding lands." LRMP at II-16. What are the potential impacts to springs, seeps, wet meadows, and streams within the project area? These areas are exceedingly rare within Nevada, yet have a disproportionate value for wildlife (Sada 2008).⁴⁸ What are the impacts to wildlife that depends on these areas?

Migratory birds and small mammals

What are potential impacts to migratory birds and their habitats? Livestock grazing season on higher elevation national forest like the Santa Rosa Ranger District overlaps the breeding and/or nesting periods for most native wildlife, including migratory birds in the Great Basin. Many species are ground-nesting or nest low in shrubs (Dobkin and Sauder 2004).⁴⁹ What are the impacts to rodents and other small mammals from removal of grass and vegetation by grazing? What about the myriad species that rely on small mammals as a food source? The EIS must analyze the impacts of grazing on these species.

Pygmy Rabbit

Like the greater sage grouse, pygmy rabbits are sagebrush obligates. Consequently, pygmy rabbits face many of the same threats as sage grouse, including extensive habitat modification due to livestock grazing. Because grazing on the Santa Rosa Ranger District is widespread, there is "substantial concern about the species' capability to persist over the long-term in the plan area." 36 C.F.R. § 219.9. The Forest should therefore commit to maintaining a viable population of this rare and important indicator species. *See id.* Livestock grazing has been shown to adversely affect pygmy rabbits in several ways. For instance, there is considerable evidence that livestock trample and destroy pygmy rabbit burrows. Pygmy rabbits dig simple shallow burrows in relatively deep, loose soils.⁵⁰ Entrances to burrows may be concealed at the base of sagebrush plants. *Id.* Consequently, cattle can directly damage pygmy rabbit borrows through trampling. Austin (2002)⁵¹ documented cattle trampling of active burrows on public lands in southern Idaho. The burrows were subsequently abandoned. It is

⁴⁸ Sada, D. 2008. Great Basin Riparian and Aquatic Ecosystems. USDA Forest Service Gen. Tech. Rep. RMRS-GTR-204. 2008. Desert Research Institute. Reno, NV.

⁴⁹ Dobkin, D. S. & Sauder, J.D. 2004. Shrubsteppe Landscapes in Jeopardy: Distributions, Abundances, and the Uncertain Future of Birds and Small Mammals in the Intermountain West. High Desert Ecological Research Institute. Bend, OR.

⁵⁰ U.S. Fish & Wildlife Serv., Final Rule to List the Columbia Basin Distinct Population Segment of the Pygmy Rabbit (*Brachylagus idahoensis*) as Endangered, 68 Fed. Reg. 10388, 10400 (2003).

⁵¹ M. Austin, An Inventory of *Brachylagus idahoensis* Within Selected Study Areas of the Shoshone BLM Field Office. (Red Willow Research, 2002).

extremely likely the same phenomenon is occurring on the Santa Rosa Ranger District, and such impacts must be analyzed.

Livestock can also alter the structure of the sagebrush habitats on which pygmy rabbits depend. Direct impacts include: structural damage to dense stands of sagebrush by livestock, removal of current herbaceous growth or residual cover of native grasses and forbs, and increases in the density and distribution of various invasive weed species. In general, grazing removes vegetative cover, including shrub cover, which leaves pygmy rabbits vulnerable to both areal and ground predators.⁵² Cattle also compete directly with pygmy rabbits for forage. Male pygmy rabbits tend travel longer distances in recently grazed areas, where the nutritional value of preferred native grasses and forbs tends to be less. In addition, pygmy rabbits in recently grazed areas tend to make greater use of sagebrush for summer forage than their counterparts in ungrazed areas. *Id.* at 10388.

As noted, livestock use is ubiquitous across the sagebrush lands within the Forest. Because the impacts of livestock grazing directly influence pygmy rabbit habitat and population abundance, the forest should designate the pygmy rabbit as a species of conservation concern, and develop forest plan standards and objectives to limit livestock impacts to sagebrush ecosystems.

Pollinators

The EIS should consider the impacts to pollinators, which may be significantly, and negatively, impacted by commercial grazing of livestock.

Recreation, Scenery, Wilderness

What are the impacts to all of these values? How does the proposed action comply with the Forest's management mandates under the Wilderness Act and wilderness policy? What is the status of the wilderness management plan for the Paradise Peak wilderness?

