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Comments: I've attached a word document that has my comments for the draft EA as well as pasted text below.

1.General Comments:

I think this a robust proposal that is the right type of approach for this landscape. I fully support the conditions based management approach as long as robust engagement is elevated and continues as currently trust with the USFS in the landscape could be much better. Conditions based mgt. is easier when those relationships with the community are strong and trust is present.

I generally like the proposal, there are some areas that need improvement especially with the referenced science and the prescribed fire/unplanned ignitions mgt strategies being explored and developed. I think the collaborative approach has been better than previous NEPA explorations on this district. With that said, I have had numerous people contact me that have been left out of the collaborative process. For some of those folks I let Lefthand Watershed Center (Chiarra) know about the missing communication to those parties and it was never rectified. I know of quite a few in Ward, and the Bar-K that have not ever been approached or engaged on this issue. Many of those missed the original scoping and now cannot provide substantial comments to be considered.

With the significant comments I've provided on safe application windows for Rx and unplanned ignition mgt., I am willing to dedicate time to help develop those with fire staff if desired.

2.Additional exploration into climate change and potential adaptations is warranted. FS should identify strategies that fall under the climate adaptation approaches of resist, accept, and direct. Specific, locally relevant strategies need to be identified. (CFRI-7), (CJ-20)

Glad to see the proposed action was modified to include workshops to develop locally relevant adaptation strategies!

3.Goshawk: debate about habitat in mixed-conifer forests (CJ-4)

Glad to see that you are using Reynolds et al from 1992, Rich Reynolds has published more on the topic since 1992. Please reference more recent science from him, he did try to publish most of his findings from the most extensive study I'm aware of for goshawk in both dry/wet mixed conifer systems on the Kaibab Plateau in northern Arizona before his retirement recently. GTR-310, although for Arizona was authored by Rich for restoration principles in pondo dominant and mixed-conifer systems. It may be worth a look there to see what type of habitat requirements he listed in a forest restoration document.

4.Using diameter for determination of old growth section for ponderosa pine/douglas fir and lodgepole pine is not accurate. (CJ-9)

I still believe this needs to be explored further as site productivity drives diameter more than age. The forest plan is old being from 1997 and the science has changed significantly since. The definition in the old forest plan does not make sense to many experts in the field that have referenced that section. I spoke with Dr. Peter Brown with Rocky Mtn. Tree Ring Research in Fort Collins and he is in full agreement with the recommended change. During the field research for "Battaglia, M.A., B. Gannon, P.M. Brown, P.J. Fornwalt, A.S. Cheng, and L.S. Huckaby. 2018. Changes in forest structure since 1860 in montane ponderosa pine dominated forests of the Colorado Front Range, USA. Forest Ecology and Management 422:147-160.

<https://doi.org/10.1016/j.foreco.2018.04.010>" the authors sampled extensively on the front range and have good information about the age being driven by site productivity and not being driven by diameter. The potential

implication here by defining old growth by diameters is that you may cut old growth trees on poor sites. I would also reference the following for old growth characteristics of ponderosa "Brown, P.M., B. Gannon, M.A. Battaglia, P.J. Fornwalt, L.S. Huckaby, A.S. Cheng, and L.S. Baggett. 2019. Identifying old trees to inform ecological restoration in montane forests of the central Rocky Mountains, USA. *Tree-Ring Research*. 75(1):34-48. <http://dx.doi.org/10.3959/1536-1098-75.1.34>"

5. Not supportive of using Veblen et al science for guidance in mixed-conifer zone as elevations separating lower and upper montane life zones dissolved with publication of USFS RMRS-GTR-373. Also, why are there two lines for Veblen et al in the Peet adaptation diagram in Appendix D? (CJ-3, CJ-17)

