

Santa Fe Forest Plan Revision
c/o James Melonas
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Mr. Melonas and Forest Plan Revision Team:

I request an email acknowledgment that these comments have been received.

As a longtime New Mexico resident, current Santa Fe resident, and prior commenter in this Forest Plan Revision process on the June 2016 *Findings from the Final Assessment: Twelve Focus Areas and Need For Change Statements*, on the September 2016 *Wilderness Evaluation*, on the February 2017 *Draft Forest Plan Revision's Initial Plan Components*, and the March 2017 *Draft Issues and Alternatives For Forest Plan Revision*, find my comments below on the Santa Fe National Forest's Draft Plan Revision and Draft EIS.

PROPOSED PLAN "VISION"

1. By failing to make "Ecological Health", or "Wildlife", or some ecological variation thereof, one of its explicit primary goals, the "vision" the Santa Fe National Forest lays out in its Draft Plan (p. 16-17) is woefully deficient, tone deaf to the vocal concerns of a large percentage of this Forest's local and state constituency and a to a large part of the American public, embarrassingly negligent in a time of imminent danger of climate change and pending mass extinctions, and entirely lacking in responsibility. Except for proposing more burning and more cutting, this is a business-as-usual plan, even as time and time again the data in the Forest's EIS shows that business as usual has been the longstanding problem for so many plant and animal and bird and amphibian and other species on this Forest. Given the time that has gone into this document, I could not be more disappointed with this plan as written.

In the first pages of its Draft Plan, the Forest proudly proclaims that this Plan will have three goals: fire "resiliency", water, and people. It frankly boggles the mind that, after nearly five years of work on this Plan Revision, the work of which began at essentially the same time as the New Mexico Meadow Jumping Mouse's listing as Endangered, and the Ecological Assessment and EIS for which lists no fewer than 36 At-Risk species, this Forest Revision Team has turned out a plan that fails to make ecological health and this Forest's wild inhabitants a top priority. The recent court ruling halting all Forest timber operations, as a consequence of the Forest Service's own admission of its longstanding and ongoing failure to properly monitor a known Federally Endangered species, drives home the self-defeating short-sightedness of any Plan that fails to place Ecological health as a category at the forefront, since everything else follows from this. This Revision Team has had nearly five years now to step back and take a long hard look at all of the data and to reflect long and hard on what constitutes the actual health of this forest, which happens to be more than a tree farm and a pasture, and in the end it appears that all it has finally come up with is an inertial model that, in a region that includes more than a million people within sight of its Forest boundaries, still explicitly privileges grazing over essentially every other use and user, and actually proposes to increase Forest AUMs.

This "vision" as presented is misguided and short-sighted and must be amended to make "Wildlife and Forest Ecological Health" one of its three primary goals.

GRAZING

2. The Forest's argument under V. 1, Section 2.3 "Alternatives Considered but Eliminated from Detailed Study", p. 51) for rejecting a restricted grazing alternative (2.3.1) is spurious, misleading, incorrect, and fails the Forest's NEPA mandate to "to rigorously explore and objectively evaluate all reasonable alternatives".

The Santa Fe National Forest asserts the following in its out-of-hand dismissal of a restricted grazing alternative:

"Under all alternatives the rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions. Stocking decisions regarding the amount of livestock grazing authorized for each grazing allotment are considered as part of project-level analysis (NEPA) and beyond the scope of this programmatic analysis for the forest plan. Project-level analysis would cover changes to authorized grazing through term grazing permits (subject to forestwide standards and guidelines); allotment management plans; and annual operating instructions. In addition, the alternatives include a range of options on how to deal with vacant and understocked allotments that could increase or decrease grazing numbers. Based on the above, a restricted grazing alternative is not considered necessary as well as not legally compliant."

These Draft EIS assertions are, I will repeat, spurious, misleading, incorrect; they fail to acknowledge the legitimate concerns and arguments of those in opposition to the Forest's current grazing practices, and perhaps most troublingly they misrepresent the very nature of the Forest Revision Process in which they appear. Just as the Forest Service's multiple use mandate to provide wood resources does not specify any particular level of extraction, so also does the multiple use mandate require no specific level of grazing. This level is open to both question and change. The United States Forest Service's own website could not state this more clearly: *"It was never the intent of the Congress that all uses would occur on all areas. Individual forests determine what uses are feasible and appropriate for different areas through the development and revision of the Land and Resource Management Plans. Once a determination has been made that grazing is feasible and appropriate for an area, grazing is planned and managed taking into consideration all the other uses of the area."*

<https://www.fs.fed.us/rangeland-management/grazing/allowgrazing.shtml>.

Thus, per the USFS itself, *"Individual forests determine what uses are feasible and appropriate for different areas through the development and revision of the Land and Resource Management Plan"*—which is to say, through this very Forest Plan Revision process in which public comments have been solicited, and in which members of the public are in fact voicing their concerns and questioning the "appropriateness" of current grazing practice on the Forest, as per the above. And thus, the Forest's Draft EIS assertion that addressing the question of the appropriateness of current grazing levels on the Forest is only a question of "project-level analysis" and "beyond the scope of this programmatic analysis" is patently false and disingenuously misleading. In point of fact, and in direct contradiction to the Draft EIS's assertion, the Forest Plan Revision process is precisely the occasion on which to address the question of the overall level of grazing that is and should be occurring on this Forest in light of ecology, of recreational uses, of climate change, and all other pertinent factors and uses, and, concomitantly, whether the current level should not in fact be reduced—just as it is the occasion on which to address the level of Wilderness, the level of thinning, the level of controlled burning,

the level of natural processes, the level of fencing, the level of ponderosa forest, the level of roads and trails, and all the rest.

This entire Draft EIS is *precisely* about asking questions about increase and decrease Forest-wide, and it is veritably brimming with numbers and levels and percentages that have no reference to particular projects, but pertain to the Forest as a whole and the public's vision for the decade or more ahead. It is the Forest Plan, and not the projects themselves, that address these questions on a Forest-wide scale, and the Draft EIS itself acknowledges as much parenthetically when it asserts that "Project-level analysis would cover changes to authorized grazing through term grazing permits (*subject to forestwide standards and guidelines*)". This is the very point that those who are seeking reduced grazing numbers are making—that Forest lands use, including grazing, is in fact "subject to forestwide standards and guidelines", which it is the very purpose of this Plan Revision process to question, critique, address, and revise.

Thus the dodge that this Draft EIS makes in attempting to argue that discussions about grazing numbers have no part in "programmatic analysis" is a blatant untruth, 180 degrees wrong, and one sadly perpetrated by the Forest's very own Plan Revision Team, who appear by such disingenuousness to be intentionally and illegally perpetrating an inaccuracy in the interests of maintaining a grazing status quo. This request for restricted grazing is not about permits or AUMs on specific projects or allotments. It is about a legitimate concern regarding the levels of grazing-related damage and species-decline across the Forest, shared by a significant portion of this Forest's stakeholders—which, I would point out, include not merely this Forest's mere 205 grazing employees but also many thousands of commenters, the 83,000 residents of Santa Fe, the 2 million residents of New Mexico, and the 327 million American citizens who happen to be the joint owners of this land—for whom the issue of cattle grazing is finally about the ongoing poor and irresponsible stewardship of our public lands by certain employees of our National Forests for the benefit of a few and at the direct expense of our shared water, air, and wild places and the plants and wild creatures that inhabit them.

The salient words in the above: "[o]nce a determination has been made that grazing is feasible and appropriate for an area" There we get to the crux of the issue. Cattle, as non-natives to the arid Southwest, are by actual definition an invasive species, transplanted to this area from the water-rich forests of northern Europe only in the last few centuries. They are ecologically unsuited to the fragile soils and grasslands and water scarcity of this western landscape, they consequently gravitate to sensitive riparian areas where they wreak havoc by their mere presence, and the Forest's own Ecological Assessment performed by the actual biologists and botanists and soil scientists and hydrologists on the ground in this Forest as part of this revision process is clear and unequivocal in its reference time and time again to the damage that is occurring on this Forest as a result of grazing—on soils, on water resources, on fragile riparian habitats, and on no fewer than twenty different Species of Conservation Concern.

The Draft EIS, in its cavalierly obtuse and patronizing and illegitimate rejection above, asserts that "[u]nder all alternatives the rangelands management and livestock grazing program have multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing condition." Anyone who has read the Forest's own ecological assessment and, for that matter, the Draft EIS itself, would find this assertion outrightly comical, insofar as the Forest's Draft Plan entails the very same so-called "adaptive monitoring" the current Plan has been operating under, even as the Forest itself acknowledges in the EIS that the "range lands" currently under its "adaptive management" oversight are "trending towards unsustainability".

The “alternatives” presented, which all maintain the current minimum AUM and all use the same so-called “adaptive management”, are not in fact alternatives, but simply the continuation of the currently failing and ecologically damaging model. Simply put, the Forest’s very own data, analyzed in aggregate, shows that “adaptive monitoring” is a myth that has not worked and does not work. The soil conditions, range conditions, riparian conditions, At-Risk species numbers, and all the other Forest resource indices in documented decline clearly and plainly attest to this. And the reason that so-called” adaptive management” does not work is because cattle are not adapted to this landscape, and this landscape is not adapted to cattle—and especially at the numbers this Forest has historically permitted. It is this that the public has legitimately called into question, not in terms of a particular allotment, but as a widespread Forest practice generally. And, contrary to the Forest’s claim, this merits serious and objective acknowledgement in the Forest’s Plan alternatives. This the Forest fails to do.

The Draft EIS’s final assertion in support of its rejection of a restricted grazing alternative is that it is “not considered necessary as well as not legally compliant.” “Not considered necessary”—by whom, exactly? Obviously it has been considered necessary, or the issue would not have been raised. This process is all about questioning this Forest’s failures—not about trusting on faith the judgment of Forest officials who time and time again have been unwilling to acknowledge the ecological realities before them.

This claim about necessity I have shown above, and will continue to show throughout the comments that follow, is incorrect, on both procedural grounds (because establishing “forestwide standards and guidelines” is precisely what Plan Revision is about) and also on ecological grounds (because the Forest’s own ecological assessment functionally and unequivocally indicates the necessity of a substantial reduction in livestock numbers forestwide). Furthermore, given what I have argued above, there is in fact no legal compliance issue as the Forest claims. The Forest would in no way, shape, or form be “legally non-compliant” in putting forth an alternative that decreases livestock numbers Forestwide, as part of a new plan direction with an actual ecological basis and emphasis, and its incorrect claim that it would be “illegal” to do so is a blatant and brazen untruth in the service of a spurious argument intended to dismiss an inconvenient or unwelcome public perspective out-of-hand. The actual illegality comes from the Forest’s response to those commenters who have requested a reduced grazing alternative, which request is ecologically grounded, evidentially based, and entirely permissible and justified in this process.

