June 8, 2022

Character Fire Salvage Project
Coeur d'Alene River Ranger District
2502 East Sherman Avenue
Coeur d'Alene, ID 8381

Dear Project Leader:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to provide Draft EA comments on the Character Fire Salvage 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.

These Draft EA comments will supplement the scoping comments that AFRC submitted on December 3, 2021. The Character Fire Complex burned approximately 12,400 acres on the Coeur d'Alene River Ranger District. Fires in the Complex burned with varying severity, leaving a mosaic of burn patterns that ranged from unburned timber stands, rock outcrops, and riparian areas, to areas where tree crowns were completely consumed. The intensity of the ground fire is a critical factor that should inform the salvage of the impacted timber. The District discovered that although some trees currently appear to be alive as crowns were not burned, many of those trees are actually dying as a result of extensive root damage caused by the intense heat generated by the wildfire as it consumed the extremely dry fuels on the forest floor. Please consider root and bole damage in addition to crown scorch as you determine which trees to salvage. Adding urgency to getting these dead trees removed is the fact that most of the existing timber stands in the project area are comprised of primarily western hemlock and grand fir tree species which are easily damaged and/or killed by low to moderate severity fires due to thin bark

and shallow roots, low rates of survival are expected throughout the fire area. These tree species also deteriorate very quickly once dead, and they should be salvaged quickly.

AFRC is pleased that the Forest considered the Grizzly fire which burnt in 2015 and had similar vegetation. They found continued mortality from trees that had their roots scorched but were not salvaged. This would point out the need to do a heavy salvage of trees that had their roots burnt to capture the value of those trees now and remove the impending danger.

AFRC supports the three Purpose and Needs for the Project which includes:

- Recover economic value of forest products in a timely manner to contribute to employment and income in local communities and avoid loss of commodity value.
- Reduce hazards threatening human health and safety.
- Re-establish forested conditions and/or facilitate recovery to meet management objectives outlined in the Forest Plan.

While AFRC supports the Purpose and Need for the Project and the overall goals of salvage, we offer the following comments which we believe will support and enhance the Project.

1. AFRC supports the Forest requesting an emergency situation determination (ESD) from the Chief of the Forest Service. 36 CFR 218.21(b) defines an emergency situation as "a situation on National Forest System (NFS) lands for which immediate implementation of a decision is necessary to achieve one or more of the following: (1) relief from hazards threatening human health and safety; (2) mitigation of threats to natural resources on NFS or adjacent lands; (3) avoiding a loss of commodity value sufficient to jeopardize the agency's ability to accomplish project objectives directly related to resource protection or restoration." AFRC believes the Character fire and the resulting impacts meets all three criteria.

   We also understand that if the ESD is granted, the 90-day pre-decisional administrative review process commonly referred to as the 218-objection process would be waived and this current 30-day comment period that ends on June 13th would be the last opportunity to engage with the Forest Service prior to a decision.

   We support the use of an ESD as a means to expediting the removal of fire damaged timber in a manner that will capture volume prior to deterioration. Table 1 below illustrates that by obtaining an ESD an additional 9 mmbf of merchantable timber may be recovered.

Table 1. Appraisal values, volume, number of sales and acres treated with and without an ESD.

	With an ESD	Without an ESD
Number of sales	2 sales	2 sales
Estimated volume	48,246 ccf[1] (26 mmbf[2])	32,228 ccf (17 mmbf)
Estimated advertised sale value (funds generated)	$144,735	$96,684
Reforestation costs (3,049 acres)[3]	$1,953,280	$1,953,280
Fuels treatment costs (3,049 acres)	$76,300	$76,300

2. AFRC is pleased to see the Forest recognize that the timing of the salvage harvest, fuels reduction, and hazard tree removal is critical and should begin in the summer of 2022 and be completed within two years with tree planting continuing into the future for approximately five years. Fuels and hazard tree removal would be ongoing for approximately ten years or more. We also support the removal of dead and dying trees from approximately 3,049 acres (which is down from 3,200 acres in the scoping document) through commercial salvage logging, all within the fire perimeter. This represents approximately 26 percent of the total fire area within the Character Complex fire perimeter.

   This timeframe should be adequate for capturing the economic value of the burnt trees. Even though commercial logging will be conducted on 151 acres less that originally planned, we hope that the Project will provide approximately 26 mmbf of sawlogs to the local industry that depends on the Idaho Panhandle National Forest for their raw materials by making sure ALL of the dead and dying is removed. 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.

