Range Improvement Task Force
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20 July 2018

Thank you for the opportunity to comment on the draft Environmental Assessment (EA) entitled New Mexico Meadow Jumping Mouse Habitat Improvement Projects on the Sacramento Grazing Allotment. This is one of the better EAs we have read and we appreciate the amount of effort that went into developing this document. Despite our high regard for this effort, we have concerns the document does not assess crucial elements of the proposed actions with regard to environmental impacts.

General Observations

The title of the document is a bit misleading as it includes far more than management directed specifically to protect the New Mexico meadow jumping mouse (NMMJM). If the other elements of the proposed action directly or indirectly improve NMMJM habitat, then the EA failed to assess elements not directly associated with permanent riparian exclosure infrastructure. Further, there was no clear effort to evaluate the importance of other proposed improvements in the proposed action. We ask that appropriate analyses and assessments are included in a final draft of the EA.

Assessments of environmental impacts were primarily speculative and stated opinion regarding several elements in the EA. Treatment of species listed under the Endangered Species Act on pages 36 – 40 are replete with statements that do not accurately reflect the status of species or possible impacts of proposed actions. The assessment is not robust and lacks specificity in key text statements that would greatly improve its validity. Established comment time-period does not allow us to provide specific comments regarding opinion statements used as supporting evidence within the EA. We would be willing to collaborative with the Sacramento Ranger District to provide specific suggested revisions that would improve shortcomings of the EA.

Specific Observations

1. Excerpt page 6.

> The purpose of this proposal is to protect and improve the NMMJM critical habitat within the Sacramento Grazing Allotment by reducing impacts such as grazing and recreation, which decrease the cover and food essential for the continued survival of the NMMJM, while continuing to allow for livestock grazing and recreational activities.

There was no assessment of unregulated grazing with regards to protecting habitat, specifically elk. Recreation is dismissed from further analysis on page 9. Why include

recreation in purpose of the proposal only to dismiss it from further analysis? Ostensibly, allowing for continued livestock grazing is addressed in the proposed action through several proposed livestock infrastructure improvements yet no assessment is offered.

2. Excerpt page 8.

> The Lincoln National Forest is proposing to replace temporary exclosure fencing that was completed for the 2016, 2017 and 2018 grazing seasons with permanent exclosure fencing with modifications, construct additional livestock handling facilities, and to develop additional water for livestock and wildlife within the Sacramento Grazing Allotment to reduce impacts on critical habitat for the NMMJM and improve riparian habitat.

There is no actual assessment or analysis of livestock handling facilities or water developments relative to proposed exclusionary permanent fencing. How does fencing impact livestock production operations, livestock and wildlife movements, NMMJM habitat and improve riparian habitat? What other actions, such as forest thinning, could be taken to improve riparian habitat while also improving distribution of grazing and watershed function? How are livestock handling facility and water development ranked in importance relative to proposed permanent riparian fencing? When will livestock infrastructure improvements be completed in relation to installment of permanent fencing? What are the consequences to livestock producers if infrastructure improvements are not made in a timely manner with regards to installment of permanent fencing?

3. Excerpts from page 10.

> The exclosure fencing in the Rio Peñasco Trap would be constructed if annual and seasonal monitoring of impacts from livestock grazing indicated that livestock management described in the annual operating instructions was not sufficient for meeting the habitat requirements for the NMMJM.

and

> If the livestock use outlined in the annual operating instructions is not effective and is the direct cause for further NMMJM habitat decline then approximately 3 miles of permanent fencing would be constructed within Rio Peñasco Trap . . .

and

> Range compliance monitoring will occur to ensure terms and conditions of the Term Grazing Permit, Allotment Management Plan and Annual Operating Instructions are followed.

What specific monitoring will be used to estimate impacts of livestock grazing? How will direct cause of livestock grazing impacts be determined when elk and livestock graze in this area? Will permanent fencing prevent elk from grazing fenced riparian areas and will exclosures be monitored for compliance after permanent riparian fencing is installed?