Given the above, along with what will follow, the Draft EIS is in clear error, both procedurally and factually, in misconstruing and rejecting out of hand the request for a Forestwide restricted (i.e. significantly decreased allotment numbers and AUMs) grazing alternative. Furthermore, in the misrepresentation it uses to justify its rejection, the Forest fails its NEPA mandate to “to rigorously explore and objectively evaluate all reasonable alternatives”, since it’s response is neither rigorous, nor does it objectively evaluate, the alternative presented. On these grounds, this rejection must be rescinded and a reduced grazing alternative presented.

3. The Draft EIS and Draft Plan fail to present any actual grazing program alternatives, since all four “alternatives” functionally perpetuate substantially identical AUM levels, the desirability of which public and expert commenters and the data have all called into question. The Draft EIS must be amended to include a decreased grazing alternative, which, based on the data in the Forest’s Ecological Assessment, the Draft EIS, and in peer-reviewed BASI to follow, should then become the Forest’s preferred alternative.

As addressed above—in the introductory sections of the EIS, in discussing public comments that were not ultimately incorporated as distinct components of the Draft Plan, the Forest dismisses out-of-hand a “no grazing” alternative. This dismissal is then used as spurious grounds for the presentation of four “alternatives” that all maintain minimum levels of grazing that are functionally identical, as follows:

Alternative 1: 64,339 AUM

Alternative 2: 66,229 AUM

Alternative 3: 61,429 AUM

Alternative 4: 63,877 AUM

For this Forest to thus present only alternatives that maintain the status quo in a Forest Plan Revision document that is NEPA mandated to solicit and be responsive to current field conditions, best available scientific information, and public input, is to fail in that mandate. That failure is further compounded when the Forest’s own Ecological Assessment is a veritable recitation of the deleterious effects of grazing on the Forests soil resources, water resources, on seral states, on riparian habitats, and on the no fewer than twenty At-Risk Species whose threats on the Forest, as defined in both the Forest’s Ecological Assessment and the Draft Plan’s own appendices, explicitly include grazing. The mandate of a Forest Plan Revision is not to preemptively assume the continuation of the very status quo it is meant to carefully examine and question in this process (hence the word “Revision”), but rather to objectively assess and respond to the changes that have occurred on the Forest since the creation of the last plan, which significant changes include far better ecological and climatic data and models, changes in demographics, and changes in both national and local public opinion regarding appropriate and desired land uses. By a preemptive privileging of the status quo that privileges the tiny fraction of this Forest’s users who are grazing permittees (employing a mere 205 individuals, according to the Draft EIS V.2. p. 17 and 36) , and the preemptively and illegitimately premature decision regarding minimum stocking numbers, the Draft EIS fails entirely to do due diligence with respect to the environmental impacts of grazing, and fails in its four token “alternatives” to provide an actual alternative that is ecologically responsible and supports natural processes over human-directed ones, as it has at least made some effort to in other components within the EIS (fire, wilderness, fencing, etc.).

Given the above, this EIS must be modified to include an actual bona fide alternative to its current grazing management plan that is fully responsive to both the significant level of public opinion against the effects of grazing on these public lands and to the overwhelming preponderance of Forest-cited and acknowledged data showing the damage to other Forest resources the current levels incur. Furthermore, to actually be responsive to both public input and the preponderance of data showing the damage to other shared Forest resources incurred by the current level of grazing, which the Forest itself acknowledges is unsustainably damaging but which all four EIS alternatives presented nonetheless maintain, the proposed Plan must include, not token, but significant reductions in all (minimum, maximum, and average) AUMS. This modified and substantially decreased AUM Plan alternative should be the Forest’s preferred alternative, as the only responsible and proper response to the Forest’s own prolific data showing the ongoing ecological damage incurred by grazing on these shared public lands.

4. In the Draft EIS, V. 1, Section 3.11.1, Affected Environment (p. 393), the number of AUMs disagrees by a factor of almost ten with the figures cited in Draft EIS, V. 2, Section 3.17.2.2.1.1.3 Grazing (p. 30), thus grossly and inaccurately misrepresenting and underreporting the actual AUMs for anyone reading only V. 1 of the Draft EIS. This discrepancy must be amended with full acknowledgment of error and misrepresentation by this Forest in the Draft EIS.

Draft EIS, V. 1, Section 3.11.1, Affected Environment (p. 393) reads: *“At present, 244 grazing permits are authorized in the Santa Fe NF, on 75 grazing allotments, with a maximum permitted stocking rate of about 11,400 (animal unit months [AUMs]).”*

Draft EIS, V. 2, Section 3.17.2.2.1.1.3 Grazing (p. 30), however, provides a figure of 78,920 average AUM over the last ten years, listing a maximum stocking rate of 93,500 AUM.

If this stocking rate refers to a single allotment, rather than Forestwide, then the this document need to be absolutely precise about this, since, as written this can and would be construed as Forest-wide—and if it is Forest-wide, then it is false. This discrepancy grossly misrepresents the actual stocking rates, and provides a grossly inaccurate figure for anyone in the public who does not read Vol. 2 and discover the error. This sort of proofreading error, which could be construed as an intentional misleading of the public, is entirely unacceptable in a document of this nature, the purpose of which is to disclose to the public a factually accurate account of the proposed action.

5. In the Draft Plan p. 11, under the section “Need for Changing the 1987 Forest Plan”, in the subsection “Grass Cover”, the Plan reads: *“Grassland (montane subalpine grasslands and Colorado Plateau/Great Basin grasslands), woodland (juniper grass, piñon-juniper grasslands, piñon-juniper sagebrush), and shrubland (sagebrush shrublands) ERUs have significantly less grass cover and productivity as a result of the exclusion of wildfire as well as legacy (historical) livestock grazing, wildlife grazing, and roads.”* This is inaccurate as written and needs correction.

It is patently untrue that only “historical” grazing, is responsible for “significantly less grass cover”, and the narrative that asserts that only historical, and not current, grazing, is a key factor in grassland degradation is false. For this section to so blatantly assert that, while “wildlife grazing” is at fault, current livestock grazing is not, is for this Forest and those drafting this Plan to continue to assert and perpetuate a falsehood.

The Draft EIS, V. 1, p. 5, reads correctly, as follows: *“Grassland, woodland, and shrubland have significantly less grass cover and productivity as a result of the exclusion of wildfire, legacy (historical) grazing from livestock, **current livestock** and wildlife grazing, and roads.”* This has been altered in the Draft Plan with the removal of “current livestock”. The words “current livestock” must be returned to the Plan to accurately reflect both the Draft EIS and the actual reality.

6. In the proposed Forest Plan section “Management Approaches for Sustainable Rangelands and Livestock Grazing (FW- RANGE-MA)” p. 125, the Plan reads as follows: (5) *“Acknowledge the economic, traditional, and cultural importance of livestock grazing to northern New Mexico families and consider providing Forest Service employees education on the importance of this traditional practice.”* This is a blatant and one-sided formulation that, in providing a biased direction for the training of its employees,

privileges the importance of one Forest user group and one Forest activity over all others. As an explicit bias towards one Forest user group, this line either be removed from the Forest Plan, or the Plan should include equal and explicit direction as follows: ***“Acknowledge the ecological damage wrought by livestock grazing in northern New Mexico and consider providing Forest Service employees education on this important source of Forest degradation.”*** Otherwise, this constitutes a clear pandering to, and favoritism of, one Forest constituency and a pointed dismissal of others with an equal interest in the resource and process, in both policy and practice.

7. Further down in the same section. the Plan reads as follows: (7) ***“Consider inviting association members and individual permit holders on range inspections.”*** Again, this presents a blatantly one-sided formulation within the proposed Forest Plan towards the interests of one group. As an explicit bias towards one Forest user group, either this line should not appear in the Forest Plan, or the Plan should be amended to include equal and explicit direction as follows: ***“Consider inviting members of the public, the press, and environmental advocates on range inspections.”*** Otherwise, this constitutes a clear pandering to, and favoritism of, one Forest constituency and a dismissal of others, in both policy and practice.

CLIMATE CHANGE

8. In its discussion of grazing, the Draft EIS and Draft Forest Plan fail to follow and fulfill Forest Service Climate Change in Land Management Plan Revisions Guidance.

In Forest Service Guidance on January 20, 2010 in the document *Climate Change Considerations in Land Management Plan Revisions* (https://www.fs.fed.us/emc/nepa/climate_change/index.shtml) Forest Service Chief Tom Tidwell recognized that *“climate change is already altering our Nation’s forests in significant ways and those alterations are very likely to accelerate in the future, in some cases dramatically In the uncertain environment of climate change, risk management will become critical. This is managing ecosystems for resiliency to prepare uncertain future outcomes.”* Leadership in mitigating climate change and adaptive management for unavoidable climate change are the modern challenges of proper land stewardship for our national forests and grasslands. This leadership needs to be demonstrated in our land management planning processes, especially at the time of plan revision.” (p.10)

This guidance is amplified as follows:

“There are two basic considerations for evaluating climate change:

- How climate change is likely to modify conditions on the planning unit?*
- How management of the planning unit may influence levels of global greenhouse gases and thus climate change?” (p.2)*

The second bullet of this Guidance is amplified as follows:

“The evaluation should also include some discussion of how management of the planning unit may influence climate change. This would usually be limited to how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere.” (ibid.)

a. Methane

In its consideration of grazing, the SFNF Draft EIS fails to follow the above Direction. The contributions of livestock production to greenhouse gases that are known drivers of climate change is common knowledge. According to data provided by the United States Environmental Protection Agency (<https://www.epa.gov/ghgemissions/overview-greenhouse-gases>) the U.S. agriculture sector is responsible for 9% of greenhouse gas production in this country. Methane amounts to 10% of those agricultural emissions, and the principal source of this methane is livestock. According to the EPA: *“Livestock, especially ruminants such as cattle, produce methane (CH₄) as part of their normal digestive processes. This process is called enteric fermentation, and it represents almost one third of the [methane] emissions from the U.S. Agriculture economic sector.”*

Lest that percentage appear trivial, according to the EPA: “Pound for pound, the comparative impact of CH₄ is more than 25 times greater than CO₂ over a 100-year period.”

