Mud Creek Scoping Comments

Dear District Ranger Carbonari

Thank you very much for reading and considering my comments on the Mud Creek Project/Timber Sale. I am a resident of Hamilton and have spent time in the forest here and have observed past logging/forest health projects on the Mud Creek landscape and elsewhere in the forest.

The project area is 48,523 acres and includes the entire Mud Creek watershed and a number of neighboring watersheds. It is huge and treatment of such a large swath will most definitely change the human environment substantially. A detailed EIS is necessary if a project will cause substantial change to the human environment. The area is home to or has the potential to be home to many ESA listed species including but not limited to Bull Trout, Lynx, Fisher, Wolverine, and Grizzly bears. Once again a detailed EIS is warranted. Logging emits more CO_2 than fires, and cars and most other extractive industries. Not only does it emit carbon in its process it also removed carbon sequestering trees. Climate change and CO_2 emissions have a grave effect on the human environment. You must thoroughly analyze these effects to the human environment in an EIS. Though I imagine it is difficult to analyze these effects without the specifics of the project.

I am concerned that you are not divulging nor plan to share the specifics of this project like proposed road locations, cutting units and treatments. It seems odd that you are choosing this since the scoping letter promised an "open and transparent process." Certainly not sharing details is far from transparent. I have heard rumor that you are using a "conditions-based" approach with this project. It has been tried in the Tongass and an injunction was just granted. I am concerned with the idea that the specific planning will occur after the ROD. This is not in line with NEPA and is definitely not working in the Tongass.

We are told the public will be involved in the process. We have been told that on the last 3 projects in the BNF and not one thing was changed based on public concerns. How can we agree to a process that "promises" public involvement when we have not experienced any reaction to our concerns other than a nod of a head.

The public must submit substantive (specific to the project) comments. It is difficult to do that without details and specifics of the project. We can only speculate and make broad assumptions and critiques which can be disregarded as not substantive.

I question the term community protection zone. It seems to have morphed from what Jack Cohen defined when he discovered that even high intensity crown fires will not directly ignite homes at distances beyond 60 meters (200 ft). He defined this area as the Community Protection Zone or CPZ (https://www.biologicaldiversity.org/publications/papers/wui1.pdf). You state that seventy-three percent (35,486 acres) of the project area has been identified as Community Protection based on results of the 2016 Bitterroot Wildfire Risk Assessment. This would be impossible using Jack Cohen's definition. I fear you are using this term to make the fire danger seem dire and with the misinformed belief that you can prevent or diminish fire with commercial thinning. This has not been proven and more and more comprehensive studies have shown that thinning can increase fire severity (Bradley et al 2016: https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.1492) In the Gold Butterfly EIS and the Westside EA, FS makes it clear that thinning only has a chance of reducing fire under "normal weather conditions." Yet, stand replacing fires that rage through the landscape

happen under extreme weather conditions. So why spend so much money on commercial logging when in fact the chances are little to none that a fire will hit the area of treatment in the window of efficacy in "normal conditions."

Forest management has been blamed for faster and more destructive wildfires. Take the Camp fire as an example. https://www.nbcbayarea.com/news/local/Federal-Government-Blamed-for-Faster-More-Destructive-Wildfires-509928871.html. Or listen to scientists Delasalla and Hansen who wrote:

> In the case of the Rim Fire, our research found that protected forest areas with no history of logging burned least intensely. There was a similar pattern in other large fires in recent years. Logging removes the mature, thick-barked, fire-resistant trees. The small trees planted in their place and the debris left behind by loggers act as kindling; in effect, the logged areas become combustible tree plantations that are poor wildlife habitat. https://www.nytimes.com/2015/07/23/opinion/more-logging-wont-stop-wildfires.html?_r=1

Again, the most effective area of fire prevention is Cohen's community protection zone (200 feet from communities and even more important, the area directly around a home which Cohen called the Home Ignition Zone HIZ. According to one study, "reducing home ignition within the HIZ is the most effective homeowner action for preventing home ignitions during wildfires." https://www.fs.fed.us/rmrs/science-spotlights/protecting-your-home-wildland-fire