4. Excerpts from page 11 and 30.

> The fencing would allow livestock access to water or to neighboring pastures through the use of strategically placed water/access lanes where the livestock could cross the stream channel, . . .

and

> If no other water source was available other than directly from a stream, and a diversion was not possible; water lanes would be added to traps to provide water for livestock. The water lanes would be strategically placed to minimize damage to riparian areas and would be reinforced with rock or other materials to reduce erosion when necessary.

and

> Depending on time of construction, these actions may cause minimal stress to the permitted livestock and impede livestock from utilizing water lanes if construction is being conducted when livestock are present in Rio Peñasco and Wills Canyon. (page 30)

and

> Cattle would be able to access water at water lanes. Most water lanes would be spaced fairly closely (less than 0.5 miles between access points), with one longer area of fencing in Wills that would be just under a mile in length. (page 30).

No assessment of water source availability nor specific locations of water lanes were offered in the EA. Assessing where water lanes are placed, width, adequacy and longevity of water, contingency plans if water lanes dry up and possible impacts caused by changing livestock and wildlife distributions in relation to water lane locations are fundamental to assessing environmental impacts. Will water lanes only be located in traps? Has an assessment of water sources been completed on the allotment in relation to placement of permanent riparian fences? Based on field consultation with Forest Service and U.S. Fish & Wildlife Service personnel we suggest water lanes up to 150 meters (Eric Hein, USFWS, pers. comm.) be analyzed as part of this assessment. This distance was based on a reported 300 meter known maximum travel distance for NMMJM as stated in the Species Status Assessment Report: New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*) published in 2014. We suggest the final draft include water source availability, potential locations and widths of proposed water lanes and associated environmental assessments of their impact to physical and ecological attributes of areas proposed for water development and impacts to livestock production operations and the Allotee.

5. Excerpt page 11.

> The exclosure fencing would include gates to remove livestock in the event of accidental entry.

Delete accidental.

6. Excerpt page 21.

> Where possible, include Sacramento Mountains thistle individuals within exclosures.

Will the Forest Service alter the footprint of exclusionary riparian fencing to include individual Sacramento Mountain thistles in a permanent riparian exclosure? Has an assessment been included in this EA?

7. Excerpt page 26.

> Riparian areas can be described as areas that are permanently saturated and/or have vegetation adapted for high saturated soils and/or areas that are 0 - 100 meters (328 feet) from the drainage bottom.

What is the justification for including reference of 0 -100 meters from drainage bottom in the definition of riparian area? We suggest deleting reference to a specific width in the definition of riparian area or specify that the definition is specific to USFWS determined primary constituent elements (PCEs) relative to the NMMJM.

8. Excerpt page 26.

> Field observation have presented higher concentration of seed heads within the exclosures when compared to the outside exclosures. The grass appears more productive and taller within the exclosures when compared to those of the same species on the outside of the exclosures.

The first sentence is cumbersome and confusing, were seed heads quantified inside and outside exclosures? Where is this data presented in the EA? There is no way to legitimately assess through visual assessment that grasses outside an exclosure or utilization cage were less productive than inside. Height differences result because exclosures are designed to exclude use. We recommend deleting these sentences as they do not make sense and are not empirically defensible.

9. Table 2 needs to be reorganized, it is difficult to read and understand. There appears to be a total of 12 paired plots in the table. Also, what is the relevance of comparing utilization of different key species (e.g., Wills Canyon site 1, Kentucky bluegrass and redtop)? It is not clear that use is greater on 6 of the 12 sites as observations resulted in adjacent utilization classes being selected, 4 of these sites compared different key species inside and out. Six of 12 sites did not result in visual estimation of adjacent utilization classes, 3 of those sites compared different key species inside and out. We recommend that sites be displayed on one line by creating outside and inside columns. Different key species in the paired plots suggest they are not representative and confound any useful inference. Landscape appearance method is subjective and does not allow determination of species specific use of areas outside of exclosures or utilization cages.

