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James Simino
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RE: Comments on Southern HD's Landscape Restoration Project Pre-Decisional Environmental Assessment (#58742)

Dear Columbine District Staff,

Thank you for the opportunity to provide input on the Southern HD's Landscape Restoration Project Pre-Decisional Environmental Assessment (PEA). We appreciate the district is considering pro-active measures to attempt to restore the HD Mountains which is an area that is ecologically imperiled due to direct human activity (oil and gas development, roads, unmitigated weeds, etc.), decades of a "full suppression" approach to wildfires, and the overall ecological disturbance inflicted by human-generated climate change.

In general, we are supportive of the project with our submitted comments focusing on project design elements that are targeted towards a restoration outcome. The fire suppression strategy utilized by the USFS over the past century has certainly had detrimental effects on the HD's. In locations where wildfire "was successful" at burning or where prescribed fire has been initiated in a more recent timeframe the benefit are often obviously evident. A reset that would support ongoing prescribed fires across the HD's is a worthy and obtainable goal, though the increasing warmth and drying of the region will likely reduce the available burn windows.

We question the use of the term "catastrophic" for the description of a type of wildfire in a NEPA document such as this EA as it has no scientific definition or standing. Without the term having a scientific foundation, it is a poor and unknown descriptor per a disturbance factor of some magnitude that the USFS evidently wants to avoid. We would suggest using other terminology found within forest and fire research that more reflects what we likely believe is the agency's intended meaning of catastrophic. We have not intention of being "snippy about this, but words do matter – as you know.

We are concerned with some shortcomings in the document which are detailed below, particularly the lack of information regarding old growth in the HD's and how their "well being" will be managed during the project, particularly prescribed fire. An EA such as this is certainly a "sum of all its parts" and though we are supportive overall of the project we have provided many recommendations for additional information, the public sharing of information and changes in project design elements.

We appreciate your decision to **not** include within the Proposed Action the OHV trail in the Armstrong Canyon watershed that was detailed in the scoping document. As we noted at that phase, any change in the road and trail system with the HD's should be addressed through a travel management focused NEPA process. The HD range is an exceedingly important sanctuary for wildlife when higher elevation lands are not accessible due to the snowpack, especially for elk and deer migrating up and down slope bi-annually. The need to maintain high quality (minimal disturbance) lands is paramount and the addition of any OHV trails would be contrary to this need due to likely disruption to these wild ungulates as per Wisdom et al. 2018.

Wisdom, M.J., H.K. Haiganoush , K. Preisler, L.M. Naylor, R.G Anthony, B.K. Johnson and M.M. Rowland. 2028. Elk responses to trail-based recreation on public forests. Forest Ecology and Management 411 (2018) 223–233. https://doi.org/10.1016/j.foreco.2018.01.032

Roadless Area Issues

We appreciate your response to our (and others) scoping comments raising concerns regarding how the proposed project will be implemented in the HD Roadless Area. As outlined in Appendix A, these Existing Design Elements (EDE) and Best Management Practices (BMP) should protect the Roadless Area characteristics. Per our scoping suggestion which was not addressed, we recommend that the project area map include the HD Roadless Area (both the boundary and some type of "layer overlay") to provide the adequate information and provide the public, SJNF staff, and the staff of other agencies the necessary information per the project design including the probable differences between EDE's/BMP's implementation in the Roadless Area as opposed to elsewhere. We have observed that both the public's and agency staff's aware of Roadless Area realities could be heightened.

Cultural Resources

We can find nothing within the EA that specifies a cultural resource area inventory will be undertaken specifically before a control fire line is constructed. Though we understand that there may have been numerous and significant cultural inventories with the HD's, we believe it is prudent to engage a specific survey before proposed control fire line is constructed.

We are concerned as to whether Ute/Nuuchiu Tribe (and other Tribes) cultural trees are necessarily included as part of cultural inventories and therefore they should be clearly delineated/marked as "save" trees during any project activities. Please clarify this cultural resource concern in the Final EA.