This EPA data is corroborated, and with even higher numbers, in the 2019 paper “Livestock and climate change: impact of livestock on climate and mitigation strategies” (Giampiero Grossi, Pietro Goglio, Andrea Vitali, Adrian G Williams, Livestock and climate change: impact of livestock on climate and mitigation strategies, Animal Frontiers, Volume 9, Issue 1, January 2019, Pages 69–76, <https://doi.org/10.1093/af/vfy034>) as follows:

“The livestock sector requires a significant amount of natural resources and is responsible for about 14.5% of total anthropogenic greenhouse gas emissions....Methane, mainly produced by enteric fermentation and manure storage, is a gas which has an effect on global warming 28 times higher than carbon dioxide.”

Per the Direction cited above, this Forest has a mandate to address *“how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere”*. The Draft EIS fails to document and address the well-substantiated role of cattle, and specifically enteric fermentation, in methane gas emissions, and thereby fails to follow Forest Service direction. In fulfillment of this Direction, and in keeping with the BASI requirement, **the EIS must provide comparative numerical data on predicted total enteric methane production for all proposed stocking levels in its four proffered alternatives, as well as in a fifth substantially decreased AUM grazing alternative.**

b. Carbon Sequestration

Similarly in regards to addressing the specific effects of cattle grazing on carbon sequestration, which is mentioned nowhere in the Draft EIS. Insofar as this Draft Forest Plan proposes “[r]estoration treatments, which involve thinning with mechanical treatments and fire” in the service of its proposed grazing program, thereby altering the composition and percentages of carbon sequestering vegetation, it must, per this same Forest Service direction to address “how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere”, address in detail, and numerically, the relative differences of its range and forage management proposals in both its four alternatives, and in a fifth substantially decreased AUM grazing alternative. This should include at least two elements:

- The gross cumulative effects over the life of the plan of proposed grazing-related vegetative “treatment “ and “restoration” (thinning, fire, etc.) with respect to “contributing to or mitigating the buildup of greenhouse gases in the atmosphere”. Since the Forest, as a matter of policy, proposes in its Plan revision to “treat” certain vegetation in the interests of increasing “forage”, **the EIS must account for the relative effects of these proposed “treatments” in the context of larger climate related concerns.**
- The gross, relative, and cumulative effects over the life of the plan of grazing itself, in the stocking numbers proposed, on Forest vegetation in each of the EIS alternatives with respect to “contributing to or mitigating the buildup of greenhouse gases in the atmosphere”. This must include presenting the predicted gross effects of vegetative consumption by livestock into the EIS. Given that a cow will eat on average 4% of its body weight daily in forage, a 1000 cow requires a minimum of 25 pounds of forage a day. This translates into 750 pounds of forage per AUM, which at the Forest’s proposed minimum annual stocking level of 66,229 AUM translates to 49,671,750 pounds (24,836 tons) of Forest vegetation annually, and at the Forest’s proposed maximum annual stocking level of 102,192 AUM translates into 76,644,000 pounds (38,322 tons) of Forest vegetation annually. Given the significant scale of this grazing loss effect on Forest vegetation, **the EIS must identify and address the role of its proposed grazing numbers in contributing to the buildup of GHG through the large scale removal of carbon sequestering vegetation.**

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BUDGET AND FINANCIAL COSTS OF PROPOSED PLAN

9. Cost of Grazing Program

The Draft EIS must be amended to include the actual costs of the Forest’s grazing program, and not present the “income” of the tiny grazing sector as if it were simply money generated out of thin air, when it is in fact an artificial income subsidized by Federal tax dollars.

In its discussion of the economic impact of its grazing program, the Draft EIS fails to discuss and disclose the costs to the Forest and the public of this program. It fails to document both past and current AUM fees, and it fails to clearly acknowledge that the costs of all fencing, water improvements, and other grazing infrastructure incurred in its grazing program area are borne, not by the permittee, but by the Forest itself, and thereby by the U.S. taxpayers. To fulfill its mandate to “fully disclose the environmental effects of its proposed policies and actions”, the Forest must document the elements on the cost side of the ledger with the same degree of detail and supporting citations it does on the income side of the ledger. That means supplying a full financial accounting of this Forest’s current budget as it related to grazing-related financials, including both historical and projected annual AUM income and expenses, so that the public is fully equipped to judge the viability of the Draft EIS and proposed Plan.

10. The Draft EIS, in citing the Forest’s backlog of range infrastructure maintenance issues and the Forest’s declining range quality (“trending towards unsustainability”), constitutes a clear and frank acknowledgment by this Forest that it lacks the financial and personnel resources to administer its current grazing program, to say nothing of enacting and maintaining the conditions for the increased AUM in the grazing program it proposes. Given this frank acknowledgment, the Forest is acting in poor faith in misrepresenting its actual resources and capabilities, and the Draft EIS and Draft Forest plan must be amended to decrease stocking numbers to accord with its actual and predicted monitoring, infrastructure and other financial and personnel resources.

The Draft EIS and Draft Plan propose to continue to maintain the same AUM stocking levels through a so-called “adaptive management” approach that this Forest’s own pre-Plan ecological range assessments show clearly has not worked, and this at least in part because my own FOIAed allotment monitoring reports for the last ten years show that this monitoring has not in fact been occurring with the regularity mandated by the Forest’s own policy. Similarly, the Draft EIS and Plan propose to address a vast acknowledged deferred maintenance infrastructure backlog without any reference to where the Forest expects to acquire the funding and personnel resources for this.

In regards to its budget, the Forest fails to provide any numbers or commentary, but general public knowledge is that the trends in that funding have all been either stable or downward. Given the failure of the Draft EIS and Draft Plan to address the Forest's actual financial resources and to point to any new sources of funding for what it proposes, the Forest's range management proposal, which is predicated on a level of monitoring it has already shown itself unable to attain, is a paper charade that bears no connection to the reality on the ground. Similarly with its range infrastructure repair plans. Unless this EIS can demonstrate that Forest funding will be increased to a level commensurate with its proposals, it must necessarily scale back those proposals in acknowledgement of its actual and existing financial realities. For this Forest to continue to operate a grazing Program that does not meet its own monitoring and infrastructure requirements is both unethical and illegal, and it is incumbent upon those involved in this Revision process to fully acknowledge that and, rather than put forth pie-in-the-sky proposals predicated upon funding it knows it does not have and cannot expect anytime in the future, adjust its actual services and plans downward to reflect reality. This necessitates embracing an alternative to those put forth in the Draft EIS that decreases proposed AUMs to bring them into alignment with both actual infrastructure repair funding realities and actual monitoring resource. Having acknowledged that its fences are in disrepair due to insufficient resources, the Forest effectively acknowledges that it cannot maintain the infrastructure commensurate with its proposed grazing stocking numbers. Given this acknowledgment, the Draft EIS and Draft Forest plan must be amended to decrease its stocking numbers to accord with its actual resources.

USER-CATTLE CONFLICTS, STRAY CATTLE, OUT-OF-ALLOTMENT CATTLE, AND CROSS-BOUNDARY CATTLE ENCROACHMENTS

11. All four Draft EIS Alternatives fail to address the problem of grazing-related user conflicts. This issue must be addressed substantively in the EIS as an existing and ongoing management problem in need of Plan direction, and with a preferred alternative that actually addresses it, not through more "communication" and "education", but as an actual problem entailing conflicting and incompatible uses within the same space that will only worsen and that need actual administrative leadership and resolution, rather than the Forest's current default Pollyannaish response to the effect of "why can't we all just get along?", which is a failure to acknowledge an actual and growing conflict and problem with its users on the ground and an evasion of its responsibility to address this reality with Plan Direction.

While the EIS specifically refers to the need for Plan direction to address user conflicts, none of the alternatives in the Draft EIS or the Draft Plan itself address the blatant and continuing conflicts, not simply between different recreational users, but also between different users and uses generally. While National Forest's may have a multiple use mandate, that mandate does not specify that all uses must occur simultaneously in all areas, or that all uses are appropriate to all areas. As quoted earlier from the Forest Service's own website: *"It was never the intent of the Congress that all uses would occur on all areas. Individual forests determine what uses are feasible and appropriate for different areas through the development and revision of the Land and Resource Management Plans. Once a determination has been made that grazing is feasible and appropriate for an area, grazing is planned and managed taking into consideration all the other uses of the area."* <https://www.fs.fed.us/rangeland-management/grazing/allowgrazing.shtml>

One clear instance is the continuing conflicts between Forest permitted cattle outside of their assigned allotment and motorists and recreational users in the high density recreation area

along the road and Winsor Trail between Hyde Park and the Santa Fe Ski Basin. The Draft Plan currently put forth is predicated upon properly maintained fencing infrastructure and actual monitoring. The reality, as borne out by the Forest's own current knowledge, practice, and record of public complaints—is that neither of these are the case in current practice, such that trespass cattle are a continual problem in this area. As written, the Draft Plan does nothing to address this.

Given that the current model of range administration and monitoring is an abject failure, and the proposed alternative fails to present any solution to this longstanding problem, the actual solution, which the Forest fails to present in any of its alternatives, is the actual closing of certain pastures and allotments, not only for range recovery and resource damage, but additionally, when these pastures and allotments occur with or adjoin heavily trafficked roads and high use recreational area where conflicts from cattle that have a history of non-containment in their allotments with other incompatible users are inevitable. The Aspen Allotment is one such place, and this Draft Plan needs amendment to acknowledge the Forest's and the American public's right and need to adjust allotment boundaries and to close allotments, in acknowledgment of the high density of recreational users in certain areas of the Forest, whose experience is currently negatively impacted and whose safety is currently compromised by the continual presence of cattle and bulls in areas both within current allotments and from adjacent allotments straying regularly into areas where they are not permitted and do not belong.

12. All four alternatives fail to address ongoing Santa Fe National Forest-permitted Cattle straying off-allotment and/or off-Forest and trespassing onto Pueblo Lands, other Agency Lands, and Forest lands and roads that are not permitted for cattle. This issue must be addressed substantively in the EIS as an existing and ongoing management problem in need of Plan direction, and with a preferred alternative that actually addresses it, not through more “communication” and “education”, but as an actual problem entailing conflicting and incompatible uses within the same space that will only worsen and that needs actual administrative resolution, rather than the Forest's current default response to the effect of “why can't we all just get along?”, which is a Forest management failure to acknowledge an actual and growing conflict and problem with its neighbors on the ground and an evasion of its responsibility to address this reality with Plan Direction.

