

Matthew Anderson
Bitterroot National Forest
Submitted electronically

20 Apr 2021

Subject: Comments on Mud Creek Project Draft Environmental Impact Statement

Dear Matthew,

I have some serious concerns about this project:

- 1) The plan that is presented does not assure that substantive input from the public will be possible as the project moves forward.
 - a. Appendix B does not *require* workshops.
 - b. Appendix B should have a required comment period for each activity to allow working people who may not have time to go to workshops to provide input. Then the field officer will consider comments and come to a decision. This is the minimum needed to retain the spirit of public participation.
 - c. It seems not to have no on-going requirement for coordination with local government, that will likely be implementing 20-year project period that change the cumulative, direct, and indirect impacts of your project activities as well as theirs.
- 2) Appendix A and B are too simplistic for the reality of what will need to happen. Conditions *will* change. I am not suggesting adding a lot of verbiage, but to show clearly that each activity is likely to require a field survey, measurement of key factors, and possible analysis of impacts.
- 3) Clear-cuts? I can find no evidence that clear-cuts (nor the functionally equivalent seed-tree cut) is the preferred treatment for any of the purposes and needs listed in the EA.
 - a. Your EA and the project file cite a number of studies for activities to reduce the probability, severity, and intensity of wildfire – I didn't see any that recommend a clear-cut.
 - b. Clear-cuts and the subsequent tendance for even-age regeneration can be seen throughout the Bitterroots both on public and old checkboard lands. During the fires of 2000 a number of these were presented with a large wildfire in a dry year. I don't think anyone published a study. Antidotally, some burned hot, some served as buffers. (Though during the daily fire update meetings, the old burns were being used as fire breaks when planning fire lines).
 - c. Of course, the reason is that a clear-cut grows back: small fuels, then small trees and small fuels with no overstory shading, then an even age stand a decade or two later with closely spaced trees — certainly not the open ponderosa pine forest that the Forest Service often claims is the ideal.
 - d. Your EA and project files cite literature that contain much better approaches.

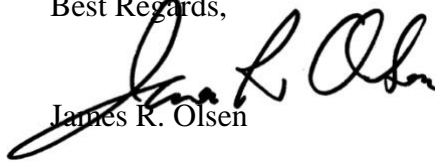
- e. I hereby submit the following references that provide additional substantive information, some of which is compelling contradictory information to that of this EA. These are from the **References** section below: (Agee 2005, Calkin 2013, Graham 2004, Stevens 2012, Stone 2004).
 - f. Clear-cuts as a way to provide food for elk is not the best way to provide this outcome and may well have the opposite effect. I comment in a bit more detail below on the Wildlife Effects Analysis Report and provide additional references and citations that contradict some of the conclusions and finds regarding elk habitat.
 - g. You should eliminate clear cuts and seed tree cuts as treatment methods.
- 4) Modeling can be a crutch. The first thing I was taught is “the model is not the system it is a way to understand the system.”
- a. It turns my career in designing and managing large systems included models representing those systems *and* had models imbedded in the real-time software. ASTOR Sentinel R-1 (https://en.wikipedia.org/wiki/Raytheon_Sentinel) for example contains an embedded copy of ArcMap for example, which is mentioned in FIRE-001).
 - b. Using models as predictive tools is fraught with risk — though sometimes it is the best you can do. Your EA does recognize this risk as it proceeds to make statements based on model outputs.
 - c. The same modeling techniques are used across many, many disciplines from highway capacity and safety, to medical research, to defense systems, to ad-targeting, to finance and investing, to public health. The models referenced in the EA use the same toolbox.
 - d. This risk came to the fore as COVID-19 began its world travels. Some COVID-19 predictive models had a short enough news cycle feedback loop to make headlines (Adam 2020).
 - e. The issue with the EA’s model outputs, including things like the fire probability maps, are:
 - i. The model is only as good as the input and the input is not disclosed.
 - ii. The model output is for a point in time for a system which is complex and dynamic. Whatever the input set for the model is today, it will become outdated in short order. For example, a small wildfire, drought, heavy snowfall, will change conditions and would change the model outputs.
 - iii. The fire probability maps are based on a specific static input which gives little information as to how things will change. It’s like modeling the lift of an aircraft with the control services set for straight and level flight and trying to use the output to predict how it would do in a climbing turn.