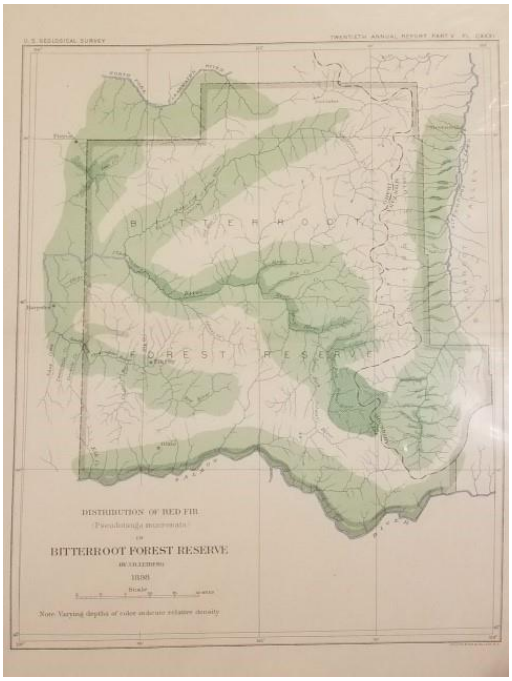
Your broad goals stated in scoping are: 1) the departure from historic disturbance regimes and subsequent existing vegetation and fuel conditions, 2) conditions related to the current road network, and 3) a programmatic forest plan amendment related to elk habitat objectives." (BNF Scoping letter) Number one is perplexing. If you wish to depart from historic disturbance, one might not continue with disturbance which I imagine you are planning if this is to look anything like Gold Butterfly, The Westside Project and Como Lake. The second goal is I hope referring to the analysis of the road system and the reduction of ACTUAL roads. Please do not consider virtually re-claimed roads as roads that will be taken out of the system. This is deceptive accounting. They have already taken themselves out of the system. Past projects have taken credit for reducing roads, but also admit that no work is necessary. Then they are taken "out of the system." But later, they become "ghost" roads that ARE roads when FS wishes to reconstruct them for commercial logging. This opportunistic accounting system is not honest and does nothing to improve the road system as mandated. The third bullet is that you are adding on a forest wide amendment for EHE. This should be analyzed in an EIS of its own. It has broad repercussions across the forest and is used to manage all wildlife as well as elk as per the forest plan. Having essentially amended EHE standards for almost every project in the past 10-20 years, it would seem wise to analyze this thoroughly.

Tacking the programmatic EHE amendment on a huge project buries it from public notice and bypassed NEPA. Essentially the public has been left out of this conversation for 20 years. It is time to hunker down and analyze this on its own merits. You mention that there are other ways to protect elk. I am sure that there are, but biological opinions for both DLL2 and Gold Butterfly claim that ESA protected Lynx and Grizzly are protected due to EHE standards. This programmatic amendment must be analyzed not only for elk but for all the wildlife under its umbrella. The limits to road density provided by elk habitat objectives benefit the forest resouIt protects water resources, soils and wildlife. Ending the EHE standards will increase roads, human access and reduce security for many animals.

Please do not increase ATV access or increase biking trails without a thorough analysis of the effects on wildlife including elk. You have already created a travel plan and should analyze the effects of new trails and ATV access as it affects the overall travel plan. I notice that an increase in hiking trails or even clearing and maintaining hiking trails is not a part of this project. Fix what you have before you create more. Motorized and mechanized travel affect wildlife including all ESA listed species in the area. Please also be aware that more human access increases fire risk according to the USDA publication Cross-Boundary Wildfire and Community Exposure: A Framework and Application in the Western U.S., "The cause of recent wildfire catastrophes can be traced to multiple factors including the expanding urban footprint (Radeloff et al. 2018), increasing human ignitions (Nagy et al. 2018), droughts (Littell et al. 2016), and high-wind events (Abatzoglou et al. 2018)." Please note that the presence of fuels is not among the causes, but human ignitions are.

The project should NOT include any IRAs, WSAs or RWAs. These are areas that must be managed as Wilderness allowing natural processes to transpire in their own time. Adding roads temporary or otherwise in these areas would go against the Forest Plan and the Wilderness Act and the Wilderness Study Area legislation. Since there is no information about what actions will happen in these areas, the easiest way to comply with the Forest Plan and the Wilderness Act and Wilderness Study Act is to change the boundary of the project keeping roadless areas, inventoried roadless areas and wilderness study areas outside the project area. I am very concerned that you have included these areas in the project boundary. But there are no details. Seems to me that no matter what, these areas should be left alone.