Big horn sheep, deer, elk, moose, and pronghorn

What are the impacts of grazing and related activities on native ungulates from direct competition, spatial competition, disturbance, disease, loss of habitat, and other direct and indirect effects?

WWP previously provided the Forest Service information on risk to Bighorn sheep from disease and other factors. What are the risks to other species?

Trespass Grazing

What are the impacts of unauthorized grazing use on the Ranger District, in addition to the grazing authorized?

⁵² U.S. Fish & Wildlife Serv. (2003), *supra* at 10400.

Climate Change

The EIS should quantify the indirect impacts of increased grazing on climate change. Specifically, what would the impacts be from increased methane production from livestock grazing?⁵³ What are the impacts to carbon sequestration from disruption of soils and vegetation, and the forgone potential of native bunchgrass recovery?⁵⁴

The EIS must also analyze cumulative impacts. Specifically, the Forest Service in its cumulative impacts analysis “must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.” *Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dept. of Interior*, 608 F.3d 592, 603 (9th Cir. 2010) quoting *Lands Council*, 395 F.3d at 1028. “Some quantified or detailed information is required. Without such information, neither the courts nor the public . . . can be assured that the [agency] provided the hard look it is required to provide.” *Id.* quoting *Neighbors of Cuddy Mtn. v. U.S. Forest Serv.*, 137 F.3d 1372, 1379 (9th Cir. 1998). Cumulatively significant impacts here include:

- Livestock grazing. What are the cumulative impacts of permitted livestock grazing on BLM lands that are adjacent to the Santa Rosas? How many allotments have been evaluated under the applicable Rangeland Health Standards and Guidelines pursuant to 43 C.F.R. § 4180? How many of the evaluated allotments were meeting standards and how many failed standards? For those that failed to meet standards, was livestock grazing a contributing factor? Mapping by PEER shows numerous allotments remain unassessed and of those analyzed, many failed due to livestock grazing.⁵⁵

⁵³ 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. (Livestock contribute about 9 percent of total carbon dioxide emissions, but 37 percent of methane and 65 percent of nitrous oxide); Debra L. Donahue, *Elephant in the Room: Livestock’s Role in Climate and Environmental Change*, 17 Mich. St. J. Int’l L. 95, 98 (2008).

⁵⁴ See e.g. Beschta et al. 2012, *supra*; Dong Wang, Gao-Lin Wu, Yuan-Jun Zhu, Zhi-Hua Shi. 2014. Grazing exclusion effects on above- and below-ground C and N pools of typical grassland on the Loess Plateau (China). *Catena* 123 (2014). http://lab.yangling.cn/UploadFile/ea_201482785433.pdf; Lei Deng, Zhinan Zhang, Zhouping Shangguan 2014. Long-term fencing effects on plant diversity and soil properties in China. *Soil & Tillage Research* 137 (2014) 7–15.; Wu Xing, Li Zongshan, Fu Bojie, Lu Fei, Wang Dongbo, Liu Huifeng, Liu Guohua 2014. Effect of Grazing Exclusion on Soil Carbon and Nitrogen Storage in Semi-arid Grassland in Inner Mongolia, China. *Chin. Geogra. Sci. Bol* 24 No. 4 pp. 479–87.; Xing Wu, Zongshan Li, Bojie Fu, Wangming Zhou, Huifeng Liu, Guohua Liu. 2014. Restoration of ecosystem carbon and nitrogen storage and microbial biomass after grazing exclusion in semi-arid grasslands of Inner Mongolia. *Ecological Engineering*, Volume 73, Pages 395-403.

⁵⁵ See <https://mangomap.com/pdl/maps/24736/blm-rangeland-health-standards-evaluation-data-2012-?preview=true> (last visited August 13, 2019).

- Proposed fuel breaks on BLM lands. A ROD has been issued for thousands of linear miles of fuel breaks on BLM lands in the Great Basin including in Nevada and Oregon nearby the Santa Rosas. BLM must account for the thousands of acres of disturbance that will result with full implementation of this effort, and the widespread and intensive impacts to public lands through increased invasive annual grass infestations.
- Impacts from recent fires in Elko, Winnemucca, Battle Mountain, and Vale Districts. The combined impacts of fires and livestock grazing have significant cumulative impacts on the spread of cheatgrass (Condon and Pyke 2018).
- Climate change, including quantified information on the impacts to climate change from greenhouse gas emissions and loss of carbon storage. *See Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1215 (9th Cir. 2008) (impact of greenhouse gas (“GHG”) emissions on climate is precisely the kind of cumulative impacts that NEPA requires agencies to analyze); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003) (EIS was required to consider GHG emissions from project upgrading existing and new rail lines serving coal mines); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019) (BLM violated NEPA by not adequately considering climate change when authorizing oil and gas leasing on federal land).
- Oil, natural gas, geothermal development, and mining in the region.