There is also mention in the Roadless section at 8. "There are no known traditional cultural properties or sacred sites in the landscape." (page 51) Please check the veracity of this statement – we doubt that there are no cultural sites across the thousands of acres of the HD Roadless Area included within the project area.

Vegetation

SJCA is concerned that the Columbine District's plant species inventory may very well not be a current inventory and to our knowledge the date(s) of inventories/surveys has not been made public. The possible lack of current inventory, especially per sensitive species, is problematic per project design criteria to avoid disturbance to such species. As well, the possible lack of a current vegetation baseline determined by a recent survey(s) makes it impossible to determine the possible positive and negative outcomes of the project's activities. Please divulge the latest plant survey information to inform the public as to what baseline of data you are basing the PEA

including the design elements. Unless the plant survey data is current within a few years, we recommend the survey be updated with a particular focus to plants that could very well occur in the project area, but have not been documented. Some species including vetches and cacti could very well be in the project area, but are "undiscovered" due to a lack of survey intention and/or capability.

While 24. is a very important EDE/BMP we would recommend that it explicitly note that the prohibition on masticating or cutting riparian and wetland species apply to both trees and shrubs.

Weeds

We believe that the PEA understates the current adverse weed situation which the project will most certainly exacerbate. Though we have not performed a thorough inventory of weed species across the HD's, we have observed that weed species are commonplace in essentially every area where there has been anthropogenic disturbance – roads, trails, communication facility sites, wellsites, pipeline corridors, recent harvest/mitigation areas, campsites, etc. Because the document's weed inventory is not dated, we do not know if the acreage reflects the current (or recent) situation, or the weed spread some years ago – please update the Final EA with this information. We see the existence of the weeds as most problematic because the weeds out-compete many to most native plant species and some weed species are problematic for wildlife.

We agree that a determined and ongoing mitigation/eradication effort will be necessary to provide the further weed control necessary post-project. Unfortunately, we have a relatively low confidence level this will occur judging from the current weed situation across most of the HD landscape. We do not fully understand where the SJNF's responsibilities "begin or end" as related to weed infestations that exist due to other forest uses such as livestock grazing and oil and gas activity, however, it is clear that the Columbine District will be solely responsible for weed post-project weed abatement as this is fully an agency project. For those of the public with concerns about weed abatement/eradication, it would be helpful if the Final EA could provide specific operational information about the weed program such as the anticipated timing and number of visits to the project area for weed treatment for "x" number of years following the project implementation.

Soils and Roads

In 17. of EDE/BMP it states that the limit should be 40% on sustained slopse for equipment operations - we suggest is too steep of a standard for this metric. As is indicated in the PEA, the HD's consist of significant areas with high soil instability and a susceptibility to anthropogenic (and other) disturbance factors causing preventable erosion. We note the in the LRMP: 2.2.75: "Ground-disturbing projects on shale soils of the Mancos Shale, Lewis, Fruitland, and Morrison geologic formations, and other highly erosive soils, should be designed to efforts that avoid or mitigate soil erosion or compaction (see Volume III, Appendix I)." This guideline from the LRMP suggests the oft-used 40% standard is too steep for the HD Mountain soils/landscape and that a lesser gradient be chosen as the limit for equipment operations.

We note that the Biological Evaluation states that the standard for slope should be 35% and while obviously this is a percentage that is more conservative in nature, we strongly recommend a lower metric such as 25% be utilized. Even the BE's recommended 35% is the description for a very steep slow, as in, most downhill skiers won't ski a 35% due to its steepness.

Also in Soils 17. the figure of 15% is given as the maximum percentage of soil disturbance area for treatment locales. Though of course the "devil is in the detail" as how "treated areas" is

defined, but we find 15% to be an excessive percentage of disturbance for a project that's aim is restoration. While 15% might be an acceptable standard for MA-5/Suitable Timber Base harvests, it is too high of an allowance for disturbance in an area that is dry, steep and covered by thin and erosive soils. While we can support the 15% acceptable level of disturbance areas where the project focus is the removal of a significant amount of younger and small trees that will not be hand thinned or masticated, the percentage for other treatments areas should be decidedly less.