Along the same lines as the previous—this Forest has a long history of its permitted cattle trespassing onto land which is either under closure within the Forest itself (the Santa Fe Watershed) or onto land belonging to adjacent tribes and different land management entities whose own land management is compromised by these continual trespass incidents (Cochiti Pueblo, Tesuque Pueblo, the BLM, the Valle Caldera, Bandelier National Monument, and the DOE's White Rock Canyon Preserve all have records of unauthorized trespass by Santa Fe National Forest cattle onto land under their ownership or oversight). These continuing failures by and apparent inability of Santa Fe National Forest Supervisors, District Rangers, and staff to contain their permitted cattle within their assigned allotments is a source of continuing and growing acrimony shared by those whose land adjoins the Forest. It is also a source of continuing resource damage and resource theft from lands not belonging to this Forest, and it is the height of irresponsibility of this Forest's Supervisor and District Rangers not to correct this. Plainly they need Plan direction to do so.

It is clear from the above that something more than simply a proposal to repair 5% of its infrastructure year will resolve this, since the Forest already has a mandate to maintain and monitor the fencing in active allotments, at which it already fails miserably. As such, and in

keeping with its recognition of other special management areas, this Plan needs to alter its allotment boundaries to incorporate significant buffers between these allotments and the areas of continuing trespass currently joining them—buffer sufficiently large to allow detection and capture of those cattle straying from their assigned pastures and allotments before they are able to cross over into—or it needs to close these adjacent allotments entirely.

13. In light of the July 2016 release of the United States General Accountability Office report *Unauthorized Grazing: Actions Needed to Improve Tracking and Deterrence Efforts* (<http://www.gao.gov/products/GAO-16-559>), which includes data from the Santa Fe National Forest and which was released during the period of this planning process, this EIS and Plan need to provide direction to audit and address this Forest’s internal practices pertaining to trespass grazing and to provide correctives in the new Forest Plan.

Here I quote: “The Forest Service’s grazing regulations require the agency, except in certain circumstances, to determine a grazing use rate for unauthorized grazing. The regulations define unauthorized grazing as (1) livestock not authorized by permit to graze on the land, (2) an excess number of livestock grazed by permittees, or (3) permitted livestock grazed outside the permitted grazing season or allotment....The exceptions do not apply to unauthorized grazing. All unauthorized grazing on Forest Service lands should be charged a penalty” (p.10).

And again: “BLM and Forest Service regulations do not provide agency staff with the flexibility to resolve incidents informally with no written notice and no penalty for unauthorized grazing charged” (p. 22). And again: “Forest Service regulations do not specifically require a written notice of violation but require that a penalty be determined; nonmonetary resolution is not an option” (p. 28)

Given the GAO report and my own experience, there is a clear need for this Forest to accurately determine the extent of straying cattle on this Forest and Forest cattle straying off this Forest, the quality of this Forest’s record-keeping pertaining to such, the extent of illegal “informal” resolution of cattle trespass incidents over the mandated formal penalties, and the failure in the chain of responsibility on the occasions when these Forest Service regulations have not been properly followed. Monitoring, even if occurring as it should be (which it has not) is only part of the equation. This Forest has a legal mandate to penalize all stray cattle, and its failure to address this makes everyone from the Range “Specialists” up to the Forest Supervisor complicit. And make no mistake about it. Range infrastructure is not the problem I am pointing. It is a failure of this Forest, as identified not just by my personal experience but by the GAO, to uphold the law. EIS must address this cattle issue on the Forest, just as it purports to do with every other existing and “trending” problem, and provide Plan direction for its correction.

WATER

14. In spite of an explicitly stated emphasis on water conservation in this Draft EIS, and an acknowledgement of accepted BASI climate models predicting rising temperatures and a decrease in rainfall on this Forest, this EIS fails to adequately address the issues attending the outrageously high water consumption effects of the livestock it currently permits, and it irresponsibly declares its intention to continue to permit, at minimum, its present stocking numbers on this Forest. In failing to present an alternative that entails substantially decreased livestock water usage through substantially decrease AUM, this

Forest again manifests a bias towards grazing at the expense of science and ecology. This EIS must include a substantially decreased AUM alternative in frank acknowledgement of the extravagant and undesirable draw on public water in a time of diminishing availability, and, in recognition of its responsibility, not simply to grazing permittees, but to every living thing both on and downstream of this Forest, must choose this decreased AUM alternative as its preferred alternative.

According to the Draft EIS's own assessment:

"Where numerous cattle are drinking from surface water sources (within the riparian or out of a trough in the uplands), their consumption represents a significant decrease in available water to stream channels, riparian vegetation, wildlife, and humans Wa22. Given that daily water intake for a beef cow may vary from 3 to 30 gallons per day depending on age, body size, stage of production, and the environment (Rasby and Walz 2011), roughly 9,000 gallons of water are consumed by cattle from springs and stream channels on a single Santa Fe NF allotment every day livestock are present." (V. 1, p. 195)

This figure of 9000 gallons applies to only one allotment. While itself an appalling figure in a water scarce environment, it become more staggering when multiplied out over the entire Forest, as follows:

The EIS, in its preferred alternative 2, proposes increases in its minimum, maximum, and average estimated annual AUM authorization. Given that, based on the above daily water intake figures, a single AUM translates into up to 9000 gallons of water consumption per AUM (30 gallons x 30 days), the proposed minimum stocking level of 66,229 AUM translates into a total of 590,6061,000 (591 million) gallons per year (9000 x 66229) of livestock consumption of an increasingly scarce resource, and the proposed maximum stocking level of 102,192 AUM into no less than 919,728,000 (920 million) gallons of Forest water per year consumed solely by livestock.

Water is, by the Forest's own admission in this Draft EIS, a scarce resource that is slated to become only more scarce resource on this Forest as the effects of climate change increase the likelihood of drought. The EIS itself acknowledges above that consumption by cattle *"represents a significant decrease in available water to stream channels, riparian vegetation, wildlife, and humans"*. The numbers calculated above show the actual scale of this theft of water from the Forest's streams.

Given the outrageous annual livestock water consumption figures provided above, the Forest's insistence on maintaining the current stocking levels across all three alternative and nearly doubling its stocking levels in its preferred alternative, boggles the mind, and is outrageously hypocritical in light of the Forest's self-proclaimed "vision" with an emphasis on water. A plan with an ostensible water conservation focus that does not substantially *decrease* the number of AUMS contradicts both the climatological trends and all common sense. To fail to include such an alternative in a region that is already water scarce and that is increasingly water-concerned is grossly negligent, and once again privileges the mere 205 individuals employed in grazing (EIS V. 2, p. 17 and 36) over the basic water needs of the literally hundreds of thousands of people and countless wildlife, riparian, fish, amphibian, mollusk, and other species of aquatic biota whose very existence is dependent upon this most essential of resource,. Such an alternative must be offered and then selected by this Forest as the only truly responsible one.

15. In connection with this, in the Draft Plan, p. 122, under “Objectives for Sustainable Rangelands and Livestock Grazing (FW-RANGE-O)” item 2 : To “[m]aintain, improve, or install at least one water feature per year to improve water availability for wildlife or livestock where natural water sources are limited” is not an objective that follows from the acknowledged scarcity of water and the above documented extravagant water consumption needs of cattle.

The Forest should not be facilitating the presence of livestock in any area where water is already limited or nonexistent, it should not be doing this through taxpayer-subsidized additional artificial water supply sources, and it should especially not be doing so when the Forest has itself acknowledged its inability to find resources to even maintain existing fencing and roadways. Water infrastructure in areas where water does not occur naturally should not be maintained, improved or installed. Where water resources are limited, there should be no cattle. As such, this objective should be removed.

16. The EIS fails to adequately document and address the effects of cattle-generated liquid and solid waste on the purity of both current, and what are projected to be increasingly limited, Forest water resources.

Per its NEPA mandate to fully disclose the environmental effects of its proposed policies and actions, the EIS must quantify the cattle waste production attending its proposed stocking levels and incorporate this data into its Plan alternatives. This includes a full accounting of the possible pathogens and a disclosure of all off the Forest waters subject to livestock grazing contamination as a function of allotment location, including an acknowledgement that contamination by cattle occurs not only directly, by cattle situated within the actual Forest water sources and riparian areas, but also through seasonal and monsoon runoff that carries manure and its pathogens into both groundwater and into all Forest waterways downhill of their grazing locations, such that fencing cattle out of water sources and riparian areas has no actual effect on mitigating contamination.

Furthermore, since the Draft EIS acknowledges that cattle grazing and the prodigious amounts of manure and urine it generates are a source of waterborne pathogens for both humans and wildlife, and a source of toxicity for fish, the Forest must provide and responsibly select as its Plan an Alternative that entails substantial reductions in AUM in the interests of protecting the health of humans, fish, and wildlife on both Forest lands and downstream.

Finally, while acknowledging the waterborne effects of cattle urine, the EIS fails to disclose and address the well-documented role of cattle urine and solid waste as a significant source of Nitrous Oxide (N₂O), the most potent of all greenhouse gases. To comply with Forest Service direction to “discuss how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere”, the EIS must be amended to include this data, along with the predicted contributions of N₂O for each Alternative, as well as an alternative that substantially reduces AUM to mitigate this greenhouse gas.

Each individual beef cow produces on average 60-75 pounds of manure each day, translating to an average of 1,800-2,250 pounds of manure per cow per month (AUM). At the Forest’s proposed minimum annual stocking level of 66,229 AUM, this translates into between 119,212,200 and 149,015,250 (119 million to 1459 million) pounds of manure deposited on Forest land and in Forest waters annually, and at its proposed maximum stocking level of

102,192 AUM, into 183,945,600 to 229,932,000 (184 million to 230 million) pounds of manure deposited on Santa Fe National Forest lands and in Forest waters annually.

Additionally, each individual beef cow produces an average of 3.5 gallons of urine each day, which translates into 105 gallons per AUM, thus entailing 6,954,045 (7 million) gallons of cattle urine deposited annually into streams and on vegetation Forestwide under the minimum stocking numbers shared by all the Plan alternatives, and 10,730,160 (11 million) gallons of cattle urine deposited annually into streams and on vegetation on the Forest under the maximum stocking numbers in the Forest's proposed Plan.

Cattle manure is a widely known source of pathogens, including E. coli O157, which is shed in manure in a rate estimated to be between 3 – 50,000 cfu/gram of feces:, and with “the E coli O157 infective dose for humans... about 10 cfu – the lowest of the common human food-borne pathogens.” pathogens include Listeria, Salmonella, Mycobacterium paratuberculosis, Cryptosporidia, and Giardia. (<http://lshs.tamu.edu/docs/lshs/end-notes/uc%20davis%20pathogens%20in%20manure-2636453403/uc%20davis%20pathogens%20in%20manure.pdf>).