NFMA Compliance

Forest Plan consistency

The Forest Service’s proposed issuance of grazing permits and plan amendment must comply with all applicable laws, including NFMA, NEPA, the Clean Water Act, the Wilderness Act, and the ESA. 36 C.F.R. § 219.1(f).

Congress enacted the National Forest Management Act in 1976 to reform the Forest Service’s management of the National Forest System, including by requiring greater recognition of wildlife in its multiple-use management, and to direct the agency to provide for greater public participation in forest management. NFMA directs the agency to “develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest system.” 16 U.S.C. 1604(a).

The Forest Service manages grazing through a permit system under the Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1784, and NFMA implementing regulations. 36 C.F.R. Part 222. The Forest Service divides each allotment into units. The agency may authorize (or not authorize) different levels of grazing on each allotment or pasture. It may also alter times of grazing and levels of use from one grazing season to the next. The Forest Service authorizes and manages livestock grazing on specified allotments by issuing (1) a grazing permit pursuant to 43 U.S.C. § 1752(a) and 36 C.F.R. § 222; (2) an Allotment Management Plan pursuant to 43 U.S.C. § 1752(d) and 36 C.F.R. § 222.1(b); and (3) AOIs.

Under NFMA, all site-specific decisions (such as grazing authorizations) must be consistent with the Forest Plan. 16 U.S.C. § 1604(i), 36 C.F.R. § 219.15. Additionally, each project or activity approval document must describe how the project or activity is consistent with applicable plan components. *Id.* § 219.15(d).

How does the proposal comply with the following forest plan goals, objectives, and standards?

- “manage Lahontan cutthroat trout habitat to maintain or enhance their status”? LRMP at IV-5
- “Improve the quantity and quality of stream habitats.” LRMP at IV-4
- Improve the current productive level of wildlife habitat with emphasis on maintaining or improving limiting factors such as big game winter ranges. LRMP at IV-4.
- Establish and maintain desert bighorn sheep range and numbers. LRMP at IV-5.
- Manage all allotments to maintain suitable range presently in satisfactory ecological condition, and improve suitable range that is in less than satisfactory condition. LRMP at IV-5.
- Develop grazing systems which include periodic rest, where possible. LRMP at IV-5.
- Develop an acceptable balance between the available grazing capacity and livestock numbers through proper monitoring of allotment management plans, to insure that resource objectives are met. LRMP at IV-6
- Manage livestock to recognize the special needs relating to wet meadows and riparian areas, and fisheries habitat. LRMP at IV-6
- Reduce conflicts between livestock and wildlife for forage on key winter ranges. LRMP at IV-6.
- Maintain sensitive plant species. LRMP at IV-6.
- Emphasize control of noxious weeds. LRMP at IV-7.
- Comply with state water quality standards during land management activity. LRMP at IV-8.
- Secure instream flows of perennial streams and springs needed for maintenance of riparian and aquatic habitats. LRMP at IV-8.
- Design and implement practices on-the-ground that will re-establish acceptable soil, hydrologic, and vegetative conditions which are sufficient to secure and maintain favorable water flow. IV-9
- Return degraded riparian ecosystems to their natural condition through completion of inventoried watershed restoration projects and implementation of grazing systems. IV-9.
- Strive to achieve and maintain at least 90% of the natural bank stability for streams supporting Lahontan or Bonneville cutthroat trout. LRMP at IV-29.
- Protect complexes comprised of moist habitats and adjacent security areas. LRMP at IV-29.
- Protect sage-grouse breeding and nesting areas. LRMP at IV-30.
- Implement grazing systems which provide for rest and deferment where feasible. Rest-rotation systems will be used when feasible and where significant area is in unsatisfactory ecological condition. LRMP at IV-32.