SJCA is firmly opposed to any road building, including "temporary" roads. Road development implies the need to blade the soil/substrate and is completely non-sensical for a proposal focused on restoration to undertake a project activity (road building) that is diametrically opposed to the overall program design goals. The project outcome includes enhancing a mosaic of forest/vegetation across the Southern HD's and any prohibition on building any roads is unlikely to significantly affect the overall vegetative mosaic negatively if a few small areas are not treated/thinned/burned.

Wildlife

We recommend that 6. within the Wildlife section reference Management Recommendations for the Northern Goshawk in the Southwestern United States (GTR RM-217) as the guiding document for goshawk related forest project decision making.

The PEA does not emphasize sufficient design criteria relative to the need to survey project locales immediately prior to project work species that could very well be utilizing the area (especially riparian corridors though not previously seen. While the PEA's design elements note that no treatment will be undertaken within 300' of southwest willow flycatcher habitat (good news), there is no specificity as to the metrics for identifying this habitat and how this information will be recorded and integrated into project design maps. While the PEA provides the specific setback for southwest willow flycatcher habitat, we note that the same is not true for the Western yellow-billed cuckoo that could very well reside in habitat in the southern HD's.

In the PEA it outlines this approach to winter range operations: "In mapped Critical Winter Range, Severe Winter Range, and Winter Concentration Areas: from December 1 through April 30, mechanical and prescribed fire burning operations will generally be limited to no more than two active work locations at one time. If treatment occurs during the restriction period, operating hours will be between 0900 and 1500. For prescribed fire operations only, operating hours may be extended to 1700 on up to three days during the period of December 1 to April 30." (Page 10)

SJCA opposes any treatments during the wintering period, activity should be avoided if at all possible during that time period to remove/reduce stress levels on wild ungulates. If treatments do occur between December 1 and April 30, the proposed daily timing restrictions will help reduce negative impacts, but will not eliminate them. In addition, if multiple treatments are occurring at the same time, they should be clustered as closely together as possible to minimize the area impacted.

Timber

We appreciate the approach indicated in #11 within Timber ("Target stand structure for ponderosa pine and warm-dry mixed-conifer forests will be informed by site-specific information on historic conditions or local forest productivity whenever possible." This is a smart, informed-by-research and forward thinking approach – frankly it is an approach that we have seen under-utilized on the SJNF even though it is entirely applicable in the ponderosa pine forest type for use in both timber suitable

areas as well as areas that are more/entirely restoration oriented. From SJCA's knowledge of the southern HD's this built in flexibility per basal area targets is a great match to the diversity of forest structure and the varied topography we have observed.

Fire Control Line Revegetation/Rehabilitation

For numerous reasons we believe that control fire lines should be rehabilitated after their use despite their "re-use" being a likelihood after a few years. We are particularly concerned per the need to rehab these lines due to the significant design size indicated: "These handlines often consist of an area where vegetation is cut and removed of 5-15 feet in width, along with an area where surface fuel is scraped away down to mineral soil of 12-18 inches in width."

The PEA provides conflicting information as to the comprehensiveness of the application of the design element (34.) that states, "Cross-country and overland vehicular travel and fire control lines will be rehabilitated as necessary to discourage public use by OHVs." as the PEA text (Page 8) indicates "Most control lines would be narrow features that may be restored post-burn." We recommend that Design Element 34 be implemented in all cases to minimize the likelihood of OHV trail (and other users) proliferation to prevent detrimental issues with habitat fragmentation, invasives/weeds proliferation, soil erosion, law enforcement capacity, etc.

On page 12 of the PEA an overview of managed grazing states: "Managed grazing may be used to establish or maintain fire lines, to remove undesirable densities of Gambel oak and other species, or to remove ladder fuels. The goat herd would be managed by a herder and/or temporary electric fencing so that vegetation removal would be controlled in duration and intensity. This means of controlling vegetation would most likely be accomplished by goats contracted from commercial sources."