Historical conditions are a farce. Many forests in the area have even aged Doug Fir and Ponderosa pines which means they grew up together over time not encroached on one another. One cannot be arbitrary when deciding what historical conditions were. Your estimates are based on pictures of majestic Ponderosa Pines. Doug Firs are less photogenic. Please note this map from history.



Historic conditions enjoyed greater biodiversity which will be reduced by logging and "management". The area had much more old growth in its historic state. But that does not seem to be an issue in your scoping document. You will cut old trees and even clearcut stands if you mimic your proposals in Gold Butterfly. Historically, natural processes including fires were left to frolic as they wish. Not the case now. As you laud fires and the need for fire, you suppress them and then claim we must log because fires were suppressed. It seems a conundrum that FS should end. Damaging the forest in the name of fire reduction even when you make it clear that nothing you do will have any effect in extreme weather conditions that create stand replacing fires. Yet somehow the public things otherwise. It is strange that you don't clarify that with the public. You are losing their trust. Once again consider what logging might do to historical conditions. See "Interactive effects of historical logging and fire exclusion on contemporary structure of ponderosa pine/Douglas-fir forests of the Northern Rockies" https://www.researchgate.net/publication/250077719_Interactive_effects_of_historical_logging_and_fire_exclusion_on_contemporary_structure_of_ponderosa_pineDouglas-fir_forests_of_the_Northern_Rockies.

Non-commercial thinning would be the most efficient and most true way to reduce fuels without disturbing the landscape. You are in an area where extreme logging in the name of, you guessed it, "fire safety" and you are again proposing this even though the devastation from the last disturbance is evident. Commercial thinning will bring in weeds. In my backyard I see the knapweed, St Johns Word and cheatgrass that permeate the landscape in the Hayes Creek area 10 years after the project. The Westside project area is seething with mullein, knapweed and St Johns Wort. There is some grass from seeding. But there is not plan for more seeding so in 4-5 years it will twin the Hayes Creek project. There was an area that was hand thinned near the Camas Creek road. In that area, there was still thermal cover, diversity and the native grasses were doing their best to stave off the inundation of invasive weeds.

I would suggest restricting commercial logging to ONLY the Community Protection Zone defined by Cohen. Fuel reduction treatments more than a few hundred feet away have almost no effect. Destructive, stand replacing wildfires are fueled by extreme climate conditions and wind. It is not about the fuels. They aren't even mentioned in the wildfire risk framework as a cause of fire. I would not use insects or disease as an excuse to log. It seems just about anything is an excuse to log according to FS. One cannot choose for genetically drought tolerant and disease resistant trees. You could be cutting the wrong ones. And excellent example would be the 3 Saddle travesty. You thinned and the remaining trees blew down because the thin layer of soil was disturbed. Then you disturbed the soil some more to harvest the downed trees. Then you burned and the smaller remaining trees that were just hanging on died in the fire. Now any tree that is left has spruce bud worm. How is that possible. The Purpose and Need for the project was to make those trees more resilient to insects and disease. What happened? You must have cut down the trees that might have survived the outbreak. See Six et al 2014.

Your goal of eliminating all mixed and high severity wildfires is not ecologically sound nor does it mimic historical conditions. Fires have great benefits for wildlife and forest ecology. So why make such an effort to reduce them on the landscape? Ask the woodpecker: https://www.nytimes.com/2017/08/06/science/let-forest-fires-burn-what-the-black-backed-woodpecker-knows.html Studies show that real fires not prescribed fires are necessary and beneficial to the landscape. See Changing fire management alters ungulate forage in a wildfire-dominated landscapehttps://doi.org/10.1093/forestry/cpz017 The study shows that "forests recently burned by wildfire had higher summer forage quality and herbaceous abundance than those recently burned by prescribed fire." Another study shows that Jack pine seedlings are more prevalent after a wildfire vs a prescribed fire. See https://dl.sciencesocieties.org/publications/sssaj/abstracts/83/s1/S141

Roads are truly a problem and there are over 242 miles of roads on your scoping map. Remember that the map does not include all of the roads you will add to the landscape by logging. Certainly, the goal should be to reduce roads which precludes commercial logging. There may be many more once you discover temporary roads and reclaimed roads that you want to use. Terraces are also a huge problem. They have not healed and must be left alone to heal.

Roads affect wildlife, see EHE section and this study by Ditmer et al that shows bears heart rates increase near roads. https://doi.org/10.1093/beheco/ary020. The study finds that "roadways may negatively impact wildlife species through vehicular-related mortality and spatial displacement or obstruction." Roads also increase wildfire risk http://www.pacificbio.org/publications/wildfire_studies/Roads_And_Wildfires_2007.pdf .