- Identify and incorporate mitigation for sensitive and listed plant species into grazing plans. LRMP at IV-35.
- Consider sensitive areas such as riparian areas and critical wildlife habitats to maintain or enhance special values. LRMP at IV-35.
- Complete livestock adjustments needed to develop an acceptable balance between available capacity and livestock numbers. LRMP at IV-35.
- Minimize livestock-big game conflicts on key winter range. LRMP at IV-35-36.
- Minimize livestock/fisheries habitat conflicts in riparian areas. LRMP at IV-36.
- Analysis or updates to Range Resource Inventory will be conducted according to regional guidelines. LRMP at IV-37.
- Monitor compliance with state water quality standards. LRMP at IV-48.
- The causes of degraded wetlands will be eliminated. LRMP at IV-48.
- Protect and encourage the reestablishment of riparian vegetation. LRMP at IV-48.
- Management actions in riparian areas will be monitored, and corrective action will be taken to prevent deterioration of riparian areas or degradation of water quality. LRMP at IV-49.
- When developing or revising AMPs, establish proper use criteria that will protect or enhance riparian areas. LRMP at IV-49.
- Strive to achieve and maintain at least 90% of the natural bank stability for streams supporting Lahontan or Bonneville Cutthroat trout and 80% on all other streams. LRMP at IV-49.

Please also detail how the proposed action is consistent with the 2015 approved LRMP amendment for sage-grouse, which the NOPA says the action will comply with.

Management Indicator Species (Mule Deer, Goshawk, Sage-grouse, Lahontan cutthroat trout)

How does the proposed action affect management indicator species, and is it consistent with the Forest Service's obligation to these species?

Plan Amendment

The National Forest Management Act (NFMA) “requires that national forest planning ‘provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.’ ” *Seattle Audubon Soc. v. Moseley*, 798 F. Supp. 1484, 1489 (W.D. Wash. 1992), *aff’d sub nom. Seattle Audubon Soc. v. Espy*, 998 F.2d 699 (9th Cir. 1993) (citing 16 U.S.C. § 1604(g)(3)(B)). “[W]hen the section is read in light of the historical context and overall purposes of the NFMA, as well as the legislative history of the section, it is evident that section 6(g)(3)(B) requires Forest Service planners to treat the wildlife resource as a controlling, co-equal factor in forest management.” *Id.* (citing Charles F. Wilkinson & H. Michael Anderson, *Land and Resource Planning in the National Forests*, 64 Or. L. Rev. 1, 296 (1985)).

Under the 2012 planning rule, the agency is supposed to write land management plans that are “sustainable, integrated resource management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the

various resources in particular areas.” 36 C.F.R. § 219.1(b). Consequently, the Forest Plan “must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.” 36 C.F.R. § 219.9(a)(1). The Forest Plan must also “include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area.” 36 C.F.R. § 219.9(a)(2). And, the regulations specifically require plan components “to maintain or restore[] ... [r]are aquatic and terrestrial plant and animal communities.” *Id.*

Specifically, the 2012 Planning Rule requires the Forest Service to first “determine whether or not the plan components . . . provide the ecological conditions necessary to . . . maintain a viable population of each species of conservation concern within the plan area.” 36 CFR 219.9(b)(4). If the Forest Service “determines that the plan components . . . are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.” In short, species-specific plan components—including those addressing species of conservation concern—compliment, and do not replace or supplant, the Forest’s general obligation under NFMA to “maintain” and “restore” the ecological integrity and diversity of native ecosystems and species across the planning area.

The Forest must also use the information gathered through the assessment process to develop forest-wide objectives and standards that minimize the adverse effects of grazing wherever it is authorized. 36 C.F.R. § 219.7(e)(1).

The NFMA and 1982 planning rule requires that plans provide for diversity of plant and animal communities “based on the suitability and capability of the specific land and in order to meet multiple-use objectives” 16 USC 1604 (g)(3)(B). The applicable 1982 regulation also requires that planning provide for diversity of plant and animal communities, consistent with multiple-use objectives. The regulations also provide that habitat are to be managed to maintain viable populations of native and non-native vertebrates (16 USC 1604 (g)(3)(B); 36 CFR 219.26; 36 CFR 219.19).