Cattle urine, meanwhile, is high in Nitrogen, and current research shows that “urine patches and dung pats from grazing livestock create hotspots for production and emission of the greenhouse gas nitrous oxide (N₂O), and represent a large proportion of total N₂O emissions in many national agricultural greenhouse gas inventories”.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6024564/>

The Draft EIS acknowledges cattle borne urine effects and waste pathogens as they relate to water as follows:

“Through their feces and urine, livestock contribute nutrients and organic matter (Sheffield et al. 1997), bacteria (e.g., Escherichia coli) (Davies-Colley et al. 2004), and protozoan pathogens (e.g., Giardia) (Nader et al. 1998) to stream channels. Nutrient addition to surface waters, particularly phosphorus and nitrogen, can increase algal growth, decrease water clarity, and increase ammonia concentrations which can be toxic to fish Wa29. The increased organic matter also serves as a food source for bacteria and other microorganisms, resulting in lower oxygen levels in the water Wa30. Bacteria and protozoan pathogens can be harmful to humans and wildlife.” (p.195)

- a. Since the Forest readily acknowledges that its lands are also the primary drinking water sources for much of the population within its boundaries, as well as for countless individuals downstream, the EIS must address specifically how its its large-scale allotment and grazing management practices bear on Forest-wide and downstream water purity. In order to fully and properly disclose all of the known environmental impacts and variables in this Plan revision, the EIS must quantify and discuss the cattle waste production and the above potential cattle borne pathogens associated with its grazing program and incorporate this data into its alternatives.
- b. Additionally, in accordance with its professed commitment to safeguarding Forest water resources and in acknowledgment of both public comment and its own obligation to address threats to ecosystems and Forest species, the Forest must formulate and embrace an Plan Alternative that significantly reduces these threats to human and ecosystem health by substantially decreasing AUMs on the Forest.

- c. Finally, pursuant to its climate change guidance “to discuss how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere” the EIS must acknowledge that cattle waste and urine is a known source of Nitrous oxide, a global warming gas with warming effects 265 times higher than that of carbon dioxide, and must incorporate this into its plan alternatives, including embracing a fifth alternative that mitigates this warming threat to the local, state, national, and global populations and all other climate-change susceptible life by substantially decreasing AUMs on the Forest.

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AT-RISK SPECIES

17. While the Draft EIS refers explicitly to the threat of livestock grazing and trampling to twenty of the thirty-six species identified as At-Risk on this Santa Fe National Forest, (56%, or over half), it then fails to explicitly identify livestock grazing in its itemized listing of Issues and Threats (Draft EIS V. 1 Draft EIS V. 2, Section 3.5, Wildlife, Fish and Plants, and Appendix E, At-Risk Species Crosswalk pp. 257-259, pp. 299-310). Given grazing’s consistent and repeated appearance as an explicit threat in the species listing, and in light of the further fact that livestock pose singular risks of a nature not included within the fourteen Issues and Threats listed here, the EIS must include Livestock Grazing as an additional and focused 15th item under Issues and Threats.

Of the 36 At-Risk species identified by the Forest as At-Risk, 20 (listed below) are identified as being threatened in some form by livestock grazing. While some of these effects may be indirectly included within the summary listing of Issues and Threats (“inappropriate grazing” is listed under “Seral State Departure” (Item A), others are clearly not. Because of its pervasive and distinctive impact, Livestock Grazing merits an additional and distinct 15th category, for the

same reasons that “Intrusive Human Activity—Recreational Disturbance” is its own Issue and Threat. For instance:

—“Ground Soil Disturbance” is listed as an “Issue and Threat” (Threat J), as a result of “compaction” and “erosion concerns for fish”, but the indicator is then limited solely to “Miles of Roads and Trails”. This fails to acknowledge that grazing cattle, which this Forest is proposing to stock at levels between 66,229 and 102,192 AUM, are a second significant cause of this same soil compaction and erosion, and are in fact explicitly mentioned as such under the descriptions for the Rio Grande Chub, the Rios Grande Cutthroat, the Rio Grande Sucker, the Masked Shrew, and the Water Shrew (see below), as well as implied with the frequent mention of ground riparian disturbance. The effects of livestock on soil is explicitly supported in Draft EIS V. 1, p. 327, as follows:

“An important component that affects soil condition are biological soil crusts. Macrobiotic crusts are the community of organisms, including cyanobacteria, green algae, microfungi, mosses, liverworts and lichens, living at the surface of soils (USGS 2006) which contribute carbon to the underlying soils through photosynthesis (Rosentreter et al. 2007). Mosses and other crust forming organisms are found in wetter environments, but are less important to overall soil productivity. Biological soil crusts are commonly found in semiarid and arid environments (Johnston 1997) and have been observed in coarse textured soils, predominantly in PJ woodlands in the forest and to a limited extent in other vegetation types dryer than PJ woodlands. On the Santa Fe NF, biological soil crusts play an important role in maintaining productivity of the Colorado Plateau/Great Basin grasslands and PJ woodland ecosystems.

*Biological soil crusts are well adapted to severe growing conditions such as drought and desiccating winds (Rosentreter et al. 2007), but are poorly adapted to compressional disturbances. **Domestic livestock** and elk grazing, and recreational activities (hiking, biking, and off-road driving) place a heavy toll on the integrity of soil crusts. Disruption of the crusts decreases organism diversity, soil nutrients, stability (and increased soil loss), and organic matter and soil productivity. Studies of trampling disturbance have noted that losses of moss cover, lichen cover, and cyanobacterial presence can be severe. Such rates of crust loss can increase runoff by half and the rate of soil loss up to six times without apparent damage to vegetation (Belnap et al. 2001). **Ungulate grazing in ERUs where crusts are present, poses an unquantifiable risk to soil productivity, ecosystem diversity, and species that depend on these habitats for survival.**”*

The failure to thus acknowledge the effects of cattle grazing as an indicator or a distinct Issue and Threat vector, in spite of its clear and frequent mention within the individual species text descriptions, consequently mischaracterizes Issue and Threat item J as being one of only “Miles of Roads and Trails”, and thus consequently fails to fully and accurately summarize the full spectrum of soil disturbance threats the Forest’s own soil scientists, botanists, fisheries experts, and wildlife biologists have identified as being caused specifically by cattle grazing.

—Similarly with “trampling” by livestock, which is also mentioned explicitly as a threat within the species descriptions (Chaco Milkvetch, Greene’s Milkweed, Heil’s Alpine Whitlow Grass, Large Yellow Lady Slipper, Ruidoso Snaggletooth, Springer’s Blazing Star), and is a known threat for Alpine-Tundra ground-nesting White-tailed Ptarmigan, but which appears nowhere in the Issues and Threats listing (Intrusive Human Activity Threat K being limited parenthetically to “Recreational Disturbance”).

—Similarly with the direct use of At-Risk Plants (e.g. Arizona Willow) for forage by cattle, which is qualitatively different than seral state departure, which pertains to succession, and is again listed nowhere within the Issues and Threats list (“Invasive Predation” Threat I, which would otherwise apply, having been artificially narrowed in the Draft EIS to Aquatic Species only).

—Similarly with cattle as a vector for the spread of disease. Cattle are explicitly identified in the individual species descriptions as disease vectors for chytrid fungus, which threatens both the Federally listed Jemez Mountain Salamander and the SCC Northern Leopard Frog, but cattle are then mentioned nowhere in the (“Introduced Diseases and Unnatural Spread” (Threat L) section, which mention only human travel and recreation as vectors.

Simply put, the fourteen “Issue and Threat” categories listed in the Draft EIS fail to encompass the full spectrum of cattle-related threats explicitly detailed within 20 of the 36 individual AT-Risk species descriptions. The failure of this Forest to distill out as a unique category the distinct and pervasive threat livestock grazing poses for so many of its At-Risk Species —this in spite of the word “threat” being used in reference to livestock in the species narratives both explicitly and repeatedly— when it does exactly this for humans as regard to recreation, must be addressed and corrected in this Draft EIS, and a 15th Threat identified as Livestock Grazing Threat must be incorporated and integrated fully into Section 3.5 Wildlife, Fish and Plants (Draft EIS V.1, p. 282—324), as well as all of the At-Risk Species Crosswalk tables and discussions.

In support of this, I provide below a list of all of the At-Risk Species in which livestock grazing is mentioned within the EIS as a clear and distinct threat:

- **Arizona Willow (*Salix arizonica*)**

“Livestock impact the growth and vigor of this willow (100 percent of potential habitat affected).” Draft EIS V. 2, p. 265

- **Chaco Milkvetch (*Astragalus micromerius*)**

“habitats are considered at risk for significant increased drying and prolonged drought from climate change increasing the stress from other threats (fire and grazing) as well. Other threats include trampling....” Draft EIS V. 2, p. 268

- **Greene’s Milkweed (*Asclepias uncialis* ssp. *uncialis*)**

“Threats include trampling by livestock. The area it is reported to occur is not subject to grazing except by occasional strays.” Draft EIS V.2, p. 270)

- **Gunnison’s Mariposa Lily (*Calochortus gunnisonii* var. *perpulcher*)**

“Although its response to grazing and fire is unknown, the threats from grazing and fire may be a concern in the meadow and glade habitats for a species this restricted.” Draft EIS V. 2, p. 270

- **Heil’s Alpine Whitlow Grass (*Draba heilii*)**

“it is threatened by trampling of hikers, climbers, horseback riders, and occasional livestock (100 percent of potential habitat).” Draft EIS V. 2, p. 273

- **Jemez Mountain Salamander (*Plethodon neomexicanus*)**

“Threats include habitat loss from severe wildfire or other activities that alter hydrology and disease including chytrid fungus. Grazing is believed to be a vector for chytrid fungus when livestock carry it into the habitat from water sources where it can be present.” EIS V. 2, p. 275

- **Large Yellow Lady Slipper (*Cypripedium parviflorum* var. *pubescens*)**

“Trampling...” Draft EIS V. 2, p. 277

- **Lewis’s Woodpecker (*Melanerpes lewisi*)**

“Vulnerable to loss of nesting sites (large snags) such as may result from logging, urban and agricultural development; and to degradation of riparian habitats by drought and overgrazing” Draft EIS V. 2, p. 277

- **Masked Shrew (*Sorex cinereus*)**

“Negative impacts to the masked shrew include sedimentation caused by grazing...” Draft EIS V. 2, p. 280

- **New Mexican Meadow Jumping Mouse (*Zapus hudsonius luteus*)**

“The major threats faced are the degradation of riparian habitat caused by actions such as legacy grazing, post-wildfire flooding events, and unmanaged recreation.” Draft EIS, V. 2, p. 282

- **Northern Leopard Frog (*Lithobates pipiens*)**

Ongoing threats include degradation of habitat caused by grazing, chytrid fungus....” Draft EIS V. 2, p. 284

