December 10, 2019

Okanogan-Wenatchee National Forest
Methow Valley Ranger District
C/o Eireann Pederson
24 west Chewuch Road
Winthrop, Washington 98862

Dear Eireann:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to comment on the Twisp Restoration 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 Okanogan-Wenatchee 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 Twisp Restoration Project is located in the north-central Cascades just west of the communities of Twisp and Winthrop. The analysis area covers 77,083 acres. The primary focus of the project is to restore watershed health and resiliency by returning fire to the landscape, improving wildlife habitat, and improving watershed function. This landscape needs a more proactive approach to forest management because a century of fire suppression has dramatically altered the health and natural balance of the forest. The 2018 Crescent Fire, 2015 Twisp River Fire and 2014 Little Bridge Creek Fires are the most recent reminders that now is the time to restore a forest that works for present and future generations. Forest conditions in the Twisp Restoration Project area need proactive management to restore the landscape to a wildfire resilient healthy and functioning condition. Approximately 55,000 acres of the total 77,083 acres (or approximately 71%) are under evaluation for commercial and noncommercial thinning prescriptions. Treatment types and intensity would depend on the underlying management direction and desired condition. Treatments within the late-successional reserve (LSR) and matrix may include both commercial and non-commercial thinning as part of a suite of forest health restoration tools.

The Forest has identified five needs for this project:

1. Protect and maintain high-functioning aquatic, riparian, and hydrologic resources for Threatened and Endangered aquatic species and restore areas impacted by past management. Increase watershed resiliency to existing and anticipated disturbances.
2. Modify vegetation structure, composition, and patterns to develop, maintain, or restore healthy, resilient stand structures in the project area that respond to disturbances in a resilient manner and are consistent with historic and future ranges of variability.
3. Protect, develop, and/or enhance late and old forest stands for wildlife species dependent on them and reduce the risk of large-scale habitat loss to fires by increasing resilience of habitats to wildfire. Maintain and enhance remaining lynx habitat to prevent further losses and keep this feature on the landscape. Protect remaining bitterbrush habitat on high-density mule deer winter range.
4. Modify the structure, composition, and patterns of forest stands within and adjacent to the wildland/urban interface (WUI) to reduce fire intensity and the risk of crown fire initiation and enable the use of more direct firefighting strategies to protect life and personal property. Reduce fire intensity along major access routes and ridges within and outside of the WUI to minimize the hazards of ingress/egress and provide effective suppression anchor points that limit fire spread during wildfires.
5. Provide a transportation system that is affordable, safe, and efficient for administration, public use, and protection of National Forest System (NFS) lands while also providing high quality recreation experiences and access for forest management. Reduce the risk to Forest visitors from trees categorized as "danger trees" along open NFS roads.

AFRC would like to go on record of strongly supporting the Twisp Restoration Project. The history of wildfire in the area and the dense fuels found in the project area need immediate treatment to prevent further wildfire disasters from happening. There is a high risk of damage to surrounding communities, decreased forest health within the stands of timber, and watershed degradation. While we support the project, we would like to offer the following comments that we feel will help to support and improve this project.

1. AFRC is glad to see the Methow Valley Ranger District proposing vegetation management on their Matrix lands that will likely provide useful timber products to our membership. Our members depend on a predictable and economical supply of timber products off Forest Service land to run their businesses and to provide useful wood products to the American public. This supply is important for present day needs but also important for future needs. This future need for timber products hinges on the types of treatments implemented by the Forest Service today. Of particular importance is how those treatments effect the long-term sustainability of the timber resources on Forest Service managed land. AFRC has voiced our concerns many times regarding the long-term sustainability of the timber supply on Forest Service land and how the current management paradigm is affecting this supply. Lands designated as Matrix are the only lands where our members can depend on a sustainable supply of timber products, as timber outputs on lands designated as reserves are merely a "byproduct." Therefore, we would like the Methow Valley District to recognize the importance of this supply by **including the provision of timber products into the Twisp Restoration project's**

purpose & need. It is important to AFRC that this provision is recognized by the Forest Service as a valued objective on Matrix land, and not simply a byproduct as it is on LSR land. AFRC believes that the Forest Service should take pride in the fact that they provide a crucial renewable resource to the public that they serve. We understand that every treatment proposed on this project will likely be designed to meet numerous objectives, but why can't one of those objectives, particularly on lands designated as Matrix, be the provision of timber products?