We oppose the proposal to amend the Humboldt Forest Plan to eliminate the applicability of Amendment II to the Santa Rosa Ranger District—**apparently without ever having applied it in any meaningful way during the past 30 years**. Amendment II provides a nuanced system of management that sets use levels according to grazing system, riparian values, and riparian condition. Because many pastures and allotments are in poor condition, applying blanket utilization rates to every allotment will result in higher levels of use in many areas. Referring to Amendment II, it is clear that the proposed action would set the herbaceous utilization standard for all areas at essentially the highest level for any habitat group and ecological condition class: 50%. Martin Basin FEIS at 25. The same is true for woody browse. *Id.*

Amendment II also provided that riparian grazing would be prohibited during the hot season (mid-July through August) for at least one of every three years.

Another aspect of Amendment II that is missing from the proposed action and would be missing if Amendment II was abandoned is the potential for adaptive management if monitoring revealed that a site had become more degraded or was trending downward. Instead of automatically applying a lower utilization rate to match that degraded site condition, the proposed action is silent as to what would happen in that situation, and it does not provide for lesser utilization levels.

The Forest Service has not provided any compelling rationale for the elimination of Amendment II, and the adoption of a less protective system of defining acceptable use.

INFISH

Amendment 5 to the Humboldt Forest Plan (December 2002)⁵⁶ applied INFISH standards to various land uses, including grazing. GM-1 to GM-4 apply specifically to livestock grazing. How does the proposed action incorporate and comply with INFISH?

Specific comments on the “NFMA Assessment”

Page 6 of the NFMA Assessment states, with respect to a “Buttermilk Exclosure” that: “This site is currently at desired condition as described above. *This site will need periodic grazing to maintain the health of the system. Periodic high intensity, short duration grazing may be required to ensure the meadow remains functional.*” (emphasis added). This conclusion demands an explanation. What is the basis for the Forest Service’s conclusion that grazing would be required to maintain the health of a riparian area? This conclusion runs counter to all credible scientific evidence regarding the effect of domestic livestock on native species and riparian areas in the Great Basin and intermountain west. In fact, no riparian areas or other ecological sites need grazing by domestic livestock, and most vegetation species have not evolved to even tolerate the kind of grazing intensity that results from commercial livestock grazing by non native livestock. These areas did not historically have bison⁵⁷ or any animal that affected the landscape and vegetation in the way that domestic livestock do, and the degradation of perhaps the majority of riparian sites in the Nevada is clear evidence that livestock do not confer any benefit to these areas. The Forest Service should remove this statement.

Clean Water Act

In the EIS, please detail how the proposed action complies with the Clean Water Act through its incorporation of State of Nevada and USFS Region 4 best management practices (BMPs).

⁵⁶ Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5143066.pdf

⁵⁷ See *supra*, Mack and Thompson (1982).

Wild and Scenic Rivers

The Martin Basin FEIS and ROD describe that the East Fork Quin River is eligible for further consideration for designation under the WSR Act. How will the proposal affect the values that make this candidate river potentially eligible for inclusion as a Wild and Scenic River?

Conclusion

Thank you for the opportunity to provide feedback on the NOPA. As we have stated, the public should be allowed to again submit comments on a draft or final NEPA document prior to the objection period. If you have any questions about these comments, please contact me.

Sincerely,

s/ Paul Ruprecht
Western Watersheds Project



WWP Nevada-Oregon



Working to protect and restore Western Watersheds and Wildlife

July 11, 2019

By email to amy.torres@usda.gov and comments-intermt-n-humboldt-toiyabe-santarosa@fs.fed.us

District Ranger and/or
Amy Torres
Interdisciplinary Team Leader
Santa Rosa Range Management Project
Santa Rosa Ranger District
3275 Fountain Way
Winnemucca, NV 89445

Re: Santa Rosa Range Management Project

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The proposed action and all alternatives must be in compliance with all provisions in the applicable sage-grouse plan amendment, including restrictions on new water developments and modifications to existing infrastructure.