- **Pecos Fleabane (*Erigeron subglaber*)**

“The largest known population on Elk Mountain also has the highest known impacts (road, radio tower, in grazing allotment with high grazing impact recorded....)” Draft EIS, V. 2, p. 285

- **Rio Grande Chub (*Gila pandora*)**

Rio Grande chub impacts in the Santa Fe NF include degraded stream and riparian habitat as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing.” Draft EIS, V. 2, p. 287

- **Rio Grande Cutthroat (*Oncorhynchus clarkii virginalis*)**

Rio Grande cutthroat trout are further threatened by degraded stream and riparian habitat, as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing, and recreational use.” Draft EIS, V. 2, p. 288

- **Rio Grande Sucker (*Catostomus plebius*)**

“degraded stream and riparian habitat as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing,..” Draft EIS, V. 2, p. 289

- **Ruidoso Snaggletooth (*Gastrocopta ruidosensis*)**

“trampling” Draft EIS, V. 2, p. 290

- **Springer’s Blazing Star (*Mentzelia springeri*)**

“trampling” Draft EIS, V. 2, p. 290

- **Tufted Sand Vernbena (*Abronia bigelovii*)**

“habitats are considered at risk for significant increased drying and prolonged drought from climate change increasing the stress from other threats (fire and grazing)” Draft EIS, V. 2, p. 294

- **Water Shrew (*Sorex palustris*)**

“Negative impacts to the water shrew include sedimentation caused by grazing....” Draft EIS, V. 2, p. 295

- **White-tailed Ptarmigan (*Legopus leucurus*)**

“Threats include degradation of habitat by grazing...Use of New Mexico's limited alpine tundra habitat by livestock”, Draft EIS, V. 2, p. 297

18. Given the above outlined frequent explicit mention of Livestock Grazing as a threat to 20 of the 36 At-Risk species on the Forest, several of them endemic, two Federally Listed, and many in acknowledged decline, the Draft EIS, while devoting many, many pages to issues around fire, conspicuously fails to offer clear and adequate Plan direction in all of its four alternatives for addressing the real, present, and self-documented danger of its grazing program to its At-Risk Species and their required habitats. Consequently, the EIS, its Alternatives, and the Proposed Plan must be revised and reformulated with honest and substantive direction to fully address this repeatedly acknowledged threat, and the Forest’s own proposed AUMs and Range management and infrastructure sections must be revised substantially downward as part of this direction.

I will state yet again. A plan that identifies a threat that applies to 56% of its At-Risk species, as well as to the water it purports to place as one of its highest priorities, and then fails to both acknowledge this as an explicit threat and proposes to do nothing to address it in any of its alternatives, is blatantly and willfully ignoring it. This EIS must be revised to fully acknowledge this threat with an alternative that substantially decreases AUM on this Forest, and the Forest must embrace it as the only responsible alternative.

19. New Mexican Meadow Jumping Mouse (*Zapus hudsonius luteus*)

a. Under the At-Risk species narrative for the New Mexican Meadow Jumping Mouse (*Zapus hudsonius luteus*) Draft EIS, V. 2, p. 282), the Draft EIS reads: “*The major threats faced are the degradation of riparian habitat caused by actions such as legacy grazing, post-wildfire flooding events, and unmanaged recreation.*” This is incorrect and incomplete as written.

As the USFWS makes explicit

([https://www.fws.gov/southwest/es/NewMexico/NMMJM.cfm###targetText=\(Zapus%20hudsonius%20luteus\),seen%20a%20significant%20population%20decline.&targetText=Based%20on%20the%20further%20threat.\)%20on%20June%209%2C%202014.](https://www.fws.gov/southwest/es/NewMexico/NMMJM.cfm###targetText=(Zapus%20hudsonius%20luteus),seen%20a%20significant%20population%20decline.&targetText=Based%20on%20the%20further%20threat.)%20on%20June%209%2C%202014.)) and as this Forest well knows, the major threat is current, and not legacy (historic), grazing. To characterize the well-documented current threat as stemming only from legacy grazing is a mischaracterization by emphasis and omission, and this must be corrected in the EIS to accurately convey that ongoing grazing is and remains a current threat.

b. As pointed out in comments I have submitted earlier in this process, the New Mexico Meadow Jumping Mouse is not a “*risk to rangelands*”, and this formulation must be removed from the Draft EIS and Plan.

To wit:

“*Other influences beyond the control of forest management that are compounding and increasing the risk to rangelands include: fractured ownership of private lands, legal uncertainties about land titles, and endangered species listings by the US Fish and Wildlife Service. One such listing is the 2015 listing of the New Mexico Meadow Jumping Mouse.*” (Draft EIS, V. 1, p. 396)

As has been noted in comments I have made earlier in this document, this Forest does not have a mandate to maintain livestock grazing at any particular level, nor in any particular place on the Forest. What it does have is a mandate, per the Endangered Species Act, to protect the New Mexico Meadow Jumping Mouse and its habitat. In point of fact, and as this Forest has recently been compelled to address, it is livestock grazing that is a clear and present threat to the NMMJM. For this Forest to continue to refer to the NMMJM as a “*risk to rangeland*”, as it does in this EIS, is to present blatantly and publicly a grazing bias that is counter to its larger statutory obligation. Per the ESA, this Forest has a legal requirement to protect the endangered species within its boundaries, not as a grudging concession to “*other influences outside the control of forest management*”, but as an integral party of its forest management. That this Forest continues, even in its Draft EIS, to frame these endangered species themselves as “*threats*” to economic interests, rather than as being themselves subject to “*threats*” by certain economic interests, is to make all too clear its pro-industry and anti-wildlife bias. This wording runs counter to the Forest’s mission and its obligations as part of a Federal Agency, which is to uphold U.S. law—in this case, the Endangered Species Act—and not to serve as an advocate itself for any particular economic interest. This biased wording—essentially a pointed apology by this Forest to a particular economic interest (“*influences beyond the control of forest management*”)—has no place in this Draft EIS or Plan and must be removed.

20. While invasive species are acknowledged generally in the Draft EIS as a threat to the Forest, its native plant composition, and its ecology, the Draft EIS fails to address the issue of Cattle as an explicit Forest-wide threat vector for the spread of invasive species

such as chytrid fungus, the spread of which by cattle is a known factor in the decline of Northern Leopard Frogs and Jemez Mountain Salamanders. The revised Forest Plan must provide Forest-wide direction on managing livestock presence and movement as it relates to the spread of invasive species like chytrid fungus, not merely through the fencing infrastructure it acknowledges it has not and cannot maintain, but through full allotment closures and retirements when necessary to protect these species.

COURT DECISIONS SINCE THE RELEASE OF THE DRAFT EIS

21. The EIS must take into account recent court decisions rendered after the summer 2019 release of this Draft EIS that identify current failures in Federal Agency management of At-Risk species included on this Forest, and proactively adjust its plan to address the implications of this new judicial direction.

Decisions rendered in the last months, and since the release of this Draft EIS and Plan, include rulings on two species on the Forest's At-Risk list:

a. The courts have determined that the Forests on this Region have been noncompliant, by their own admission, in their ESA-mandated obligation to monitor Mexican Spotted Owl populations. This decision must be factored into the EIS and proposed plan in a way that demonstrates that this Forest recognizes its own failure in following ESA mandates and has full intentions to remedy this failure through clear Plan direction.

b. The courts have determined that the U.S. Fish and Wildlife Service's denial of Endangered Species protection for the Rio Grande cutthroat trout, which occurs on this Forest but now exists on only ten percent of its original range in New Mexico and Colorado, was arbitrary and unlawful. This species is now moving towards Federal listing, stemming in large part from the failure of Region 3 Forests, including the Santa Fe National Forest, to proactively address known and acknowledged issues surrounding grazing in high elevation areas. In recognition of this native New Mexican trout's imperiled status, and in recognition of this Forest's past and continuing failures to adequately protect the Rio Grande cutthroat by closing grazing allotments in high mountain areas, and in recognition of the likely listing of this native trout under the ESA, the Forest Plan must proactively provide direction to curtail its Alpine Tundra and other high elevation allotments.

That these allotments also include other species like At-Risk White-Tailed Ptarmigan and Heil's Alpine Whitlow Grass, which are both explicitly threatened by alpine grazing cattle, provides yet more reason for closing these high elevation allotments. The revised Forest Plan must provide Forest-wide direction on managing livestock presence and movement as it relates to protecting At-Risk species, not merely through fencing infrastructure it acknowledges it has not and cannot maintain, but through full allotment closures and retirements.

SOUTHWEST WILLOW FLYCATCHER AND CAJA DEL RIO

22. The Forest's determination that the ESA Endangered Southwest Willow Flycatcher (*Empidonax traillii extimus*) does not merit consideration in the Forest Plan is in error, since it does not take into account the best and most recently available scientific information (BASI) confirming the species's presence, existence of critical habitat, and

likelihood of establishment, all of which are supported in the 2018 DOI paper *2017 Middle Rio Grande Southwestern Willow Flycatcher Study Results*. As such, the current Draft EIS is deficient, and the SFNF Draft EIS must be revised to incorporate this species into its proposed Forest plan.

According to the March 2016 *Santa Fe National Forest Plan At-Risk Species Selection Process and Justification* document:

“There are eight (8) federally listed species relevant to the plan area (USDI Fish and Wildlife Service, 2014). Although federally listed species are not to be included as a species of conservation concern (separate list) making a determination on the presence or absence of a listed species in the plan area determines whether or not that species is to be considered in the planning phase.” (p. 7)

Of these eight, four are included within planning, and four are excluded from consideration from planning, as follows:

“Four federally listed species, the Canada lynx and Western yellow-billed cuckoo (threatened), and the Southwestern willow flycatcher and Rio Grande silvery minnow (endangered) will not be carried forward to the final forest plan. These four species are not established, nor are they likely to become established on the forest. There has also been no critical habitat identified on Santa Fe NF for these species.”

I would point out that the *Santa Fe National Forest Plan At-Risk Species Selection Process and Justification* document is dated 2016, and references USDI Fish and Wildlife Service documentation from 2014. However, as regards the Southwest Willow Flycatcher, the claims above regarding (1) presence, (2) likelihood of establishment, and (3) critical habitat are all inaccurate, since all are contradicted by the more recent DOI study published in January of 2018.