While managed grazing may be useful to achieve the desired effects, any use of grazing needs to be carefully managed and monitored and we are concerned that the SJNF will not have the resources to conduct adequate ongoing monitoring. Conditions in the southern HD's make the effects of possible overgrazing more severe due to the general lack of moisture, creating erosion issues and slow vegetation recovery with particular concern in riparian areas. Intensive management is needed to ensure the desired effects are being attained in specific locales.

Old Growth

Our review of the PEA indicates there is no mention of the existing SJNF old growth inventory for the HD's. From our perspective this is a significant omission in the PEA because as stated on Page 204 of Volume II of the 2013 LRMP, "The stands of old growth ponderosa pine in the HD Mountains area are particularly important (because this is a rare resource in the planning area). As most of us are aware, this inventory is commonly used for other planning purposes such as in oil and gas NEPA processes and should definitely be used for the design of this project. While project planning per old growth issues should not be entirely based on the old growth inventory, it certainly should be utilized as a planning tool and such is indicated in 2.2.74 (see this section noted below). The use and explanation of this inventory also seems likely to aid in clarifying the definitions within the PEA regarding the similarities, differences and overlaps amongst pre-settlement and old growth along with the definition of what age/morphology of trees are within the "old growth recruitment" realm. We are unsure of the old growth stand definition used in the PEA is the "standard use" one with the four components (as below), or other:

(1) Average age of upper canopy trees 200 years or greater;

(2) Average diameter of upper canopy trees 16 inches or greater;

(3) Ten or more trees per acre that are at least 16 inches diameter at breast

height (d.b.h.) or greater; and

(4) One or more rotten trees, or one or more "dead or broken top" trees per acre

The 2013 SJNF Land and Resource Management Plan makes numerous references to old growth tree species and gives specific direction per Desired Conditions and management approaches to not only preserving existing old growth, but also to supporting forest conditions to further "old growth recruitment" including:

"2.2.74 Prior to any proposed agency actions on forested lands or woodlands, the affected stands should be screened against the current SJNF old growth database in order to determine their old growth status. Within landscapes not meeting desired conditions for old growth, ponderosa pine forest stands and mixed conifer forest stands that currently are not in the old growth development stage, but that contain significant old growth attributes should be prioritized as old growth recruitment areas, largely based on tree age and distribution across the SJNF, and managed for their old growth values."

We are concerned that the PEA's Appendix A is entirely deficient of design elements and BMP's regarding the "special status" that old growth should receive to support the Desired Conditions within the forest plan relative to old growth retention **and** recruitment. We strongly recommend that the district utilize the SJNF old growth inventory to identify zones where specific measures may be indicated to support old growth retention and recruitment.

As indicated in the PEA, some old growth's well-being is threatened by the growth of understory vegetation that could potentially serve as ladder fuels into the old growth canopy during a fire event. If we were not just coming out of the age of full suppression, than we could assume that the "old growth can take care of itself", however, though there has been both natural and Rx burns in the HD's in recent decades most of the landscape is out-of-step with the HRV for wildfire. As probably is true for the district forestry staff, we have observed these potential "flash points" to be on edges of old growth stands/groups where they interface with non-old growth forest/veg types. We recommend that the project design include both a methodology per locating old growth stands potentially in "harm's way" and then detail tactics to support old growth trees/stands before prescribed burning is undertaken. We would imagine this would most likely involve hand thinning and fuel removal (or dispersal). Unless specific measures are adopted and implemented within the project the possibility of the loss of old growth remains unacceptably high, especially in such a scenario as "the Rx fire definitely burned hotter than we expected", etc.