3. AFRC appreciates the effort to ensure this Project was economically feasible. Due to the projected lower economic value of burned trees, expensive logging methods such as helicopter yarding are not economically feasible and will not be considered. In the units that have gentle topography, the salvaged trees would be cut and removed using ground-based mechanized equipment such as feller-bunchers, harvesters and skidders, or with limited hand-felling. Units with steeper topography would be harvested using skyline or cable-assisted yarding systems.

   We would also like to point out that the viability of a timber sale 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. Currently the Forest is planning about 20% of the area to be ground based skidded and 80% would be skidded using cable or tethered logging systems. With cable logging being so heavily relied on, making sure that only merchantable timber is required for removal will be critical to success.

AFRC would like to remind the Forest that 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 Coeur d'Alene market area with a variety of skills and equipment. Developing an EA and 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 and 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 is planned for cable harvest, there are opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. 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, safe, and available option for felling and yarding on steep slopes. This equipment has shown to contribute negligible ground disturbance when compared to traditional cable systems. Please prepare your NEPA analysis documents in a manner that will facilitate this type of equipment.

4. AFRC supports the Forest's decision to conduct salvage work in Management Area 2b which are river segments that have been classified as eligible for "Recreation" designation under the Wild and Scenic Rivers System described in the Forest Plan. The Forest Plan states that "Timber harvest is allowed to maintain or restore the values for which the recreation river was identified. Since much of the recreational value was destroyed, timber harvest should be allowed to help restore those values. Salvage activities are proposed on approximately 27% (100 acres) of the MA2b acres that were affected by the fire. The intent of the salvage activity and subsequent tree planting within the recreational river corridor is to capture the economic value of the dead and dying

timber, reduce the amount of natural regeneration of shade-tolerant conifers, and enhance the establishment and long-term development of western larch, white pine, and hardwood regeneration

5. AFRC is very pleased to see that the restoration plan for the burned area includes 4,394 acres of tree planting. AFRC and our members are interested in the long-term viability of the forest and hence our member companies. A big part of that viability is ensuring that we have healthy well stocked stands for the future.

6. A good portion of the salvage work is in the Wildland Urban Interface (WUI) which AFRC believes is necessary (approximately 60 percent of the project area). Under the proposed action, approximately 72 percent of the total proposed vegetation treatments would occur within the WUI. The proposed regeneration harvests would create large openings (greater than 40 acres in size) within project area, resulting in a mosaic pattern where fuel continuity and extreme fire behavior is reduced.

7. Currently, it is estimated that approximately 10 miles of temporary road construction would be needed; however, roads in the area are still being assessed, and additional miles of temporary road construction may be identified during project development. AFRC supports the construction of those temporary roads. We also support actions that at the completion of their intended use, temporary roads would be decompacted, recontoured to the approximate shape of the surrounding terrain, and seeded or covered with debris to prevent erosion and unauthorized use, and to accelerate hydrologic and vegetative recovery.

8. There is a large section in the Draft EA that speaks to how salvage and management impacts water quality. The proposed action is designed to protect water quality and the beneficial uses of water and to maintain the integrity of streams using riparian areas, design criteria, and best management practices. Sediment delivery from timber harvest and site preparation activities could increase slightly for up to three years following project activities but would be undetectable at the watershed scale and have a negligible effect on water quality. The effects of salvage harvest activities can be very difficult to disentangle from the effects of the wildfire. This is further confounded by the addition of logging slash to ground-based harvest units and skid trails which can provide cover and roughness that at least partially offsets the erosive effects of heavy equipment use and log yarding (Robichaud et al. 2020).

   Road maintenance, reconditioning, and reconstruction activities would reduce sediment delivery to streams by 2.6 tons per year in the long term by improving driving surfaces and road drainage and disconnecting roads from streams. Sediment delivery from haul would be concentrated around stream crossings and short-term in its effects. In the long term, there would be a reduction in sediment delivery from reforestation and the implementation of best management practices which would have a slightly beneficial effect on water quality.

AFRC would like to add that in addition to the findings above, we feel it is important that the Forest Service consider all available scientific literature related to both action and inaction following wildfire to enable the decision-maker the ability to assess the tradeoffs of a.) conducting timber salvage; and b.) not conducting timber salvage. We would like the Forest Service to review the literature cited below and incorporate its findings into your environmental analysis.