Per the *2017 Middle Rio Grande Southwestern Willow Flycatcher Study Results* (Moore, D. and D. Ahlers. 2018. 2017 Middle Rio Grande Southwestern Willow Flycatcher Study Results – Selected Sites Along the Rio Grande from Bandelier National Monument to Elephant Butte Reservoir, New Mexico. Bureau of Reclamation, Technical Service Center, Fisheries and Wildlife Resources. Denver, CO. <https://www.usbr.gov/tsc/techreferences/eereports.html>), Willow Flycatchers were recorded regularly in the survey area of Frijoles Reach, which includes both the Bandelier and Santa Fe National Forest sides of the Rio Grande riparian corridor from Cochiti Lake north to the intersection with Frijoles Canyon (see survey area map p. 7). This includes 30 individuals observed in the Frijoles Reach survey area in 2017, as well as historical territories and/or pairs recorded in 2008, 2009, 2011, and 2013, thereby (1) establishing documented presence. (p. 47)

This study expands on this documented presence further by, in its narrative, both (3) identifying critical habitat and (2) asserting a likelihood for SWWF’s becoming established at this site, thereby contradicting the Forest’s own claim, as follows:

*“Reclamation personnel have conducted surveys in this reach, which consists of one site, annually since 2011; the reach was surveyed, in part, by other entities in 2008 and 2009. Only **five territories including four unpaired males and one pair have been documented in the eight years of surveys** (Table 8) and no breeding has been confirmed. **Large patches of high quality SWFL habitat that receive regular flooding during higher river flows occur within***

this reach. Some of these patches were partially scoured during high flows recorded in 2013. While initially detrimental to habitat, this scouring event ultimately benefited habitat as deposited sediments became colonized by dense growths of native vegetation. Barring a major setback, within the next year or two, this habitat will become suitable for SWFLs and should replace suitable habitat that has begun to decline due to age. Given the abundance of suitable habitat within the Frijoles Reach, it is unknown why this reach has not become occupied by a SWFL population. Reclamation personnel have documented large numbers of migrant WIFLs within this site on early surveys only to find them gone once the resident breeding period begins. If a small number of these migrants were to establish territories within this site and breed successfully, it is likely that this reach could eventually contain a sizeable population that could act as a much needed refuge and source population." (p. 49)

Given the above BASI providing explicit documentation of this species's presence, explicit identification of critical habitat, and explicit affirmation of the likelihood of establishment, which by date (January 2018) supersedes the Forest's own earlier research and claims (March 2016) by nearly two years, and given the fact that the Southwest Willow Flycatcher has a listing of "Endangered" under the Federal Endangered Species Act, the Santa Fe National Forest is legally bound to consider the Southwest Willow Flycatcher in its Forest planning, to maintain ESA compliance. As such, the current Draft EIS is deficient, and the SFNF Draft EIS must be revised to incorporate this species into its proposed Forest plan.

23. The EIS and Plan must incorporate the threat of grazing cattle to At-Risk Southwest Willow Flycatcher critical habitat on Forest lands into its land management vision for the Caja del Rio Cultural Interpretive/Biological Management Area, by ensuring that critical riparian willow areas along the Frijoles Reach is fully protected from cattle. This is best achieved by closing all Caja del Rio allotments.

Since riparian willows comprise critical habitat for the Southwest Willow Flycatcher, and since I have within the last year personally observed cattle from the Caja allotments foraging on, trampling, and wallowing among willows along the very same Frijoles Reach section of White Rock Canyon identified in the above-mentioned study, as well as a herd of a dozen trespass cattle that had crossed the river in low water and were wreaking havoc on the Bandelier side of this same Frijoles Reach, it is imperative that cattle be prevented from any access to this area. Given cattle's natural tendency to gravitate to riparian areas such as that on Forest land along the Rio Grande, and given the well-documented history of cattle freely leaving their assigned Caja allotments to trespass on adjacent Pueblo and BLM lands, as well as cattle crossing the river and degrading the willow habitat on Bandelier National Monument land (which is also included in the Federally Endangered Southwest Willow Flycatcher's Frijoles Reach habitat), and given the Forests own acknowledgement of its inability to properly maintain its range fencing, the Forest must address this threat by cattle by providing Plan direction for either adjusting allotment boundaries to a distance far enough away from the river's critical riparian areas to provide a proper buffer, or for closing the allotments entirely.

24. The threat of Brown-headed Cowbird brood parasitism on Endangered Southwest Willow Flycatchers must be addressed in the land management vision for the Caja del Rio Cultural Interpretive/Biological Management Area. This is best achieved by the closing of all Caja del Rio allotments.

Given the presence of Federally Endangered Southwest Willow Flycatchers and Region 3 Sensitive Species Gray Vireos on the Caja, the EIS and Plan must identify and address the known threat of Brown-headed Cowbirds to these species, as well-documented brood parasites. It must furthermore identify cattle as a primary vector of Brown-Headed cowbird populations, with rates of brood parasitism a recognized function of distance from cattle herds. Finally, it must direct strategies and policies that minimize the presence of Brown-headed Cowbirds to mitigate this threat, in support of the Caja's Southwestern Willow Flycatcher and Gray Vireo populations. This should include adjustments to allotment boundaries, and/or closures of current Caja allotments, so as to increase the buffer between Cowbirds-following cattle and identified Southwest Willow flycatcher nesting habitat along the Frijoles Reach, so as to increase nesting viability.

Mary J. Whitfield and Mark K. Sogge, "Range-wide impact of brown-headed cowbird parasitism on the southwestern willow flycatcher (*Empidonax traillii extimus*)", *Studies in Avian Biology*, 1999

Christopher B. Goguen; Nancy E. Mathews, "Gradients of Cowbird Abundance and Parasitism Relative to Livestock Grazing in a Western Landscape", *Conservation Biology*, Vol. 14, No. 6. (Dec., 2000), pp. 1862-1869

25. Since the Caja del Rio has been explicitly identified in the Forest's own Ecological Assessment and EIS as an area without naturally occurring water sources, and since this EIS and Proposed Plan explicitly identify water protection as one of its primary goals, and insofar as the Caja currently requires a vast infrastructure of water transport (built at significant taxpayer expense for the benefit of a dozen permittees), and insofar as the only other water provided for cattle on the Caja is groundwater, which is and will be in increased demand and increasingly scarce for both people and wildlife as a function of current and predicted heating and drying for this area related to climate change and increased frequency of drought, it is patently irresponsible for this Forest to propose to maintain grazing in this area.

In light of the Forest's own ecological data, which cites a single allotment livestock consumption figure of 9,000 gallons per day, or 3.3 million gallons a year, per allotment, the Forest Plan must provide direction for all allotments on the waterless Caja del Rio to be closed.

This is all the more vital as the portion of water that does not come from Forest groundwater pumping is reprocessed Santa Fe wastewater that might otherwise go into sustaining the Santa Fe River and its ecology. Thus, a portion of this water is currently effectively stolen from the wildlife who live off-Forest, and is not even the Forest's to allot.

This vast and expensive water boondoggle on the waterless Caja must end though the permanent closure of all grazing allotments here.

26. Since the Forest itself in these documents acknowledges the vital importance of the Caja del Rio as an essential wildlife corridor between the Jemez and the Sangre de Cristos, all grazing allotments on the Caja should be permanently closed so as to allow for the complete and permanent removal of all Caja fencing.

Whatever the rhetoric about “wildlife-friendly” fence, the fact remains that all fencing is a deterrent to the free and easy passage of wildlife. As such, and given the Forest’s own acknowledgement of the unique importance of the Caja through the designation of a Caja del Rio Cultural Interpretive/Biological Management Area, all allotments on the Caja should be permanently closed to allow removal of all fencing to facilitate the safe and easy passage of wildlife throughout this essential corridor area.

27. The acreage proposed by the Forest for the Caja del Rio Wilderness is grossly insufficient and must be expanded to include all contiguous roadless areas on the Caja del Rio.

The identified presence of Federally Endangered *Empidonax traillii extimus* within this area justifies a substantially increased amount of Wilderness so as to provide a more substantial buffer against disturbance by motor vehicles, recreational shooting, and other human disturbance.. Since, along with identified critical habitat for the Southwest Willow Flycatcher, the Caja del Rio also includes habitat for other Forest Sensitive Species (e.g. Gray Vireos, Peregrine Falcons, American Bald Eagles) and Species of Conservation Concern (Western Burrowing Owl, Gunnison’s Prairie Dog, et al.), is furthermore adjacent to the BLM Caja del Rio Important Bird Area, and is additionally an essential piece in a Forest-identified wildlife corridor area between the Jemez and Sangre de Cristo Mountains, all contiguous roadless areas on the Caja del Rio should be included as Recommended Wilderness.

ROADS

28. Per its 2010 guidance on climate change, this Forest is required to address the question of ‘how management of the planning unit may influence levels of global greenhouse gases and thus climate change’ and to discuss “*how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere*”. The Draft EIS nowhere addresses the contributions of different motorized use levels and their CO2 emissions on the atmosphere as a function of maintaining various levels of Forest roads and permitting various levels of road access.

The Forest has a NEPA mandate to examine the effects of its proposed plans and actions based on BASI and with a transparency that permits the public to judge the environmental costs of these policies and actions, and has additional Forest Service direction on disclosing the effects of its proposals on climate change . While the EIS devotes considerable space to raising the issue of accessibility as an argument against road closures, nowhere in the Draft EIS does the Forest address the clear costs of its proposed vehicular road access and decommissioning levels as contributors to GHG’s or as lost opportunities for potential mitigation and sequestration of greenhouse gases. The EIS must be amended to account for the effects of its 6,900 miles of roads and the vehicular access it permits on these, in two respects:

a. The Draft EIS nowhere addresses the effects of emissions from vehicle use on the Forest’s own road system.

Insofar as the activities this Draft Forest Plan permits on the land under its jurisdiction bear on both air quality and contributions to greenhouse gas production, it must address these with data.

This data should include assessed and predicted levels of vehicular pollutants and greenhouse gas under each alternative insofar as they contribute to Forest air quality, regional and national air quality, and global greenhouse gases.

Furthermore, given the known peril of vehicular emissions on human health, forest health, and climate, the EIS should embrace a fifth alternative that closes and decommissions a far greater percentage of its roads, in the interest of curtailing vehicular access and thereby emissions.

b. The Draft EIS nowhere addresses the effects of its current and proposed road systems on carbon sequestration, and the potential for substantially increased carbon sequestration through the large scale decommissioning and revegetation of this road system.

Insofar as the Forest identifies 6900 miles of road; and insofar as, using the Forest's own calculus of 66 miles of road equaling approximately 100 acres (Draft EIS V. 2. p. 23); and insofar as these 6,900 miles of road thus translate into 10,455 acres of road Forestwide, and insofar as this constitutes a substantial amount of the Forest's acreage (twice the acreage of the Dome Wilderness, for comparison), the Draft EIS and Draft Forest Plan fail to follow and fulfill Forest Service Guidance on Climate Change in Land Management Plan Revisions by failing to address the carbon sequestration potential in this acreage.