A purpose and need is to create an economic analysis of decommissioning roads and improving existing roads to bmps. Desirable and historical conditions in the project areas would be greatly reduced road densities for a manageable and affordable transportation system as you are tasked to do. The minimum road system would reduce road impacts to wildlife, water quality, water quantity and fisheries. All roads that are not decommissioned should be brought up to bmps and a budget should be in place to keep them that way well beyond the project. The area has one of the highest road densities in the forest, so reducing this should be a priority. Stream bearing culverts should be removed. It is best for the forest. If you do this across the forest you would not need to change the EHE amendment.

Roads fragment habitat. Please see this study concerning climate change and connectivity. https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2043. "Current open road densities range from 0.6 miles / sq. mile in the Little West Fork watershed (for the portion of watershed within the project area) to 4.9 miles / sq. mile in the Lower Blue Joint watershed." This needs to change. The project should decommission not create new roads and please do not count already decommissioned roads as roads. If you have to use a bulldozer to reconstruct it, it is not a road. Considering open road density is not enough. A recent lawsuit has found that closed roads are also a problem due to illegal ATV travel (Injunction granted to Alliance for the Wild Rockies). We have rampant problems with illegal off road travel across this forest.

Road densities should be divined using the moving prism method which is a more accurate measure than road density over large areas. Leave areas without roads roadless. Any temp roads should be recontoured. A Kelly hump or a pile of rocks or timber at the end of the road is not enough to ensure non-use. Please count all temp roads as roads. Road construction is irreversible. "Undetermined roads identified as not needed will be decommissioned, either administratively or physically depending on the conditions of each road segment." All undetermined roads should be decommissioned and taken off the landscape. Do not rebuild or reconstruct these roads. Let them heal. Roads increase stream sedimentation, are visually displeasing in violation of the Forest plan and increase human access, stop water flow, and remove land from forest processes.

Please do not allow logging or roads to be seen from existing trails. I am so disappointed by FS treatment of the Coulee trail. This trail was constructed by the Backcountry Horsemen. What a destruction of their good faith to destroy it so completely and permanently. You did not even give them a buffer to provide shade to the trail. Leave a buffer around any existing trails.

Please consider an alternative that does not construct or reconstruct ANY roads. Do an economic analysis. How might this reduce the price to tax payers? Please also disclose the cost of just bringing necessary roads to bmps without the commercial logging component.

Leave Old growth and large trees alone. Please don't take any tree over 12 dbh. Note this study on the affects of the loss of large wood on local trout populations by Winkelman et al 2018 https://onlinelibrary.wiley.com/doi/abs/10.1111/eff.12412

Old growth and legacy trees are irreplaceable. It is difficult to cry for historical conditions and cut down old trees. FS should be increasing and protecting old growth and all the messy diseases that come with it. A complete old growth survey on the ground needs to be completed in the area. We lost a beautiful area of old growth in the Westside because on a "walk through" it was decided not to be OG. A later check and ring count proved otherwise. It is GONE FOREVER. And we wonder why the songbirds and other species that rely on old growth are dwindling.

Field surveys for wildlife must be done prior to any work on the project. On the ground data is imperative. Eagle colonies, peregrine, flammulated owls, species of concern and ESA species must be considered and protected by protecting their habitat. Protecting habitat does not mean cutting it all down so it grows back better. What are the animals and birds to do for the next 80 years. This is not Oregon or Washington. It takes a long time her to replace a forest and with climate change, regeneration may not even be a thing. Especially if you continue to ignore climate and log with abandon.

Map and disclose impaired streams in the project. Analyze the source and decommission sediment dumping aging roads. Do not build or reconstruct or log in any areas near these streams or upstream of them.

Steep north facing slopes and riparian areas do not historically see fire and should not be treated. An extreme fire might take them, but that would be a natural process should it happen. I know many "highly stocked" (your term) areas on north facing slopes did not burn as predicted in the Roaring Lion fire.

You must use up to date science when planning and analyzing effects of this project and it should all be done before the ROD. That is like deciding to get married and then hoping a willing mate might come along. The cart is truly before the horse when you decide to treat before knowing what or how it might be treated. NEPA mandates in depth analysis and the best available science. Find something that has been peer reviewed and published in the last 5 years. And do not rely on FS studies that are not peer reviewed and obviously have an agenda.

