



VIA Email: <https://www.fs.usda.gov/project/?project=54817>

October 28, 2020

Chandra Neils
St Joe Ranger District
222 S. 7th St, Suite 1
St Maries, ID 83861

Dear Chandra:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to comment on the Draft EA for the Emerald Project.

AFRC is a regional trade association whose purpose is to advocate for sustained yield timber harvests on public timberlands throughout the West to enhance forest health and resistance to fire, insects, and disease. We do this by promoting active management to attain productive public forests, protect adjoining private forests, and assure community stability. We work to improve federal and state laws, regulations, policies and decisions regarding access to and management of public forest lands and protection of all forest lands. Many of our members have their operations in communities within and adjacent to the Idaho Panhandle National Forest and management on these lands ultimately dictates not only the viability of their businesses, but also the economic health of the communities themselves.

The St. Joe Ranger District is designing a vegetation and hazardous fuels management project covering 21,627 acres located primarily within the Emerald Creek drainage. The project area is located within Latah County, but extends slightly into Shoshone County West of Clarkia, Idaho. The Emerald Project will be carried out in accordance with Title VI, section 602 (d). This HFRA section provides for expedited NEPA reviews, pre-decisional objection review, and guidance on judicial review. AFRC provided scoping comments on this Project on October 17, 2018 and many of our comments may be based on that letter and the development of the Project since the time of scoping.

In our scoping letter we concurred with the Purpose and Need for the Project which includes:

- Improvement of forest health and increased vegetation resilience through vegetation treatments including: regeneration timber harvest with associated road construction and tree planting, individual tree removal operations within the Emerald Creek Campground.
- Fuel reduction treatments in and around the Wildland Urban Interface (WUI) and prescribed burning within harvest units.
- Roads management and watershed improvement.
- Contributing to local economies by providing forest products and employment.

While AFRC supports the Project, we offer these comments which may improve the Project. These comments are not intended to criticize the St. Joe District and we appreciate how much this Project will mean to our members and to the surrounding communities and counties that depend on the National Forest for their livelihood. AFRC believes and strongly suggests that the Project could be enlarged to treat more of the landscape commercially bringing more benefits to all of the resources found in the Project area.

1. AFRC is very disappointed that the District has reduced the proposed acres to be treated using commercial logging. The first table is from the scoping documents indicating 4,228 acres of commercial treatment. The second table below from the Draft EA indicates 2,518 acres of commercial treatment. This is a reduction of 1,710 acres or over 1/3 of the acres initially proposed in the Project.

Treatment Acres Proposed in Scoping

Silvicultural Treatment	Acres
Regeneration Harvest Prescriptions	4,210
Select Tree Harvest	18
Intermediate Harvest Prescriptions	N/A
Commercial Thinning	N/A
Total Commercial Harvest	4,228
Fuel Break	101
Total Treatment	4,329

Table 1: Unit Prescriptions

Treatment Acres Proposed in Draft EA

Table 1. Approximate treatment acres by treatment type and/or logging system

Prescription/Treatment	System	Acres
Regeneration Harvest	Ground	696
Regeneration Harvest	Cable	747
Regeneration Harvest	Track Line Machine	1,035
<i>Total Regeneration Harvest</i>		<i>2,478</i>
<i>Total Intermediate Harvest</i>		<i>30</i>
<i>Total Pre-Commercial Thinning and Pruning</i>		<i>32</i>
<i>Total Aspen Stand Enhancement</i>		<i>12</i>
<i>Total Fuel Reduction Treatments</i>		<i>188</i>
TOTAL TREATMENT ACRES		2741

In our scoping we commented that “AFRC believes the Forest should look at all opportunities to treat the stands instead of just the 20% that you have initially identified. Treating more acres will better meet the purpose and need for this project including contributing more to local economies by providing forest products and employment.”