- f. The EA should require an annual update of existing conditions, with all models used updated and analyzed. Further, the model inputs should be updated with local field data even more than is done presently.

This project requires an EIS for several reasons. While your staff might say, "Oh no! not that" just like I did the 1970's when I had a US Air Force uniform on, it would be an opportunity to get a project file which really showed an understanding of current conditions and desired future conditions.

The attachments are incorporated by reference.

Best Regards,

A handwritten signature in black ink, appearing to read "James R. Olsen". The signature is stylized with a large, sweeping initial "J" and "O".

James R. Olsen

Mud Creek Project
Wildlife Effects Analysis Report
11 Jan 2021 — West Fork District

Page 6: Assumptions and Understanding.

1. Ref: “the most current scientific and research is relevant and accurate.
This is a very inappropriate assumption and should be removed due to:
 - 1) Relevance to the project at hand is the biologist’s job when applying it to this particular project.
 - 2) Like most complex disciplines, the research and conclusions are often contradictory, caveated by the author of the research paper, and subject to modeling and statistical uncertainty. This is the case in the papers cited in this Report. Thus, the public deserves and discussion and analysis of the accuracy and applicability of cited research.

Incomplete and Unavailable Information. This falls back on “professional judgment” when data is missing. *This is inadequate.* The professional must determine the potential impact of not knowing the information and determine when he needs get out in the field and survey and measure the landscape of the project area.

Elk Thermal Cover Requirements (Page 36-39):

The author cites (Cook, et. al. 1998) to make his case that there is no positive effect of thermal cover. Cook’s study is artificial (Cook, et. al. 1998, pp. 6-8)— hand raise calves in pens with different artificial coverings. The factors that would seem to effect thermal cover on a wild Elk’s energy management challenge while foraging for food is not considered. Cooks does not claim the study is definitive in terms of the need for thermal cover, but considers it relative to other habit and food issues. He concludes, “Thus, we content that thermal cover considerations should be relegated low priority relative to other habitat attributes in most circumstances. (Cook, et. al. 1998 , p. 52). The circumstance here is not a timber sale for the purpose getting timber, but a circumstance where a specific purpose is improved elk habit.

Even worse is the citation of (Duncan 2000) which is not included in the Report’s reference list. Presumably is the (Duncan 2000) I cite below — a news piece not written by a researcher which depends heavily on the same Cook study.

The unsupported conclusion that the no-action alternative that increased foliage density would reduce winter food quality for Elk is unsupported and conclusory.

So, when the report says. “based on this research” the research is set in artificial conditions, repeated by a science writer, and falls well short of what the public expects.

Elk and Road Density

Page 37. “found that nutritional resources are the primary factor affecting elk distribution, more so than motorized route densities” citing (Ranglack et. al. 2017). However, this not what Ranglack concludes: “We recommend that the current elk summer habit management paradigm

based on motorized route density to maintain elk habitat effectiveness (Lyon 1983) should be *expanded* to also consider nutritional resources. [emphasis added] (Ranglack et. al. 2017, p. 9).

It should be noted the Ranglack's conclusions are based on models — with all the limitations of modeling and not field studies. In fact, earlier Ranglack says the models indicate “motorized assess had a relatively small effect on selection [of feeding area], as compared to nutrition. He goes on to say the model showed elk had strong negative responses in areas of lower nutritional value — suggesting that elk exhibit a risk tradeoff to motorized presence and nutrition. (Ranglack et. al. 2017, p. 9).