The PEA's Appendix A (Vegetation 20.) states that "Pre-settlement trees will be protected except those that that have been identified as a safety risk or as necessary to make the shaded fuel break, or to treat localized areas of beetle affected trees. Pre-settlement trees are those established prior to 1880 and can be identified by the relatively smooth orange bark with large plates and irregular flat-topped crowns." It is not clear that this BMP approach will necessarily be adequate to foster the recruitment of old growth because it refers to only trees older than 140

years old will be protected for retention/recruitment whereas trees greater than 16" DBH and 100+ years old should seemingly also be protected as old growth recruitment.

Watershed
Both the current situation within the HD's, as well as the long term prognosis is for a drying and warming ecozone. As such and is visible now, few to none of the intermittent and ephemeral watercourses flow except during or after a rainfall of significance. Obviously, this drying is very stressful on riparian corridor plant and animal species and appears to be exacerbated as forbs and shrubs seem to desiccate earlier in a seasonal sense than in past years which further removes shading from stream courses.

In light of these challenges we would recommend that the EDE/BMP 10. should be modified from its current direction of, "Do not masticate or cut vegetation that is growing within or on the banks of defined stream channels, gullies or ditches. Do not masticate or cut more than 50% of the vegetation within 25 feet of defined drainages, gullies, ditches, wetlands or ponds."

We strongly recommend that **none** of the vegetation within 25 feet of defined drainages (etc.) should be masticated or cut be the standard which would allow wet and wetland areas additional shading opportunity. While we understand that this change in design would necessarily increase the likelihood of the occasional "thicket" within and bordering stream courses, we believe the need to maintain as much riparian corridor cover/shading far outweighs the concerns to reduce shrubby fuels in these specific and widespread locales. <u>To reiterate, all of the streamcourses we have visited and observed in the project are stressed and any additional disturbance from this project should be prohibited.</u>

Within 16. the suggested setback from streams for landings is 100 feet which we find to be wholly insufficient – if it were not for the reality that the same metric was noted in the Biological Evaluation, we would have thought is an error with the intention being 100 yards. The 100 feet metric (30 strides) is much too close to streams as related to weed seed and erosive soil transport, as well as other factors. We would recommend doubling the setback to 200'.

Mastication
We are frankly relieved that relatively few acres of mastication are proposed for the project as it can be a problematic tool for addressing restoration goals in the HD's. It is our hope that with the continued increase in capacity of sawyers and hand thinning crews in the area (such as through Southwest Conservation Corpss growth) that projects areas would be best addressed through hand thinning rather that mastication are handled in that manner. As we noted in the Soils section above and is clear from information provided in the PEA and the LRMP, the HD's are home to erosive/unstable/thin soils and steep slopes. Both of these inherent realities are problematic for motorized heavy equipment entries especially if the allowance is given for use on grades up to 40%, which we noted above is much too steep for such. Also, we are concerned that mastication within old growth stands/groups is potentially problematic due to soil disturbance as is being discovered in more current research, old growth stands are not just "individual trees" but an interdependent biological community that, though adapted to fire, is not adapted to significant soil disturbance.

Climate Change Related Issues
SJCA's history of observation in the HD Mountain area, including oral histories from HD area residents, indicate a rapidly drying environment across the elevational spread of the range. We don't know the sourcing of the 15 – 29" annual precipitation figure, however, this range seems to

be higher than the recent norm, or what we're likely to experience in the coming decades. Note that the Bayfield "water year" precipitation total which will finalize in two weeks is barely over 10", and that in a year with a reasonable monsoon.

The PEA provides some information, discussion and research that substantiates the need for a restoration-focused project based on the drying and warming of the climate, however, the PEA fails to attempt to sufficiently "look into the future" per the effects and realities of climate change as it relates to project area specifics. For example, the PEA reflects on a desire to re-establish the Historical Range of Variability (HRV) in the HD's which is frankly an impossibility except perhaps in a very short time frame (as in less than 10 years) when it could conceivably be viable.