10. Excerpt page 37.

> High intensity grazing in NMMJM habitat within the Sacramento Allotment has reduced herbaceous plant cover and density, plant litter, plant species composition and structure of riparian habitats. This had reduced the

> availability of food resources for the NMMJM along with less hiding cover and vegetation needed for building nests. Historically, removal of herbaceous vegetation along with soil compaction and streambank trampling has led to lowering of the water table and fluvial processes through downcutting. All of these effects have led to habitat fragmentation through removal of PCE's or adversely affecting them. Habitat fragmentation has led to poor survivorship conditions which has resulted in reduced population sizes and potential extirpation of others. Currently the only location where NMMJM can be confirmed is in the upper stretch of Wills Canyon in an existing exclosure.

The paragraph is incomplete and generalizes conditions in its assessment of stream and riparian characteristics and fails to address several historic activities predating Forest Service management as well as historic and extant Forest Service management policies that contributed to current conditions including stream downcutting. This paragraph is conjecture and represents opinion more than a defensible management position. It may lead readers to the conclusion that grazing alone is responsible for current conditions, which is demonstrably inaccurate. How might combined grazing by livestock and elk impact riparian systems? Please provide citations or data that indicate or estimate NMMJM survival and abundance relative to habitat fragmentation. Scientific literature indicates NMMJM are not easily captured and may go years between successful capture events, even when the mouse is present. When was the last capture date of a NMMJM in Wills Canyon or any of the critical habitats within the proposed action?

11. Excerpt page 37.

> It is hoped that the vigor of the population would be maintained or enhanced leading to increased numbers of NMMJM and improving the resiliency of the sites.

Please define population vigor and provide citations or data that address NMMJM variation in population vigor and resiliency? Please quantify the linkage between NMMJM population number and resiliency of the site?

12. Excerpt page 37.

> The water developments and handling facilities may allow better distribution of livestock and enabling better chances of meeting conservative use levels throughout the Sacramento Allotment along with reducing pressures in NMMJM habitat. However, some of the handling facilities are located within or adjacent to critical habitat or near historical sites. Some of the handling facilities may have some adverse effects to PCEs by allowing grazing at higher use levels to riparian or upland habitat vegetation. The design features associated with the proposed action would help reduce these effects.

When will these projects be completed with regards to installment of permanent riparian fencing? What are the environmental impacts of not completing the most crucial projects that support improved livestock management and optimizes benefits of permanent riparian fencing? What are the environmental and cumulative impacts of only completing the permanent riparian fencing without

addressing needs to improve management flexibility? What are the economic impacts to the livestock producer and county? Which water developments and handling facility projects have been determined to be most important to complete to optimize benefits of permanent riparian fencing? If these improvements would benefit habitat and are important for the habitat, why is the exclusion fence the priority instead of the improvements that would improve distribution?

13. Excerpt page 38.

> The enhancement of the Peñasco horse trap and permitting high use would adversely affect upland PCE's for the NMMJM.

How would enhancement adversely affect upland PCEs? Please explain what is meant by the phrase "permitting high use". Why would the Forest Service be "permitting high use"? Across the entire forest and region, stocking rates on federal land are characterized as light to conservative.

14. Excerpt page 38.

> However, construction of the exclosures would concentrate grazing activity within the water lanes, where some Sacramento Mountains thistle individuals may reside.

and

> This is evident during dry years where vegetation inside existing exclosures is more abundant than outside the exclosures, especially within water lanes.