This is not real data. I suggest that this observation is a modeling artifact unless there is observed elk behavior making such a tradeoff. But, Ranglack never suggests that road density is not an issue.

I submit as shown in the references below: (Weber, “Identifying Landscape Elements in Relation to Elk Kill Sites in Western Montana,” 1996) – a study that concludes that Elk security during hunting season is highly related to roads. This provides contradictory substantive information that should be considered.

I submit as shown in the references below: (Lyon et. al. “Coordinated Elk Management: Final of the Montana Cooperative Elk-logging Study” 1985). This collaborative 15-year study provides contradictory substantive information that should be considered as well as design criteria for road placement and construction to support elk habitat and movement. This design criteria should be incorporated into the project criteria.

Since Clear cutting has become an unfavored treatment method for several decades on public lands, one has to go back a way to find good studies on their effect on wildlife.

I submit as shown in the references below: (Lyon, “Management Implications of Elk and Deer Use of Clear-Cuts in Montana,” 1980). This study provides contradictory substantive information that should be considered. “Elk use of clear-cuts was severely depressed by the presence of open roads and inadequate cover at the edge of the opening.” (Lyon 1980, p. 352).

I submit as shown in the references below: Stelfox, “Effects of Clearcut Logging on Wild Ungulates in the Central Alberta Foothills,” 1976). This study did field surveys 1, 3, 4, 5, 6, 9, 10 and 17 years after logging, giving valuable data on the dynamic change in forage and cover of time. The static approach taken by the Mud EA is lacking in that it does not analyze the dynamics the changes in habitat by a “pulse” change in the form of a clear cut (and the habitat equivalent seed-tree cut).

The conclusion on page 37 of the report that a Forest Plan amendment to increase road density is “because of other factors” is unsubstantiated by the data cited and requires a much harder look at all of the factors jointly and specifically for the proposed action.

REFERENCES

- Adam, David. ““Special report: The simulations driving the world’s response to COVID-19: How epidemiologists rushed to model the coronavirus pandemic” *Nature*, Nature Research, London, UK, 3 Apr. 2020.
- Agee, James K. and Carl N. Skinner. (College of Forest Resources, University of Washington, Seattle, WA and USDA Forest Service, Pacific Northwest Station, Redding, WA respectively).
- “Basic Principles of Forest Fuel Reduction Treatments,” *Forest Ecology and Management*, Vol. 211. Issues 1-2. Online: Editor and Chief - Dan Binkley, PhD. Northern Arizona University, Flagstaff, Arizona, 6 Jun 2005. pp. 83-96.
<https://www.sciencedirect.com/science/article/abs/pii/S0378112705000411>
- Calkin, David E, Jack D. Cohen. Mark A. Finney, and Matthew P. Thompson. (Forest Service Sciences Lab, Rocky Mountain Research Station, USDA Forest Service, Missoula, MT)
- “How Risk Management Can Prevent Future Wildfire Disasters in the Wildland-Urban Interface,” *Proceedings of National Academy of Sciences, USA*. Washington, D.C. 2013.
<https://doi.org/10.1073/pnas.1315088111>
- Duncan, Sally. Science Communications Writer.
- “Why do Elk Seek Shelter? The case against thermal cover.” Science Findings, Pacific Northwest Research Station, Portland, OR. 2000.
<https://www.fs.fed.us/pnw/science/scifi22.pdf>
- Graham, Dr. Russell T. (Rocky Mountain Research Station), Dr. Sarah McCaffery (North Central Research Station), Dr. Theresa B. Jain (Rocky Mountain Research Station).
- “Science Basis for Changing Forest Structure to Modify Wildfire Behavior and Severity,” Gen. Technical Report RMSR-GTR-120, Fort Collins, CO. USDA, Forest Service, Rocky Mountain Research Station. Apr. 2004. <https://www.fs.usda.gov/treearch/pubs/6279>
- Lyon, Jack L. (Intermountain Experimental Station, USDA Forest Service, Missoula, MT), Terry N. Lonner and John P. Weigand (Montana Fish, Wildlife and Parks), Jack D. Jones and David W. McCleerey (USDI Bureau of Land Management), Lorin L. Hicks (Plum Creek Timber Company).
- “Coordinated Elk Management: Final of the Montana Cooperative Elk-logging Study”. Jan. 1985. <https://www.biodiversitylibrary.org/item/203486#page/7/mode/1up>
- Lyon, Jack L., and Chester Jensen. (Intermountain Experimental Station, USDA Forest Service, Missoula, MT)”
- “Management Implications of Elk and Deer Use of Clear-Cuts in Montana,” *Journal of Wildlife Management*. Vol. 44, No. 2. pp. 352-362. Apr. 1980.
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3847266.pdf