Hydrology

Cole RP, Bladon, KD, Wagenbrenner, JW, Coe Drew B.R. Hillslope sediment production after wildfire and post-fire forest management in northern California. *Hydrological Processes.* 2020;1-18

Key points/findings of the Cole paper include:

- Sediment yields two years following the fire event were highest in areas that did ***not*** include timber salvage.
- Sediment yields were lower on areas that were salvaged.
- Post-fire management resulted in lower rates of erosion and sediment delivery.

Niemeyer RJ, Bladon KD, Woodsmith, RD. Long-term hydrological recovery after wildfire and post-fire forest management in the interior Pacific Northwest. *Hydrological Processes.* 2020;1-16.

Key points/findings of the Niemeyer paper include:

- Spikes in streamflow and runoff recovered more quickly on timber salvaged areas than on areas not salvaged.
- Post fire land management strategies, including timber salvage, may have increased the rate of hydrologic recovery in the long term when compared to unmanaged areas.

Robichaud PR, Lewis SA, Brown RE, Bone ED, Brooks ES. Evaluating post-wildfire logging-slash cover treatment to reduce hillslope erosion after salvage logging using ground measurements and remote sensing. *Hydrological Processes.* 2020;1–15.

Key points/findings of the Robichaud paper include:

- Logging slash applied at a rate to achieve a mean ground cover >60% was found to be an effective treatment to reduce post-salvage runoff and soil erosion.

Reforestation

Sessions, J, Bettinger P, Buckman R, Newton M, Hamann J. Hastening the return of complex forests following fire; the consequences of delay. *Journal of Forestry.* April/May 2004, pp 38-45.

Key points/findings of the Sessions paper include:

- Timber salvage can assist in the hastening of complex mature conifer forests on burnt landscapes.
- Delays in effective timber salvage could destine much of the most intensely burned areas to cycles of shrubs, hardwoods, and recurring fires for many decades.

Hazardous Fuels

Peterson, David W, Dodson, Erich K, Harrod, Richy J. Post-fire logging reduces surface woody fuels up to four decades following wildfire. *Forest Ecology and Management.* 338 (2015) 84-91.

Key points/findings of the Peterson paper include:

- Post fire logging can significantly reduce future surface woody fuel levels in forests regenerating following wildfires.

9. AFRC would also like to once again stress as we did in our scoping letter the importance of removing all potential danger trees along travel routes with the burned area.

   Copied below is a figure that illustrates a potential failure zone for danger trees *from "A Guide to Identifying, Assessing, and Managing Hazard Trees in Developed Recreational Sites of the Northern Rocky Mountains and the Intermountain West."* This Guide should be used for designation of danger trees following wildfire, especially along National Forest Roads.

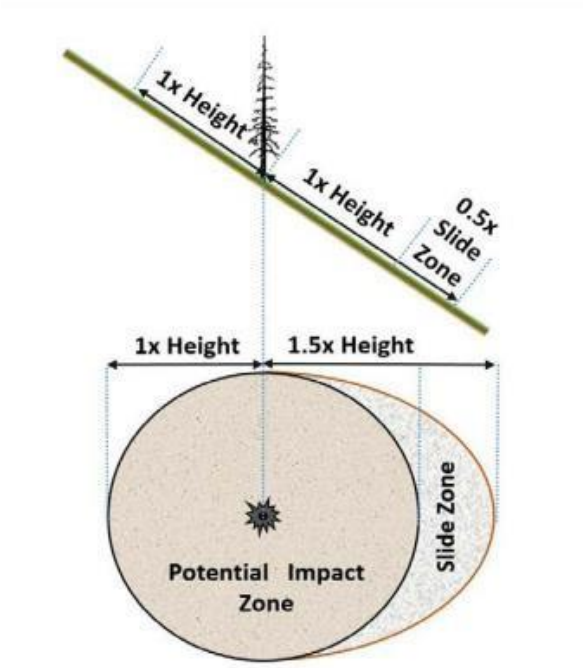

Figure 2. The Potential Impact Zone (PIZ) for a whole tree on a slope is calculated as a circle with a radius equal to the height of the tree plus a "slide zone" to account for a tree's sliding, rolling, or bouncing. Here, maximum PIZ with slide zone is shown as 1.5 times tree height, but larger or smaller slide zones may be appropriate (see text).