There are many reasons for treating more acres in this Project area including economies of scale for getting as many acres treated as possible when completing an expensive EA. Second, AFRC does not believe that the Forest can fulfill three of the Purpose and Need elements for the Project by treating so few acres. The Forest is not:

A. Doing the maximum to improve Forest health through vegetation treatments.

Table 3. Changes in species composition: desired versus existing, warm moist biophysical setting, the project area and treatment units¹

Dominance Group Composition	White Pine	Western Larch	Ponderosa Pine	Grand Fir/Western Hemlock/ Western Red Cedar	Douglas Fir	Lodgepole Pine	Subalpine Fir Mix
Desired DG percentages warm moist Biophysical setting	30-60%	10-21%	6-10%	6-12%	12-25%	3-5%	10-20%
Existing DG percentages for the project area ²	3%	3%	0.1%	67%	19%	8%	>1%
Existing DGs percentages for the treatment units ²	>1%	4%	0.2%	75%	16%	4%	>1%

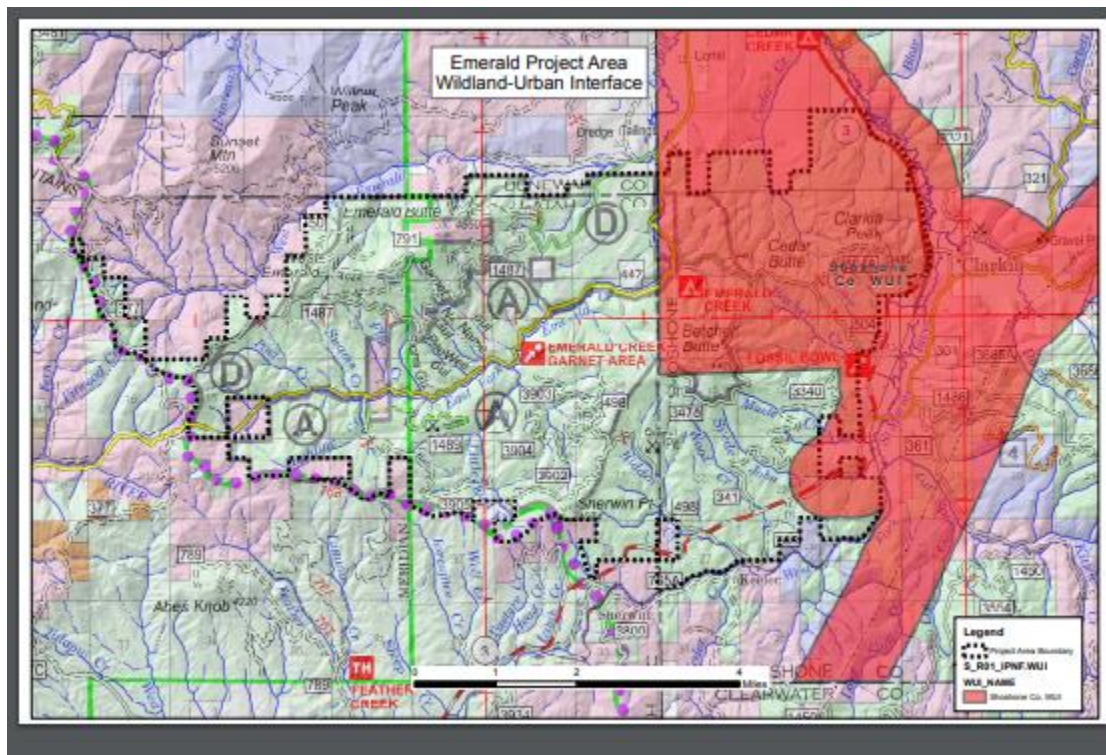
¹ Data for warm moist biophysical setting Percentages was derived from the IPNF Forest Plan FEIS (page 94).

² Data for Project Area Percentages was derived from stand exam data, Lidar, V-Map, walk through exam and Timber Stand Management Record System (TSMRS).

The table above shows how far out of balance the desired vs. existing species composition is for the Project area. AFRC does not believe the Forest will achieve the Purpose and Need by only treating only 13% of the Project area.