Thanks for making the factual corrections. I still see themes though throughout the document referring to the elevations between 7200'-9000' as not significantly altered and not warranting work beyond the 300' distance to homes. GTR-373 intention was to resolve debate in the mixed-conifer zone in the upper montane. I'm confused as the EA references using GTR-373, but the recommendations in the upper montane do not match recommendations fully from this document. I am also glad to see the peet chart be the basis. This is where the following paper is much more relevant science that describes the departure in the upper montane. I hope to see additional consideration of restoration in the upper montane versus just only community protection. The lodgepole flats west of the Bar K show significant potential for spotting and high intensity fire that could overwhelm the upper montane as fire transitions into dry mixed conifer systems. Battaglia, M.A., B. Gannon, P.M. Brown, P.J. Fornwalt, A.S. Cheng, and L.S. Huckaby. 2018. Changes in forest structure since 1860 in montane ponderosa pine dominated forests of the Colorado Front Range, USA. *Forest Ecology and Management* 422:147-160. <https://doi.org/10.1016/j.foreco.2018.04.010>

6.Implementation- Variable density thinning (CJ-11)

Sounds like you will have the mix of openings, clumps and single trees. I'm still wanting to better understand the "ranging from .25 acre to several acres at the stand level" as what does several acres mean? I want to see a more definitive range instead of several. With the numbers in the proposal, the range in opening size would be from .25 to 5 acres in size. With a 10-15 year NEPA and the ability to consider true adaptive management, it is better to analyze for larger ranges in the opening sizes than you intend to use if the monitoring shows goals/objectives are not being met you then have room to actually adapt. If you analyze for a narrow set of sizes with a limitation on the upper end, you may not have the flexibility to adapt without a new decision.

7.Implementation -Patch Cut/Clearcuts (CJ-12)

This still should be considered as the entire corridor from Highway 7/Highway 72 intersection north to Meeker Park through the Allenspark corridor have significant loss potential with significant spotting and intensity in the lodgepole/pondo mix forests in that corridor. Patch Cuts/Clearcuts can provide operational feature to allow engagement under a wider range of conditions as long as surface fuels and regen are managed for that purpose. I do have analysis on the west side of the East Troublesome Fire (2020) that shows significant effects from the clearcuts as compared to the untreated adjacent. The regen was 21 years old and was very resistant to burning and had high productivity post-fire. All standing dead and down was removed. The untreated adjacent sites were high-severity with no productivity post-fire. There were other clearcuts on the east side of the same fire that showed opposite results but seemed to have high surface fuel loads (communication with James White, USFS Region 2). So I see a purpose for clearcuts/patchcuts in LP if the surface fuels are managed and regen is addressed. The other side of the coin shows how resistant young regen can be at times to fire and with the climate change component of this EA, a regeneration strategy could perpetuate LP much further into the future by regenerating cohorts in clearcuts/patchcuts now while conditions still allow regen to be successful. The regeneration of LP in clearcuts and LP can also provide the habitat and age diversity needed for better snowshoe hare habitat that would allow better Lynx use in those areas. This would also allow much more expansion of Aspen in this cover type to introduce more heterogeneity that is lacking in the system compared to historical photos of the peak to peak corridor around Ward, Duck Lake, South St. Vrain, Beaver Reservoir, etc. Old photos show much more open country, and much more aspen compared to today. The aspen would help to change fire

behavior at scale and provide much more opportunity for engagement before fire gets to communities.

8.Implementation- Patch Cut/Clearcuts (CJ-13)

Satisfied with the response as long as you have options for .25-5 acres in PP to allow true adaptive management for the long timeframe of this NEPA. Regen won't be an issue in these patch cuts in this species type as compared to LP.

9.Removal methods to be utilized. (CJ-16)

Happy to see the proposed action modified for consideration of helicopters as specific tool for specific locations.

10.St. Vrain Forest Health Project Application Areas map highlighting low-severity restoration <7,200ft as all areas eligible, w/ lands between 7,200-7,800ft having some areas eligible. Wanting to change mixed conifer/upper montane zone and increase some available lands above 7,800 ft. (CJ-19)

I appreciate the comments and references in the response. My concern is that you have only referenced some older science that could be challenged by newer science in RMRS GTR-373 referencing altered forests to higher elevations as well as "Battaglia, M.A., B. Gannon, P.M. Brown, P.J. Fornwalt, A.S. Cheng, and L.S. Huckaby. 2018. Changes in forest structure since 1860 in montane ponderosa pine dominated forests of the Colorado Front Range, USA. Forest Ecology and Management 422:147-160. <https://doi.org/10.1016/j.foreco.2018.04.010>" The Allenspark area has ponderosa dominant forests to higher elevations than the south part of Boulder County where Forsythe 2 was planning and executed. This is due to some microclimates that are present, so that elevations above 7800' in that area warrant more restoration needs in PP as evidenced by areas around Taylor Mtn. many south slopes to elevations up to 9000'. The historical photos and shrub communities (bitterbrush) highlight the drier microclimate here which is a major factor for my recommendation of more substantial work above 7800' in this area. This also aligns well with community protection goals in Allenspark as spotting could be 1-1.5 miles or greater with 50 mph avg. windspeeds.