McCorquodale PhD, Scott M. (Washington Dept. of Fish and Wildlife).

“A Brief Review of the Scientific Literature on Elk, Roads, & Traffic,” Washington Fish and Wildlife. Mar. 2013.

<https://wdfw.wa.gov/sites/default/files/publications/01491/wdfw01491.pdf>

Olsen, James R. “Successes with Integrated Response; Modeling,” Letter, Official Public Comment to: Board of Health, Health Officer, and Ravalli County Commissioners.

<https://ravalli.us/ArchiveCenter/ViewFile/Item/15650>

Schwilk, Dylan, W., Jon E. Keeley, Eric E. Knapp, James D. McIver, Christopher J. Fettig, Cark E. Fielder, Richy J. Harrod, Jason J. Moghaddas, Kenneth W. Outcall, Carl N. Skinner, Scott L. Stevens, Thomas A. Waldrop, Daniel A., Yaussy, and Andrew Youngblood.

“The national Fire and Fire Surrogate study: effects of fuel reduction methods on forest vegetation structure and fuels,” *Ecological Applications* 19 (2). Ecological Society of America, Washington, D.C. 2009. pp. 285-304

Stelfox, J. G., J. R. Lynch, and J. R. McGillis.

“Effects of Clearcut Logging on Wild Ungulates in the Central Alberta Foothills,” *The Forestry Chronicle*. Canadian Institute of Forestry. Apr. 1976. pp. 65-70. <https://pubs.cif-ifc.org/doi/10.5558/tfc52065-2>

Stevens, Scott L., James D. McIver, Ralph E. J. Boerner, Christopher J. Fettig, Joseph B. Fontain, Bruce R. Hartsough, Patricia L. Kennedy, and Dylan W. Scwilk.

“The Effects of Forest Fuel-Reduction Treatments in the United States,” *Bioscience*, Vol. 62. No. 6. American Institute of Biological Sciences, Herndon, VA. Oxford University Press. Jun 2012. pp. 549-560. <https://academic.oup.com/bioscience/article/62/6/549/249143>

Stone, Carter, Andrew Hudak, and Penelope Morgan. (GIS Analyst, Univ. of Idaho, Dept of Forest Resources, Moscow, ID; Research Forester, USDA First Service Rocky Mountain Station, Moscow, ID; Univ. of Idaho, Professor Dept of Forest Resources, Moscow, ID respectively).

“Forest Harvest Can Increase Subsequent Forest Fire Severity,” *Proceedings Second International Symposium of Fire Economics, Policy, and Planning: a global view*. Córdoba, Spain. 19-22 Apr 2004.

https://www.fs.fed.us/psw/publications/documents/psw_gtr208en/psw_gtr208en_525-534_stone.pdf

Weber, Keith T.

“Identifying Landscape Elements in Relation to Elk Kill Sites in Western Montana,” Dissertation, University of Montana, Maureen and Mike Mansfield Library, Missoula, MT. 1996. <https://scholarworks.umt.edu/etd/6494>