B. Completing necessary fuels reduction work within the WUI and especially around the community of Clarkia.

AFRC is concerned that an in-depth analysis of what treatments are needed within the WUI was deferred. The map below shows the Shoshone County WUI in red. This is a considerable amount of the WUI identified in the Project area on the west side of proposed treatment area. That includes several miles WUI boundaries that are within the Project boundary.



AFRC feels the Forest should put treatment units that abut the WUI throughout the Project area and should thin the Forest to wide spacings leaving only 40 sq. ft. of basal area in those units. Another map in the supporting documents show the potential for crowning fires and this overlaps the WUI. AFRC also supports shaded fuel breaks along major roadways and believes this would be a good tool to use in the WUI. These fuel breaks could provide good safety for ingress and egress to the rural communities and residents found in the Project area.

C. Contributing the maximum potential to local economies by providing forest products and employment.

Regarding the last point, AFRC provided specific reasoning in our scoping document as to why harvesting a higher volume of timber is economically important. The National Forests in Idaho are very important for providing the raw materials that sawmills within the State need to operate. The timber products provided by the Forest Service are crucial to the health of our membership. Without the raw material sold by the Forest Service these mills would be unable to produce the amount of wood products that the citizens of this country demand. Specifically, studies in Idaho have shown that 18 direct and indirect jobs are created for every one million board feet of timber harvested. Without this material, our members would also be unable to run their mills at capacities that keep their employees working, which is crucial to the health of the communities that they operate in. These benefits can only be realized if the Forest Service sells their timber products through sales that are economically viable. This viability is tied to both the volume and type of timber products sold and the manner in which these products are permitted to be delivered from the forest to the mills. There are many ways to design a timber sale that allows a purchaser the ability to deliver

logs to their mill in an efficient manner while also adhering to the necessary practices that are designed to protect the environmental resources present on Forest Service forestland.

AFRC has reviewed the work in the Economic Section of the Draft EA which states that “*A financial efficiency analysis showed that the proposed activities would result in viable timber sales that would provide about 63 million board feet of timber (125,810 CCF) with a present net value of about \$203,000. When accounting for all project activities both related to the timber sale and other restoration activities, the present net value of the project is about (\$39,000). The project is expected to create or maintain 59 jobs and \$5.4 million in labor income on an annual average basis.*” First, while AFRC very much appreciates that the Forest could generate as much as 63 mmbf from the Project, we believe the economic impacts could be understated if in fact 18 jobs are created per 1 mmbf of timber harvested. Second, with this positive economic analysis and yielding positive dollars above the restoration work that will be done— we feel more acres should have been treated to further make the Project more economical.

2. AFRC is very disappointed that the Forest did not consider an additional alternative of commercially treating more acres as AFRC suggested. The only additional alternative considered was “*An alternative with no new permanent system road construction was originally developed by the interdisciplinary team and later suggested during project scoping. When considered, it was found to not meet the forest health needs of the project area because it would severely limit the amount of treatment that would occur.*”

There was no documentation regarding if the Forest looked at treating more acres as AFRC suggested by revisiting stand exams and other information. There was no reasoning provided as to why the Forest reduced the treatment acres by over 1/3 of the original estimated mechanical treatment acres. In fact your documentation states that “*The Proposed Action would reduce, mitigate and slow the spread of insect damage and disease within stands. It has been determined that none of the effects of these actions would adversely impact the effects on forest composition, forest structure, or patch size caused by the Proposed Action.*” If these treatments reduce, mitigate, and slow the spread of insect damage and disease and do not result in any adverse impacts on Forest resources, then why are treatment acres being reduced?

3. AFRC voiced our support earlier for creating openings larger than 40 acres. In the Draft EA the Forest points out there is a need to regenerate portions or all of the stands of essentially pure Douglas-fir and grand fir due to the prevalence of root disease. Further as stated in the scoping document “*An intermediate harvest would exacerbate root disease effects (through buildup in the stumps and root systems of the pathogens that cause root disease), lead to heavy blowdown, and encourage advanced regeneration of grand fir and Douglas-fir.*” Regeneration harvest is also an integral component of a vegetation management program that strives to ensure a sustainable supply of timber products. AFRC supports a forest plan amendment requesting the use of openings larger than 40 acres.