11.Several commenters expressed concern with implementing prescribed fire or managing wildfire without additional resources and considerations being considered, as highlighted by recent escaped prescribed fires in New Mexico. (BM-8, RSetal-28, CJ-30, CJ-32, CJ-33, CJ-34)

I am extremely disappointed with the response here. I do not care to read Randy Moore's press release as that has nothing to do with the concerns I listed. The beginning of your comments also looks like marketing to me as you did not address the concerns at all. The report on the two NM escaped Rx burns does not address the reasons for the escape, climate change was highlighted as the factor and did not cause the escape. Burning during a La Nina spring in NM in April with fire staff that did not have that knowledge was the cause. I still want to see the safe application windows for Rx and unplanned ignitions elevated to a much higher level than is currently being addressed in the EA.

There needs to be serious consideration of guidance to understand the windows, as many Rx burns have missed that in the past. Some examples are the two in NM last year, Trail Creek 2018 in Utah and Lower north fork in 2011. You list that various forecasting products, and modelling tools will be utilized in the development and implementation of prescribed fire. I'd like to know what those tools and products are, just listing generalities does not instill confidence that those tools will be considered and used. The landscape in the St. Vrain is a complex one to burn in, with the high potential for high wind events between Sept. and April, and when those align with La Nina phases of ENSO in spring that increases the risk for potential escapes if managing large perimeters on Rx or managed fires. I hope you elevate this concern and find ways to address it more fully before releasing the decision. I also did not see any references to the Ouzel Fire (1978) in Wild Basin that was not managed successfully and led to a social/political backlash that changed how RMNP managed fire until 2010 and with the subsequent policy document in 2012. A mistake in this category will affect all users of fire in the northern Front Range for a long period of time.

12. Specific considerations regarding seasonal climate and/or wind patterns on preparing controlled burns or managing unplanned ignitions (CJ-26, CJ-27, CJ-28, CJ-29)

I do not feel that the concerns and suggestions have been considered here. Following standard fire behavior metrics without consideration of the other variables is why the four Rx burns I referenced in a previous comment escaped. I appreciate the comment about some August's being dry and forest staff can adjust when those conditions are present. I understand the concern about lack of available resources in August, but the window I'm referencing for this landscape is May-August. It seems like the concerns about lack of resources would push local fire managers to burn in the Sept-April timeframe, which aligns with the wind season in this landscape. I don't want to see fire pushed into those shoulder seasons with more risk of escape if it can be considered in the May-Aug timeframe.

ENSO is the teleconnection pattern that has the best correlation to our fire regimes on the east slope of the Front Range. I want to see more consideration of how to factor ENSO into guidance for burning in this landscape. I am willing to help develop those if the forest staff is interested, as I and a few others have some unpublished information on this topic. Dr. Sarah Brown, RMRS Fire Lab Director and I had a long conversation about this in North Carolina back in November and she expressed interest in developing this guidance as well. Tom Swetnam in NM, Greg Garfin with CLIMAS in Arizona and Peter Brown with RMTRR also have additional published/nonpublished information on this topic. Tom Veblen has published more extensively on this topic and should be referenced here.

I also think the environment in the Front Range of Colorado and California are unique environments where extreme fire behavior can occur with cold air temps and higher rh due to the wind environment and topography we have here. Forest and Fire staff coming from other regions of the country would not be exposed to that complexity here, so unless your direct staff will be here for the next 15 years is warrants guidance on paper to ensure concepts are transferred as staff turn-over and move to other area within the USFS system.