The impacts to water quantity and timing caused by roads and compacted soils is tenfold. You must disclose this information to the public. Loss of water quantity will affect the agricultural community. The timing of water must also be studied and considered before considering treatment.

Truly collaborate with the public by disclosing your plans in detail and then compromising to irrefutable input by the public. Do not complain about grenades, see them as room for improvement. With a project so large, checks and balances are imperative. Don't let ego get in the way of a better more ecologically sound project. Remember the public has heaps more experience in the area than almost anyone on the FS payroll at this time. Collaboration is checks and balances from differing viewpoints and compromise. It is required by NEPA and the court of public opinion. You have lost the publics trust and now you are asking that we trust that you will do the right thing without divulging your plans. How does that even make sense?

This project will require large amounts of fossil fuel while reducing the carbon sequestration capacity of the forest. Intact forests serve the greatest good according to this study https://doi.org/10.3389/ffgc.2019.00027 https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full. You must disclose to the public how this project will contribute to the carbon footprint. A recent study showed that logging is the largest emitter of carbon even before car exhausts. https://sustainable-economy.org/osu-research-confirms-big-timber-leading-source-greenhouse-gas-emissions-oregon/ Will the project exacerbate climate change, resulting in

weather that promotes even more wildfires? This information must be disclosed and be ready to explain it all to your children in 10-15 years.

Please make sure that funds are available for monitoring the project ongoing and post project. Road maintenance should be monitored to protect streams and when the entire thing is finished, roads should be brought up to bmps and maintained there long term.

Do a thorough and accurate accounting of this project and its cost to taxpayers. It should include post project monitoring, ongoing weed mitigation, native grass seeding if necessary and studies on the actual effects of management strategies. It should also include project analysis and preparation costs. If you are going to say how great this will be for Ravalli County you should also discuss the costs. You might also consider what will happen to our strong economy if people with outside incomes move away because you have destroyed the reason they live here. As you consider the budget peruse these articles and consider the huge taxpayer loss created by commercial logging projects. I know that the timber industry is profiting. But taxpayers are losing 2 billion each year.https://missoulian.com/news/state-and-regional/experts-more-logging-and-thinning-to-battle-wildfires-might-just/article_4950dbb8-e3be-59c9-ab9c-ecde60e0593c.html and https://sustainable-economy.org/destructive-federal-timber-sale-program-loses-nearly-2-billion-a-year/ The timber mandates are ridiculous. They are politically derived from timber lobby pressure. It is time to just say no to this and really start taking care of the forest for its intrinsic value.

Consider just working on defensible space and educating the public on the importance of fire. It would be much cheaper. “Scientists contend that if money were redirected from firefighting into projects like fireproofing homes, those communities could actually be made safer. But the politics of the shift would be difficult at best.” See Potential Jobs and Wages from Investments in Defensible-Space Approaches to Wildfire Safety http://nreconomics.com/reports/2018-04-28_EnvNow_Report.pdf

Current logging practices on the BNF are creating massive weed spread, soil compaction, reduction in fungi diversity, reduction in song bird diversity and increased time windows and acreage for fire ignition sites. Make sure that money, man-power and time is available to keep weeds down after any disturbance on the landscape. This should happen over the long term. Please monitor the effects of your work. I rarely see FS analyzing past projects and learning from the results.

Much of the project has high percentage of compacted soils. The project area needs less compaction, not more, and much more will occur if this sale is anything like the past sales. Mud Creek area contains 79 terraced plantations approximately 1645 acres. This has been impacted exponentially. Please note that these impacts are long term. In this study: Long-term impacts of wildfire and logging on forest soils https://www.nature.com/articles/s41561-018-0294-2 They find:

> Here we show that natural disturbance (fire) and human disturbances (clearcut logging and post-fire salvage logging) can significantly alter the composition of forest soils for far longer than previously recognized. Using extensive sampling across a multi-century chronosequence in some of the tallest and most carbon-dense forests worldwide (southern Australian, mountain ash (*Eucalyptus regnans*) forests), we provide compelling evidence that disturbance impacts on soils are evident up to least eight decades after disturbance, and potentially much longer.

Please, no new mineral exploration in the project area. There is already too much disturbance to these lands. They need to heal. They are doing a good job of restoring themselves. They do not need your help. And they certainly do not need more disturbance.