Adequate documentation of the Guide for Danger-Tree Identification is advisable given the ongoing challenges by special interest groups against hazard tree removal. Recent court rulings have indicated some confusion regarding the use of the Guide to identify hazard trees that have potential to impact roads. In particular, there have been questions regarding whether a specific tree poses an "imminent" hazard. Therefore, we recommend that you highlight and outline certain components of your guidelines in the final Decision-Memo/Notice including:

- Sloping ground, whole straight tree as hazard: On sloping ground, the Potential Impact Zone (PIZ) may be extended downhill from the tree to a distance (the "slide zone") the evaluator deems necessary to protect people or property from a tree sliding, rolling or bouncing if it fails (Fig. 2). The evaluator needs to use judgement and account for steepness of slope, topographic features, and neighboring trees, but the PIZ is often extended to 1.5 times tree height of the downhill side for trees on moderately steep slopes.
- Thorough explanation of tree falling dynamics on level ground, including the effects of wind events, force of breakage, and how fallen trees may impact other nearby trees (causing broken tops, etc.)
- Thorough explanation of tree falling dynamics on sloped ground, including the likelihood of downslope trees falling uphill, and upslope trees falling downhill thus needing a 11/2 tree height safety zone.

Emphasis on how the Danger Tree Guidelines identify both the "Tree Failure Potential" and the "Potential Impact Zone." Specifically note that any given tree has a Failure Zone and describes how that failure zone is determined.

10. AFRC appreciates the fact that you considered our information regarding climate change and carbon.

In your report you referenced that carbon sequestration was programmatically analyzed in the Forest Plan FEIS (Forest Vegetation, in particular pp.91, 113-115). Meaningful and relevant conclusions on the effects of a relatively minor land management action (such as the Character Fire Salvage Project) on global greenhouse gas emissions or global climate change is neither possible nor warranted. The interdisciplinary team considered the literature provided (PF Doc: SC-016).

Again, AFRC believes that it would be useful to include that following references to carbon sequestration related to 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:

- 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.
- 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.
- 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:

- 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.

- 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.

Gustavsson, L., Madlener, R., Hoen, H.-F., Jungmeier, G., Karjalainen, T., KlÖhn, S., … Spelter, H. (2006). The Role of Wood Material for Greenhouse Gas Mitigation. Mitigation and Adaptation Strategies for Global Change, 11(5–6), 1097–1127.

Lippke, B., Oneil, E., Harrison, R., Skog, K., Gustavsson, L., Sathre, R. 2011 Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns, Carbon Management, 2:3, 303-333.

McKinley, D.C., Ryan, M.G., Birdsey, R.A., Giardina, C.P., Harmon, M.E., Heath, L.S., Houghton, R.A., Jackson, R.B., Morrison, J.F., Murray, B.C., Pataki, D.E., Skog, K.E. 2011. A synthesis of current knowledge on forests and carbon storage in the United States. Ecological Applications. 21(6): 1902-1924.

Skog, K.E., McKinley, D.C., Birdsey, R.A., Hines, S.J., Woodall, C.W., Reinhardt, E.D., Vose, J.M. 2014. Chapter 7: Managing Carbon. In: Climate Change and United States Forests, Advances in Global Change Research 57 2014; pp. 151-182.

AFRC strongly believes that in the absence of timber salvage the dead trees remaining on the landscape would decay over time, emitting carbon to the atmosphere. Conversely, the wood and fiber removed from the forest in this proposed action would be transferred to the wood products sector for a variety of uses, each of which has different effects on carbon (Skog et al. 2014). Carbon can be stored in wood products for a variable length of time, depending on the commodity produced. It can also be burned to produce heat or electrical energy or converted to liquid transportation fuels and chemicals that would otherwise come from fossil fuels. In addition, a substitution effect occurs when wood products are used in place of other products that emit more GHGs in manufacturing, such as concrete and steel (Gustavasson et al. 2006, Lippke et al. 2011, and McKinley et al. 2011). In fact, removing carbon from forests for human use can result in a lower net contribution of GHGs to the atmosphere than if the forest were not managed (McKinley et al. 2011, Bergman et al. 2014, and Skog et al. 2014). The IPCC recognizes wood and fiber as a renewable resource that can provide lasting climate-related mitigation benefits that can increase over time with active management (IPCC 2000). Furthermore, by reducing stand density, the proposed action may also reduce the risk of more severe disturbances, such as insect and disease outbreak and severe wildfires, which may result in lower forest carbon stocks and greater GHG emissions.

Thank you for the opportunity to provide Draft EA comments for the Character Fire Salvage Project. I look forward to following this Project as it moves to implementation in the coming months, and hopefully the Forest will be granted and ESD to expedite the Project.

Sincerely,

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