These larger openings will also help to trend this area towards the vegetative desired conditions providing a mosaic of age classes. Hardwood, shrub, and grass species are important sources of high-quality forage for deer and elk as they prepare for winter, over winter, and in the spring as they begin to replenish lost body mass from the previous winter.

This proposal would retain and enhance aspen and provide valuable forage by reinvigorating existing shrub and grass communities making them more palatable and nutritious for big game species and other terrestrial wildlife. A good amount of documentation was included in the Draft EA regarding the need to enhance elk forage. The Forest has done a good job of utilizing regeneration harvests in the Project area, however AFRC believes more of these treatment acres should have been included.

4. There are many ways to design a timber sale that allows a purchaser the ability to deliver logs to their mill in an efficient manner while also adhering to the necessary practices that are designed to protect the environmental resources present on Forest Service forestland. The primary issues affecting the ability of our members to feasibly deliver logs to their mills are firm operating restrictions. As stated above, we understand that the Forest Service must take necessary precautions to protect their resources; however, we believe that in many cases there are conditions that exist on the ground that are not in step with many of the restrictions described in Forest Service EA's and contracts (i.e. dry conditions during wet season, wet conditions during dry season).

We would like the Forest Service to shift their methods for protecting resources from that of firm prescriptive restrictions to one that focuses on descriptive end-results; in other words, describe what you would like the end result to be rather than prescribing how to get there. There are a variety of operators that work in the Idaho Panhandle National Forest market area with a variety of skills and equipment. Developing an EA contract that firmly describes how any given unit shall be logged may inherently limit the abilities of certain operators. For example, restricting certain types of ground-based equipment rather than describing what condition the soils should be at the end of the contract period unnecessarily limits the ability of certain operators to complete a sale in an appropriate manner with the proper and cautious use of their equipment. To address this issue, we would like to see flexibility in the EA contract to allow a variety of equipment to the sale areas. We feel that there are several ways to properly harvest any piece of ground, and certain restrictive language can limit some potential operators. Though some of the proposal area may be planned for cable harvest, there are may be opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. While we appreciate the language mentioning ground skidding may take place on slopes over 35% if approved, we would like the Forest to allow ground based equipment to operate on slopes up to 45%. Allowing the use of processors and fellerbunchers throughout these units can greatly increase its economic viability, and in some cases decrease disturbance by decreasing the amount of cable corridors, reduce damage to the residual stand and provide a more even distribution of woody debris following harvest. Tethered-assist equipment is also becoming a more viable and available option for felling and yarding on steep slopes.

This equipment has shown to contribute little additional ground disturbance when compared to traditional cable systems. Please prepare your NEPA analysis documents in a manner that will facilitate this type of equipment.

Finally, AFRC would like the Forest to examine the days that operations and haul are shut down due to hunting seasons and other outdoor recreation. The logging community has a limited operating time at best, and further reductions such as these only makes surviving in the logging business that much more difficult.

5. The Emerald road plan calls for placing approximately 8.4 miles of existing system roads into storage to improve water quality, wildlife habitat, and/or other resource values and decommissioning approximately 2.5 miles of existing system roads to improve water quality, wildlife habitat, and/or other resource values. AFRC believes that a significant factor contributing to increased fire activity in the region is the decreasing road access to our federal lands. This factor is often overshadowed by both climate change and fuels accumulation when the topic of wildfire is discussed in public forums. However, we believe that a deteriorating road infrastructure has also significantly contributed to recent spikes in wildfires. This deterioration has been a result of both reduced funding for road maintenance and the federal agency's subsequent direction to reduce their overall road networks to align with this reduced funding. The outcome is a forested landscape that is increasingly inaccessible to fire suppression agencies due to road decommissioning and/or road abandonment. This inaccessibility complicates and delays the ability of firefighters to quickly and directly attack nascent fires. On the other hand, an intact and well maintained road system would facilitate a scenario where firefighters can rapidly access fires and initiate direct attack in a more safe and effective manner.