2. Furthermore, as we will discuss later in this letter the importance of our members' ability to harvest and remove these timber products from the timber sales generated off this project is paramount. We would like the Forest Service to recognize this by **adding economic viability & support to the local infrastructure to the purpose and need** of the Twisp Restoration project. The lack of an adequate economic consideration was a big part of the reason that the nearby projects of Mission and Buttermilk did not sell and thus restoration work has not been completed. Further, supporting local industry and providing useful raw materials to maintain a robust manufacturing sector should be a principal objective to any project proposed on Forest Service land, particularly those lands designated as Matrix. As the Forest Service surely knows, the "restoration" treatments that are desired on these public lands cannot be implemented without a heathy forest products industry in place, both to complete the necessary work and to provide payments for the wood products generated to permit the service work to be completed.

3. Since one of the Forests needs is to protect and maintain high-functioning aquatic, riparian, and hydrologic resources we would like to remind the Forest 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. The ACS describes the need for treatments that meet the need of multiple habitat types and we encourage the Methow Valley 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 that the ACS mandates 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 6-meter 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.

4. Because the Forest is looking at doing work in matrix lands we would like the Methow Valley District to be aware that AFRC has voiced our concerns many times regarding the long-term sustainability of the timber supply on Forest Service land and how the current management paradigm is affecting this supply. In particular, we have voiced our opinion that a management regime that only thins mid-seral forest stands is ultimately **unsustainable**. If the Forest Service truly wants to manage timber in a sustainable manner, then it must find a way to incorporate regeneration harvest back into its management paradigm. The difficulty that the Forest Service has had implementing any treatment that successfully regenerates a stand of mature timber has resulted in an unbalanced age-class distribution across the Forest, particularly on the Matrix allocation, and has left a void in stands in the 0-20 year age class. This void concerns AFRC and raises the question of where future timber products off the Forest Service will come from. We are supportive of the thinning prescriptions that are being proposed on this project as a piece of a larger management model built to ensure a sustainable timber supply; however, by itself, a thinning only regime is ultimately unsustainable.

5. Another goal of this project is to protect, develop, and/or enhance late and old forest stands for wildlife species dependent on them and reduce the risk of large-scale habitat loss to fires by increasing resilience of habitats to wildfire. AFRC believes that part of the solution for this is to enhance the early seral species needed to support large big game species such as deer and elk. Studies have found that forage is more important to big game species during the winter months than is cover. To accomplish this areas of overstory removal or wide thinnings may be necessary to provide sunlight to establish certain grass and forbe species needed by these animals. Overstory removal of conifers will also enhance the growth of bitterbrush which is so important in the winter range areas.

   Further, AFRC supports Amending two Standard & Guidelines for the deer winter range as the table below suggests:

Deer Winter Range: Two Forest Plan S&Gs would be amended to allow treatments that would reduce deer winter range cover (including snow-intercept thermal and winter thermal) in Management Areas (MA) 14 and 26 to levels below those specified in Table 1:

S&G MA14-6A, S&G MA26-6A: Manage all identified deer winter range for the following well-distributed cover:

Table 1. Characteristics of Deer Winter Range Cover in Prescriptions 14 and 26

Winter Range Cover	Methow and Other
Snow-intercept Thermal	≥ 15%
Winter Thermal	> 25%
Hiding	≥ 0%
Total:	**≥ 40%**

6. Another Need of the Twisp Restoration project is *"to modify the structure, composition, and patterns of forest stands within and adjacent to the wildland/urban interface (WUI) to reduce fire intensity and the risk of crown fire initiation and enable the use of more direct firefighting strategies to protect life and personal property. Reduce fire intensity along major access routes and ridges within and outside of the WUI to minimize the hazards of ingress/egress and provide effective suppression anchor points that limit fire spread during wildfires."* AFRC suggests thinning to wide spacings in the WUI leaving only 40 sq. ft. of basal area. This will not only reduce fuels and make fire suppression easier, but it will more quickly help restore the vigor to the remaining trees.