"We anticipate some even-aged regeneration harvest openings greater than 40 acres." (BNF scoping letter) Please allow no Clearcutting and certainly no clearcuts over 5 acres. Please see this study that shows regeneration is not guaranteed with our changing climate. https://www.eurekalert.org/pub_releases/2017-12/tuom-sfr121317.php and this includes all treatments that take far too many trees such as seed tree, leave tree, and intermediate cut. Trees are too precious and once they are gone they are gone. At least with fire loss (if we don't damage the area with salvage logging) there is still carbon stored in the soil and char, seral forest processes, and carbon stored in the snags. We lose only 5-15% of carbon in a fire but 100% in a clearcut or similar treatment not to mention the compaction of soil and loss of thermal cover.

Information disclosing BNF recent regeneration failures after logging and fires and the factors that caused them must be disclosed to the public. Also, the time required to regenerate should be discussed in the context of the timing of increasing challenge to regeneration caused by increasing climate change impacts. It is quite possible that projected regeneration may be precluded by climate change.

If you want to create open areas, let fire return to the landscape and prepare home owners by working in the true CPZ as defined by Jack Cohen ¼ mile from structures. See https://www.fs.usda.gov/treesearch/pubs/5603. This is where money is well spent see this article on the economics of defensible space. http://nreconomics.com/reports/2018-04-28_EnvNow_Report.pdf

Please Disclose the chances of a thinning project actually affecting an area of fire. Listen to your own admission in GB that thinning will ONLY REDUCE FIRE UNDER NORMAL Weather CONDITIONS: Stand replacing fires DO NOT happen under normal weather. They happen due to extreme weather conditions. Activities such as logging, thinning, and road building (even temporary roads), each of which is being proposed as part of this project, have been shown to increase not reduce the severity of subsequent wildfires. Failure to address current best available science causes a misrepresentation of the actual impacts of the proposed project which would lead to effects much different from what the BNF claims.

The fact, that during the past 129 years only ~4% of the Forest burned one or more times, was determined by climactic conditions which existed during that period. The claim that more of the Forest "should have burned one or more times" during that period is subjective and is used by the BNF to justify more logging. Logging to supposedly protect homes has little chance of being effective. Studies show that logging and road building exacerbates fire intensity. See https://www.ncbi.nlm.nih.gov/pubmed/21049874 This article shows that unlogged, fire suppressed areas are less prone to high severity fire and insect infestations.

I oppose "aspen release" except as it occurs from wildfire. Stream buffers should be upheld, no "aspen release" creek buffer exceptions as happened in Lost Horse.

Some parts of this project area have spectacular stands of old-growth that is home to many species including birds. There are at least two bald eagle territories and several of their nest sites are in the project area. Cavity nesting waterfowl also nest in these big pines up to over 1/4 mile away from the reservoir and river. Osprey nest each year in the project area. We see Ospreys on refuges and private lands, there nest sites are rare on BNF lands. Care must be taken to not damage or destroy their nest trees and surrounding vicinity. In the Westside project, FS built a road right by a goshawk nest. The goshawk was quite regular to this site, but has not been seen

since the project. When the roads were changed in answer to a lawsuit, the new road when right through a nesting site. Please be more cognizant of birds and nesting sites. Their numbers are dwindling.

Native American ancient sites are documented in the project area and it is possible there are more. A thorough survey should be completed by archeologists and tribes should be consulted concerning plans to build roads and log this area. This is yet another reason to reveal your plans to the public. They have lots of knowledge and experience in the area.

Sale administration and monitoring must be thorough. A mountain if issues and violations occurred in the Westside. FS needs to be on top of and check project areas regularly.

More on the ground field work needs to be done, not modelling. Modeling can serve a purpose but it must not be the only thing you use to make decisions. There is nothing that compares to the accuracy of on the ground research and survey work. Modelling said an area in the WS was not old growth, but a thorough study on the ground (not just a “walk through”) would have revealed the richness of this area for songbirds and other OG dependent species. Very little is left for them in the area which has not been heavily logged and clear cut.

Please also use field biologists to survey the area for endangered species, species of concern and other indicator species.

Please do a detailed analysis of the effects on grizzly bears. This area is adjacent to the Bitterroot Ecosystem and is a corridor for the bears to enter the abundant food sources the BE has to offer.

In conclusion, this project must be thoroughly analyzed in an EIS to comply with NEPA. It must also reveal details to the public so they can make substantive comments.

Thanks for considering my comments.

Michele Dieterich