If the Forest Service proposes to decommission, abandon or obliterate road segments from the Emerald Project area we would like to see the analysis consider potential adverse impacts to fire suppression efforts due to the reduced access caused by the reduction in the road network. We believe that this road network reduction would decrease access to wildland areas and hamper opportunities for firefighters to quickly respond and suppress fires. On the other hand, additional and improved roads will enable fire fighters quicker and safer access to suppress any fires that are ignited.

We would like the District to carefully consider the following three factors when making a decision to decommission any road in the project area:

- Determination of any potential resource risk related to a road segment.
- Determination of the access value provided by a road segment.
- Determination of whether the resource risk outweighs the access value (for timber management and other resource needs).

We believe that only those road segments where resource risk outweighs access value should be considered for decommissioning.

6. A good portion of the supporting documents contain reviews of stream sedimentation and other possible impacts to stream temperatures, turbidity etc. With this in mind we would like the Forest to consider that it has been well documented that thinning in riparian areas accelerates the stand's trajectory to produce large conifer trees and has minimal effect on stream temperature with adequate buffers. Removal of suppressed trees has an insignificant short-term effect on down wood, and ultimately a positive effect on long-term creation of large down woody debris and large in stream wood, which is what provides the real benefit to wildlife and stream health. We encourage the Forest Service to focus their riparian reserve treatments on a variety of native habitats. We encourage the St. Joe District to look for ways to incorporate treatments that meet those needs. Utilization of gap cuts to promote early seral habitat in the reserves, treatments to diversify all areas of the reserve, and prescriptions that account for the full range of objectives should be considered.

The tradeoffs that the Forest Service will likely be considering through the ensuing environmental analysis will be between achieving these forest health benefits and potentially having adverse impacts to streams. These impacts to streams typically include stream temperature, wood recruitment, and sedimentation associated with active management. We would like the Forest Service to review the literature cited below and incorporate its findings into your environmental analysis that will shape the level of management permitted to occur in riparian reserves.

Stream temperature

Janisch, Jack E., Wondzell, Steven M., Ehinger, William J. 2012. Headwater stream temperature: Interpreting response after logging, with and without riparian buffers, Washington, USA. *Forest Ecology and Management*, 270, 302-313.

Key points of the Janisch paper include:

- The amount of canopy cover retained in the riparian buffer was not a strong explanatory variable to stream temperature.
- Very small headwater streams may be fundamentally different than many larger streams because factors other than shade from the overstory tree canopy can have sufficient influence on stream temperature.

Anderson P.D., Larson D.J., Chan, S.S. 2007 Riparian Buffer and Density Management Influences on Microclimate of Young Headwater Forests of Western Oregon. *Forest Science*, 53(2):254-269.

Key points of the Anderson paper include:

- With no-harvest buffers of 15 meters (49 feet), maximum air temperature above stream centers was less than one-degree Celsius greater than for unthinned stands.

Riparian reserve gaps

Warren, Dana R., Keeton, William S., Bechtold, Heather A., Rosi-Marshall, Emma J. 2013. Comparing streambed light availability and canopy cover in streams with old-growth versus early-mature riparian forests in western Oregon. *Aquatic Sciences* 75:547-558.

Key points of the Warren paper include:

- Canopy gaps were particularly important in creating variable light within and between reaches.
- Reaches with complex old growth riparian forests had frequent canopy gaps which led to greater stream light availability compared to adjacent reaches with simpler second growth riparian forests.

Wood Recruitment

Burton, Julia I., Olson, Deanna H., and Puettmann, Klaus J. 2016. Effects of riparian buffer width on wood loading in headwater streams after repeated forest thinning. *Forest Ecology and Management*. 372 (2016) 247-257.