   Further, AFRC is a strong advocate for doing shaded fuel breaks. This could be a valuable tool along roads that provide ingress and egress to the private lands and structures within the project WUI areas. AFRC and our members along with several members of the North Central Washington Forest Health Collaborative visited the shaded fuels breaks put in during the Wolverine Fire of 2015. This area is now included in the Upper Wenatchee Pilot Project. The group had strong support for the shaded fuel breaks and thought it was a tool that could be used across the Forest.

7. The Forest has a need to protect and enhance meadows, huckleberry patches, and aspen stands. Currently conifer encroachment has reduced the availability of nutrients, water, and sunlight to these species. AFRC recommends removing or reducing conifer overstory in the aspen and huckleberry stands which need direct sunlight and more moisture. In the meadow area complete removal of conifers both large and small may be needed to reestablish the meadows to their more traditional size.

8. 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 Okanogan-Wenatchee 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 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.

9. AFRC supports the planned restoration work in the Forest Plan Old Growth areas. We also support amending two Forest-wide Standard & Guidelines to allow treatments consistent with the Restoration Strategy in Forest Plan Old Growth (FPOG) stands. These include amending:

    - S&G 5-1: No scheduled or non-scheduled timber harvest or firewood collection shall be permitted in mixed conifer old growth stands.
    - S&G 19-8: Treatment of natural fuels shall be prohibited in identified old growth stands.

    A review of new science has found that thinning by harvest and noncommercial prescriptions and treating natural fuels with prescribed fire helps reduce the potential for stand-replacing fires that would otherwise cause long-term damage to FPOG. These amendments would allow understory commercial and non-commercial thinning and prescribed burning (including future maintenance burning) to reduce the likelihood of this type of fire behavior, thereby maintaining these key features in the project area.

10. AFRC also supports performing silviculture treatments in LSR. For the needed results in these areas, one NWFP S&G would be amended to silviculture treatments to meet habitat restoration and risk-reduction objectives in LSRs:

- Silviculture (NWFP, p. C-12): There is no harvest allowed in stands over 80 years old. This amendment would allow silviculture thinning treatment in stands that are over 80 years old in late-successional reserves to restore dry and moist forests for wildlife species associated with old-forest open-canopy habitat conditions, such as the white-headed woodpecker. The thinnings in stands over 80 years of age would also allow treatments in the dense understory that does not currently provide spotted owl habitat or habitat for species associated with late-successional and old forest types.

AFRC supports amending the S&G to allow harvest of trees over 80 years of age in the LSR areas for the reasons stated above, and for also reducing fuels across the project area.

11. Regarding the proposed road work in the project, AFRC supports the plan of constructing an estimated two miles of new roads at two ridgetop locations to provide long-term access for forest management and fire suppression. The Project also plans on constructing approximately 20 miles of temporary roads to allow access for proposed treatments; these roads would be decommissioned after use. In addition to this plan, the area also contains over 80 miles of "unauthorized roads;" many of these were created by past management actions and considered decommissioned by past standards that did not restore hydrologic stability. Others were created by forest users and are not needed for current land management. Management direction requires that these roads be evaluated along with existing NFS roads during landscape-scale project analysis such as the Twisp Restoration project.

    AFRC believes that an intact road system is critical to the management of Forest Service land, particularly for the provision of timber products. Without an adequate road system, the Forest Service will be unable to offer and sell timber products to the local industry in an economical manner. The road decommissioning proposed in the Twisp Restoration scoping represents a ***permanent*** removal of some of these roads and likely the deferral of management of those forest stands that they provide access to. The land base covered in the Twisp Project area are to be managed for a variety of forest management objectives now and in the future. Removal of adequate access to these lands compromises the agency's ability to achieve these objectives and is very concerning to us.

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

    1. Determination of any potential resource risk related to a road segment
    2. Determination of the access value provided by a road segment
    3. Determination of whether the resource risk outweighs the access value (for timber management and other resource needs).
    4. Can the resources goals be met through using Maintenance Level 1 -closed status for any system roads identified in this proposal for decommissioning .

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

12. For the Twisp Project and others on the Okanogan-Wenatchee National Forest we would like to encourage the Methow Valley Ranger District to consider several documents related 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 comparted 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.

In closing, I would like to thank you for the opportunity to provide scoping comments on the Twisp Restoration Project. This is a much needed project with much restoration work to be performed. I look forward to following its implementation as it moves to the Draft EA phase.

Sincerely,

Tom Partin
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