Permanent riparian fencing should not be installed without simultaneously planning and installing water lanes. This appears to be of central importance to ensure adequate protections for USFWS determined NMMJM habitat and provide adequate water for livestock and wildlife (the stated purpose of EA). Why have potential water lane locations not been selected and analyzed as part of this EA? This is a crucial failure in an EA that will establish permanent riparian fencing. Might disturbance caused by concentrating domestic and wild ungulate use in a water lane impact establishment of the Sacramento Mountain thistle? Is Sacramento Mountain thistle (SMT) establishment benefited by some level of disturbance? What is the scientific or management relevance of measuring vegetation abundance in water lanes? Wouldn't an area with established SMT be avoided with regards to water lane installment? If SMT established in a water lane, what is the contingency plan?

15. Excerpts page 40.

> Furthermore Sacramento Mountains thistle would be indirectly affected by the increased concentration of livestock grazing activity within the water lanes, which would likely lead to the loss of individuals and suitable habitat. Furthermore livestock use of the water lanes may result in the introduction and spread of non-native invasive species, which poses a significant threat to Sacramento Mountains thistle.

and

> The rationale for the determination is that water lanes within the riparian corridor habitat of the Sacramento Mountains thistle, may cause adverse effects to individuals and would cause conditions of habitat degradation and fragmentation. This increased mortality risk to Sacramento Mountains thistle, by loss of individuals and habitat would diminished reproduction as a whole. This species has been in a state of decline since 1999 and many of the management actions and environmental conditions that have contributed to the decline of Sacramento Mountains thistle are still present and are likely to continue into the reasonably foreseeable future.

What is the net effect of permanent riparian fencing with regards to the SMT suitable habitat? What is the difference in potential for establishment of non-native invasive species by livestock under current riparian management and proposed riparian management using permanent riparian fencing? It is stated on page 10 that less than 1% of the allotments total area will be included in permanent riparian fencing, what is the area represented by water lanes as a percentage of the allotments total area? Please provided an explanation with supporting citations of what constitutes habitat degradation and fragmentation. Is average width of planned water lanes known to fragment SMT habitat? Please quantify mortality risk to SMT based on known loss of individuals and habitat. Please identify the specific management actions, supporting citations or data that establish the causes of decline in SMT since 1999.

16. Table 6 (pages 67=69) does not clearly indicate the status of projects as completed, in progress or in planning. Please add this information to Table 6 to improve clarity. Text following Table 6 (pages 69-75) provide commentary or opinion on possible effects of what appear to be largely planned actions and largely fails to evaluate past and future interactions with proposed actions. No specific assessment of the cumulative impacts of 14 projects listed pages 12-14 were found. No analysis or assessment could be found that evaluates cumulative impacts to the economy and standard of living for impacted humans including the livestock producer, local communities and the county.

17. Excerpt page 71.

> Thus, the most significant cumulative effects would result from construction of multiple range improvements and the subsequent spread of non-native invasive species through livestock use of said improvements (as described in the *Environmental Consequences, Sacramento Mountains thistle* section).

It is stated as a foregone conclusion that livestock grazing as currently managed will spread non-native invasive species. This statement should be changed to better address the numerous ways in which non-native plants may spread through recreation and impact of fire, as two examples, in addition to grazing. At minimum, please provide the research citations that quantify spread of non-native invasive species in relation to range improvements and livestock grazing. Aren't infrastructure improvements ostensibly to improve management of livestock and therefore mitigate

impacts of grazing. Does the Forest Service predict that spread of non-native invasive species will change from current spread?

In summary, this EA fails to adequately analyze impacts to the natural environment relative to the proposed permanent riparian fencing and 14 unranked livestock management infrastructure improvements. We recommend that subsections using the word effects in their title be carefully revised to eliminate speculation and opinion from the text or at least identify it as such. Assessments should be supported with scientific literature and extant data in addition to speculative or opinion statements. Cumulative Effects assessments should be conducted on ranked importance of the 14 projects relative to installment of proposed permanent riparian fencing. We recommend that a cumulative economic impacts analysis is conducted and included in the final draft of the EA.

Respectfully,

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