The Soils section of the EIS (p. 331), reads as follows:

"The relationship between soil and climate change is interconnected. First, climate change may affect the soil resource. In return, soils have the ability to either store or release greenhouse gases; thereby, potentially influencing climate change."

While the EIS devotes attention to how "climate change may affect the soil resource", nowhere within the Soils section does the EIS follow the additional Forest Service guidance to "discuss...how the planning unit contributes to or mitigates the build up of greenhouse gases in the atmosphere" by specifically addressing soil GHG sequestration and release as they relate to the Forest's proposed management proposals as they relate to roads.

To meet this guidance and the intent, purpose, and mandate of this EIS and Planning process, which is to solicit public input, use best available scientific information, and fully disclose the environmental effects of its proposed policies and actions, the Forest must address the issue of soil GHG sequestration as a function of its road system proposals. Furthermore, the Forest must make the responsible choice by embracing a fifth alternative that dramatically decreases the Forest road system, which it already acknowledges it cannot properly maintain, through large-scale decommissioning and restoration in the interests of not only of decreasing soil loss and stream siltation, but also increasing carbon sequestration through restoration of grasslands and forests.

29. In addition to the above-mentioned GHG and carbon sequestration issues that make a commitment to large scale road decommissioning the only responsible Plan direction, there are other vital factors outlined in the Forest's Ecological Assessment and Draft EIS that further mandate road decommissioning on a scale far larger than that proposed in the Draft Plan. The EIS needs a fifth alternative, which the Forest should embrace, that includes direction for a far larger scale and rate of road decommissioning and restoration

Even as the Forest acknowledges in its Draft EIS that 4,700 miles of its roads are not open to the public, that its road maintenance budget has decreased by more than 50% over the last decades, that its deferred maintenance backlog is vast and growing, and that the current state of its road system degrades water, fragments wildlife, facilitates the spread of invasive, etc., etc., etc., the Forest's proposed Plan calls for decommissioning only a meager 100 miles over ten years, or a mere ten miles per year. Even the Forest's so-called Natural Processes Alternative calls for decommissioning only a mere 250 miles over ten years, over 25 miles per year. Given the acknowledged negative ecological effects of the current road system in its current state, decommissioning a mere 10 or 25 miles a year is grossly insufficient. Since 4,700 miles of Forest road are already not open to the public, the issue of public and traditional access has no bearing there. For reasons of water purity, aquatic biota viability, wildlife fragmentation and connectivity, prevention of unauthorized vehicle access, carbon sequestration, and numerous others detailed at length in this Draft EIS and in my own comments above, the number of miles decommissioned annually must be raised dramatically.

30. The Proposed Plan should state explicitly that there will be no new road construction on the Forest.

Since the EIS acknowledges that this Forest has one of the highest densities of roads in the entire National Forest system, and acknowledges repeatedly the deleterious effects these roads have on Forest water, spread of invasives, and many Forest species, this Plan should explicitly state that no new roads will be constructed.

RANGE INFRASTRUCTURE

31. While the Draft EIS mentions the degraded state of Forest range infrastructure, and especially fencing, none of the time frames presented in its four alternatives adequately address the dangers to wildlife and to the public posed by the current state of disrepair. There must be an Alternative, which the Forest should embrace, that places a priority on the immediate repair or removal of all fence not up to Forest Service regulations.

At the proposed rate of 5% a year, the removal and/or repair of fencing on this Forest will take twenty years. That is not an acceptable rate of address for a problem that is current threat to the safety of every Forest user and accompanying dog, as well as to every deer, bear, mountain lion, bear, coyote, bobcat, bighorn sheep, marten, and lynx on this Forest. Long before this Forest begins to "advance mutually beneficial projects to provide water for livestock" (p. 17 under Santa Fe National Forest Vision), it should envision and address its failure to properly maintain its existing fence nrastructure, and particularly the threats of decrepit and downed fencing and fencing that fails to meet Forest Service standards for safe passage of wildlife. This figure must be increased to at least 10% per year, so as to address this issue over the proposed ten-year life of the plan.

SPECIAL MANAGEMENT AND CULTURAL CLOSURE AREAS

32. Both the Draft EIS and proposed Plan speak abstractly of maintaining a close working relationship with tribes in acknowledgement of the need to protect ancestral cultural sites and practices. This should be put into full practice in this Plan by the creation of Special Management Closure Areas historically and currently requested by the tribes.

Among these:

a. A Closure of the Deception Peak—Lake Peak—Nambe Lake—Spirit Lake complex in acknowledgement of Tesuque and Nambe Pueblo’s longstanding and repeated cultural resource protection concerns, requests, and objections during past Ski Area expansion proposals, each of which has encroached further into areas deemed culturally important to that Pueblo. per the *Santa Fe Ski Area Proposed Expansion Ethnographic Assessment* (June 1, 1993) <https://repository.arizona.edu/handle/10150/271443> .

This Assessment, which was prepared as part of the EIS for a past Forest project proposal in this area, documents in great detail the neighboring Pueblo’s concerns and objections and the requested desire for such a closure. The current Draft EIS and Forest Plan proposal included the addition of other new designated management areas. In lieu of full repatriation, a designated management area closure of Lake Peak and the surrounding area would serve as acknowledgement and accommodation of longstanding Native American concerns regarding use of and development in this area, in conformity with NEPA, the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, the Native American Graves and Repatriation Act, and the National Historic Preservation Act, and as articulated in the above-mentioned Assessment:

“Tesuque Pueblo regards the area immediately east of their pueblo as sacred ground and religiously important. Lake Peak is known as one of the sacred mountains for Tesuque Pueblo people (Ortiz1969:141). The Tesuque people have shrines near Santa Fe Lake, Nambe Lake, and Spirit Lake (the latter being unidentified on contemporary topographic maps) that they visit and maintain regularly. They refuse to divulge the location of these shrines so that they will not be visited or destroyed by the non-Indian population of Santa Fe and the surrounding communities.

The feasibility of designation of this as a Special Management Area is further supported by its being directly adjacent to an existing closure area on one side (the Santa Fe Watershed) and an existing Wilderness on another (Pecos Wilderness). Additionally, insofar as it incorporates the alpine headwaters of several vital drainages, including those of the Pueblos themselves, who have often expressed concern over the protection of their water sources, this area can effectively become another vital addition to the wetland jewel network. Such a closure would also provide protections for White-Tailed Ptarmigan (one of the Forest’s recognized at-Risk Species), an Alpine Tundra ERU nesting species I have personally observed on Deception Peak and among whose primary threats are trampling and harassment by dogs, which this closure would also serve to address.

b. A Closure of the Dome Road, as is currently being requested by Cochiti Pueblo, to ensure protection of their cultural resources, in acknowledgment of the recent transfer of the Canada de Cochiti Grant to Cochiti Pueblo,.

This precedent has already been set by the seasonal administrative closure of this road from January - March for natural resource protection, and should be formalized into a full closure in deference to the new landowners and their cultural resource protection request.

WILDERNESS

33. Based on the Forest's own ecological assessments and the findings in its own Draft EIS, and as a percentage of total Forest lands deemed suitable for wilderness designation, the wilderness proposals in the Draft EIS are all grossly insufficient. The Forest's proposed plan must dramatically increase its Wilderness proposal to include substantially more acreage.

According to the Draft EIS, wilderness directly supports global carbon sequestration, watershed function, wildlife connectivity, At-Risk species viability,

This includes:

- Incorporating all identified roadless areas adjacent to the Pecos, Dome, San Pedro Parks, and Chama River Canyon Wildernesses , and all identified roadless areas adjacent to the adjacent roadless areas, into those four wildernesses.
-
- Expanding the Thomson Peak Wilderness addition to include all other identified adjacent roadless areas.
-
- Including all roadless areas adjacent to the Santa Fe Watershed.

WILDFIRE

34. The use of the word "catastrophic" (which occurs 15 times in V. 1 and 54 times in V. 2,) as a wildfire and natural event descriptor is undefined in the EIS glossary, plays on emotions without any precise, shared, or operational scientific or ecological meaning, skews opinion without any clear parameters based in science or fact, and is thus inappropriate for inclusion in a document of this nature. Since this word has no clear or shared definition, all instances of it should be removed from the EIS and all other current and future Plan revision related documents.

35. The word "uncharacteristic" as used to describe wildfire in these documents is similarly meaningless and inappropriate and should also be excised from the EIS and all other current and future plan Revision documents.

Fire that begins through a natural cause (i.e. lightning) is by definition natural, and the Forest itself acknowledges that natural fires are sometimes severe in nature. The current fuel-loaded state of the Santa Fe National Forest has its source in a century of human intervention. The corrective for this is not yet more human intervention, in a futile and ecologically misguided attempt to maintain the Forest in some arbitrary garden state imagined to exist at some arbitrary prior point in time. The corrective is for nature's own means of correction—a bust following a

boom, which in this case means occasionally severe fires following a century of fire suppression—to run its course, in accordance with the natural principle of ecological succession in a fire prone landscape. It is this certainty—that change is inherent in nature and that nature, when finally left alone, will find its own dynamic balance—that is what is truly and naturally “characteristic” of wildfire. To declare out-of-hand that severe fire is “uncharacteristic” is to subscribe, not to ecology, but to the same myopic arrogance of human mastery over nature that has led us to the present situation. The solution to a century of unnatural interventions is simple—no further intervention, which may in fact entail severe wildfire.

36. In keeping with the above, as well as with the Forest’s financial resource realities, the vast expenditures required for fire management, and the publicly stated position of the current Chief of the Forest Service, the new Forest plan should maintain an entirely hands off policy as regards fire management, and leave the responsibility to private landowners and municipalities to create their own defensible spaces around structures of concern.

<https://www.wsj.com/articles/chief-u-s-forester-vicki-christiansen-thinks-some-fires-should-be-left-to-burn-11570248061>

WILDLIFE CORRIDORS

37. In keeping with recent state of NM legislation regarding wildlife corridors, and the need to refashion its vision to be far less people-centric and cattle centric and more wildlife centric, this plan must explicitly prioritize Forest-wide wildlife connectivity and wildlife corridors as an essential element of preparing for climate driven ecological changes and wildlife movements. This must explicitly incorporate fence removal into its direction, as a pervasive and existing barrier to Forest-wide movement.

OBJECTIONS

38. Finally, let me declare and affirm in advance my full intention, per the provisions of the National Environmental Policy Act, to formally Object if any of the above items are not rigorously explored and fully addressed in the Final Plan and EIS, and to pursue legal avenues if these potential Objections are not met.

Thank you.

Craig D. Jolly