Key points of the Burton paper include:

- Wood volume in early stages of decay was higher in stream reaches with a narrow 6meter buffer than in stream reaches with larger 15- and 70-meter buffers and in unthinned reference units.
- 82% of sourced wood in early stages of decay originated from within 15 meters of streams.

Sedimentation

Rashin, E., C. Clishe, A. Loch and J. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association*. Paper No. 01162

Key points of the Rashin paper include:

- Vegetated buffers that are greater than 33 feet in width have been shown to be effective at trapping and storing sediment.

Collectively, we believe that this literature suggests that there exists a declining rate of returns for “protective” measures such as no-cut buffers beyond 30-40 feet. Resource values such as thermal regulation and coarse wood recruitment begin to diminish in scale as no-cut buffers become much larger. We believe that the benefits in forest health achieved through density management will greatly outweigh the potential minor tradeoffs in stream temperature and wood recruitment, based on this scientific literature. We urge the Forest Service to establish no-cut buffers along streams no larger than 40 feet and maximize forest health outcomes beyond this buffer.

The links to the studies mentioned above are listed below for reference.

Janisch paper on stream temps:

<https://www.sciencedirect.com/science/article/abs/pii/S037811271100782>

Dana Warren paper on light into the stream beds:

https://www.researchgate.net/publication/311850456_Long-term_effects_of_riparian_forest_harvest_on_light_in_Pacific_Northwest_USA_streams

Julie Burton Paper on headwater widths and wood recruitment:
<https://www.semanticscholar.org/paper/Effects-of-riparian-buffer-width-onwood-loading-in-Burton-Olson/13c41421e2b6bf5eca847c4fb557235f3411127f>

Edward Rashin article on Effectiveness of timber harvest practices for controlling sediment related water quality impacts:
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1752-1688.2006.tb05303.x>

7. The Forest also has a section of climate in the supporting documents. AFRC would like to encourage the St. Joe District to consider several documents related to carbon sequestration and related forest management.

McCauley, Lisa A., Robles, Marcos D., Wooley, Travis, Marshall, Robert M., Kretchun, Alec, Gori, David F. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. *Ecological Applications*, 0(0), 2019, e01979.

Key points of the McCauley paper include:

- a. Modeling scenarios showed early decreases in ecosystem carbon due to initial thinning/prescribed fire treatments, but total ecosystem carbon increased by 9– 18% when compared to no harvest by the end of the simulation.
- b. This modeled scenario of increased carbon storage equated to the removal of carbon emissions from 55,000 to 110,000 passenger vehicles per year until the end of the century.
- c. Results demonstrated that large-scale forest restoration can increase the potential for carbon storage and stability and those benefits could increase as the pace of restoration accelerates.

We believe that this study supports the notion that timber harvest and fuels reduction practices collectively increase the overall carbon sequestration capability of any given acre of forest land and, in the long term, generate net benefits toward climate change mitigation.

Gray, A. N., T. R. Whittier, and M. E. Harmon. 2016. Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity. *Ecosphere* 7(1):e01224.10.1002/ecs2.1224

Key points of the Gray paper include:

- a. Although large trees accumulated C at a faster rate than small trees on an individual basis, their contribution to C accumulation rates was smaller on an area basis, and their importance relative to small trees declined in older stands compared to younger stands.
- b. Old-growth and large trees are important C stocks, but they play a minor role in additional C accumulation.

We believe that this study supports the notion that, if the role of forests in the fight against climate change is to reduce global greenhouse gasses through maximizing the sequestration of carbon from atmospheric CO₂, then increasing the acreage of young, fast growing small trees is the most prudent management approach.

Links to the above mentioned studies can be found at:

Lisa McCauley article on large scale forest restoration stabilizes carbon:
<https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/eap.1979>

Andrew Gray article on Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity:
<https://www.fs.usda.gov/treearch/pubs/52237>

Thank you for the opportunity to provide comments on the Emerald Project Draft EA. I look forward to following the implementation of this project as it moves forward.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tom Partin". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

Tom Partin
AFRC Consultant
921 SW Cheltenham Street
Portland, Oregon 97239