Bighorn Sheep

Westwide, bighorn sheep populations have declined by more than 90% since the mid-nineteenth century, and bighorn sheep overall distribution has been reduced to less than 30% of

the species' historic range.¹ The primary causes of historic bighorn sheep declines include livestock diseases, overhunting, and forage competition with livestock.²

Bighorn sheep remain at risk of disease from livestock pathogens throughout the West, with authorized grazing on public lands a limiting factor for many populations. Large areas of historic bighorn sheep habitat are unavailable for recolonization or artificial restocking due to the presence of livestock, including many areas in Nevada.³ It is NDOW's policy that "[t]he Division will increase bighorn populations of all subspecies statewide to a level where all habitats are occupied and each herd is self-sustaining."⁴

Bighorn sheep are listed as a BLM Sensitive Species in Nevada, a Nevada state Species of Greatest Conservation Need, and a U.S. Fish and Wildlife Service Species of Concern. Bighorn sheep are a Forest Service Sensitive Species in Region 4, and are subject to management direction contained in FSM 2670. This includes direction to:

1. Assist states in achieving their goals for conservation of endemic species.
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5. Establish management objectives in cooperation with the states when projects on National Forest System lands may have a significant effect on sensitive species population numbers or distributions. Establish objectives for federal candidate species, in cooperation with the FWS or NOAA Fisheries and the states.

Cattle allotments overlap the majority of the Santa Rosa bighorn sheep herd's range, and all but two allotments analyzed here, Wild Bill and North Fork, contain bighorn sheep occupied habitat. Cattle grazing has the potential to negatively impact bighorn populations: cattle are known to carry pathogens that can be transmitted to bighorn sheep, cattle may displace bighorn sheep from optimal habitats, reducing foraging efficiency, and cattle contribute to the spread of

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Cattle have been implicated in pneumonia-related die-offs of bighorn sheep, as well as in outbreaks of Bovine Viral Diarrhea and other diseases impacting wild sheep. Bovine respiratory syncytial virus (BRSV) and bovine parainfluenza virus 3 have been identified as co-agents in pneumonia outbreaks in bighorn sheep populations, affecting bighorn herds exposed to primary agents *Mycoplasma ovipneumoniae* and *Mannheimia haemolytica*.^{5 6} *Mannheimia haemolytica* originating in cattle is believed to have been a primary respiratory disease agent in at least one bighorn sheep pneumonia outbreak.⁷

The Santa Rosa bighorn sheep herd was reduced by respiratory disease between 2003-2005, and members of the herd continue to carry *Mycoplasma ovipneumoniae* bacteria.⁸ Low lamb recruitment has been observed over the last four years.⁹ The herd is below optimal density for the landscape, and has not grown in recent years.¹⁰

The Forest Service must analyze and disclose the impacts of cattle grazing in the Santa Rosa Range on bighorn sheep, including those from disease, displacement, and noxious weeds, and the Forest Service must take steps to preserve population viability and avoid contributing to a trend toward the listing of bighorn sheep as a Threatened Species. The Forest Service must assist the state of Nevada in achieving species restoration and sustainability goals by avoiding and mitigating impacts to the Santa Rosa bighorn sheep herd, including those from cattle. The Forest Service must continue to exclude domestic sheep from grazing allotments in the district for the protection of bighorn sheep.

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The Santa Rosa Ranger District is highly important for the persistence and recovery of LCT in the Humboldt watershed. Allotments at issue lie within both the Humboldt and Northwest GMUs. Populations within both GMUs are severely depressed compared to historic

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levels and the species occupies only a fraction of its former range within the Upper Quinn River and Little Humboldt watersheds.¹¹

Sedimentation from livestock grazing is a limiting factor for quality LCT habitat on the Ranger District, as identified in previous EISs for these allotments.

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Please provide current population data for each occupied stream, as well as PFC and GAWS data. Please also detail in the EIS how the proposed action complies with INFISH. The EIS should also include all NDOW LCT habitat surveys for occupied or potential streams.

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maximum within season utilization levels on riparian and upland forage use based on the grazing system that is being employed on the allotment. These utilization levels are applied as within season triggers that require the movement of livestock from the area when these levels are reached. Amendment 2 states that the listed utilization levels are “the maximum rate which can be prescribed unless otherwise approved by the Forest Supervisor.” These utilization levels are also envisioned as maximum default levels.

FEIS at 4. In addition to utilization level, Amendment 2 sets requirements for bank stability which must be ensured through percentage bank alteration limits in the permits.

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We strongly object to the Forest Service authorizing grazing under a year-long season of use. The Forest Service is required under FLPMA and the Taylor Grazing Act to prescribe defined seasons of use and livestock numbers. 43 U.S.C. §§ 315b, 1752(d)-(e). A year-long season of use violates these requirements. It also makes it impossible to avoid the most sensitive

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