13. Several commenters expressed concerns with the Forest Service conducting additional fuels and prescribed burning/slash pile burning given poor past practices of slash being left as an attractive nuisance and in high amounts that create additional fire hazards, blowdowns creating additional fire risk, incomplete cuts, unburned piles/lack of timely burning, and unmonitored burn piles. Safety concerns brought up regarding amount of material that needs to be cut to safely burn. (RSetal-29, RSetal-31, BM-13, MM-1, MM-3, RHH-2, PaAn-2, PaAn-3, PhSt-3, MaSt-1, CJ-23)

I feel the concerns listed here are no longer concerns for me. I have noticed the significant allocation of resources to deal with the backlog of piles from previous projects and that trend gives me confidence that the forest is on the right track with slash pile burning. I just want to ensure that these activity fuels are burned in a timely manner as risk is increased while they are present especially when close to homes or communities.

14. Cross-jurisdictional boundaries: learning from and working with existing fire management and protection plans. Communities need to understand connection between ecological landscapes to built environment (CJ-21, CJ-22)

I still don't understand how this links up to RMNP Fire Plan (2012) as they are proposing managed wildfire there abutting the west side of the Allenspark Corridor. How does the corridor manage the private lands without good boundary management with RMNP and how does the USFS Rx and Unplanned Ignition Mgt. strategy couple up with RMNP strategy? And how does the corridor of private lands with an old and out of date CWPP adjust to the strategies on both sides. I have looked at defensible spaces scores in the Allenspark area and the majority of homes have very low-quality defensible space with more than 50% canopy cover buffered out to 300' being the major driver. I am concerned that I don't see strategies here to give confidence with the protection of the corridor during the Fire Mgt. Activities proposed.

How does the Allenspark community incorporate this into their CWPP that needs a serious update? The USFS proposal is driving the bus, versus the local CWPP informing the USFS process. The lack of community

engagement concerns me.

15.South aspects are difficult to find connections to allow a wider range of windows for safe application of fire. North aspects are preferred in guidance for specific projects, with broadcast burning on other aspects, whole tree removal, some chipping and other methods considered for effects analysis in WUI zones. (CJ-24)

Thank you for your consideration of aspects for slash pile burning. I've burned piles over many years in that landscape and was always amazed at how fast snow can disappear on the south slopes. Previous USFS projects had burn piles on south slopes and that was one of many potential factors that led to the pile backlog. Dave Buchanan (retired USFS-Boulder) and I had a long conversation about the transfer of that knowledge we gained over many years of burning piles in that landscape. The slash treatments on south slopes may warrant other methods to remove slash versus burn. North slopes are usually much more consistent with snow cover and shade during the winter burning season. Whole-tree removal closer to WUI areas has proven its worth as the Jefferson and Larimer Conservation Districts have utilized this on private lands in WUI areas with good results. This was used on the Bald Mtn. Treatment with Boulder County back in 2008 and led to good performance on the Fourmile fire, as the removal of surface fuels created opportunity for slurry to be effective in the unit. The other fuel treatments along sunshine canyon drive that did not remove fuel or chipped fuel back into the unit failed.

16.Guidance for mixed conifer Prescribed Fire (CJ-25)

Thank you for consideration of aspects in the mixed-conifer cover type as it relates to Rx fire. I was a part of the Upper Monument Landscape Initiative on the Pike/San Isabel NF near CO Springs where we spent significant time with a diverse group looking at Rx fire in Mixed Conifer that has similarities to the mixed conifer type in the St. Vrain. The discussion evolved around keeping north aspects closed canopy, shaded, wind-shadowed, and with little grass/understory growth. Essentially keeping those sites more of a TL1 fuel model, with the south, east and west aspects dominated by TU models and significant removal on those aspects to isolate the north aspects while we keep the risk artificially lower. This also allows holding against those north aspects when burning the other aspects under certain conditions.

17.Invasive species (CJ-6)

I am concerned with the level of disturbance being proposed in the landscape with significant expansions of non-native populations to higher elevations. Currently lower elevation sites at Hall and Heil Ranch Open Spaces have significant issues with non-native plants, especially the significant increase in seed source at Heil due to conversion from fire that migrating elk will transport west. In my 26 years of living in Boulder County, I have been extremely disappointed at the allocation of resources and prioritization of this issue by the Boulder Ranger District. I would hope the collaborative environment within the St. Vrain Forest Health Partnership would allow this issue to be elevated and prioritized. I am expecting to see additional consideration of this issue in the decision phase.