The agency's own climate modeling undertaken by both Region 2 and Rocky Mountain Research Station scientists indicate a very significant (if not extreme) transformation in the forest species make-up in southwest Colorado by 2060. We note the presentation made by USFS's Jim Worrall in 2017 to the Dolores Watershed and Resilient Forest (DWRF) Collaborative (Appendix A) addressing this issue. Though the HD's are visually on the margin of the presentation's slides/maps, they are fully relevant to the forest/vegetation future in the HD's.

The obvious takeaway from Dr. Worrall's (and colleagues) presentation is the need to be recognize and manage for a "FRV" (future range of variability) rather than the quickly-becoming-irrelevant HRV. The diminishment and loss of the ponderosa pine forest type is underway and this project's EDE/BMP's needs to reflect such if we are both aiming to maintain ponderosa for as well as possible and set up positively for the forest of the future. Beginning a few years ago we began to seeing significant stresses and mortality on piñon pines, junipers and aspen that continues today – actually there are many indicators the trend is inexorably continuing. As well, we are seeing stress in the ponderosa pines with increasing mortality from insects including bark beetles that until recently have not been resident to southwest Colorado.

Appendix G from the 2013 LRMP, "Climate Change Trends and Management Strategy for the San Juan National Forest" does detail an overall strategy and some guidance per engaging climate change issues on the SJNF: "Our Strategy - Maintaining the health, diversity, and productivity of the SFNF and TRFO is a primary mission. Our response to ecosystem change as a result of climate change includes a variety of adaptation and mitigation strategies. Our primary strategy is to manage for healthy, resilient ecosystems." Certainly, this section does not provide specific management actions, but it clearly indicates that forest-based projects must implement design criteria to adapt and mitigate per this current and accelerating challenge. In sum, the LRMP is clearly mandating the agency and public to "look forward" as we design management schemes on our national forest.

Certainly a challenge exists as to what the project design criteria/elements should be as related to a forest restoration project and I think it is fair to observe that the LRMP does not provide sufficient direction as exampled by the finest level of specificity within the 2013 LRMP's Terrestrial Ecosystems and Plant Species section evidently being this: ".2.15 Forested terrestrial ecosystems have stand structures and tree species compositions that offer resistance and resilience to changes in climate." The lack of specific from the LRMP should not be a surprise with the current need-at-hand being to respond to a very quickly changing situation on our forests that must to be informed and engaged by the latest research and related modeling as per any management actions.

In response to this need the DWRF Collaborative hosted an effort in 2020 to further detail Desired Conditions in response to the shortfall of those in the 2013 LRMP that lacked specificity and failed to recognize that currently in forest management the FRV is more relevant than the HRV – see Appendix B: Dwrf-ponderosa-pine-resilience-metrics-and-desired-conditions_11.3.20. While this document doesn't deliver a "window into the future" per the FRV, it does further "flesh out" the Desired Conditions from the LRMP which the DWRF group though was important to provide guidance for more specific management actions than offered by the LRMP's somewhat vague text on the subject.

We strongly recommend that the Columbine District re-orient the Appendix A Existing Design Elements and Best Management Practices (EDE/BMP) to mesh with the need to refocus to the likely Future Range of Variability. While to date the DWRF Collaborative did not examine the necessary next steps as to how the modify the current Ede/BMP's to support the FRV this is a need and challenge we recommend the Columbine District engage. Fortunately, there is already some published research that focuses on issues that are inherent in related design and best practice elements. However, as we see there is a strong further need to reconsider some long-accepted BMP's such as considering junipers as flashy fuel sources when perhaps they should be thought of as critical seed sources for the forest of the future.

Conclusion
Once again, thanks for the opportunity to provide input per the design of the Southern HD's project. Please contact me if you need clarification or want to discuss any of our comment specifics.

Respectfully,

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cc: Cam Hooley
Tim Leishman
Lindsey Hansen

Attachments
Appendix A: Projected-impacts-of-climate-change-on-forests-of-the-dolores-watershed
Appendix B: Dwrf-ponderosa-pine-resilience-metrics-and-desired-conditions_11.3.20