



Via Forest Plan Web Page

<https://cara.ecosystem-management.org/Public/CommentInput?project=44589>

July 20, 2020

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RE: Helena-Lewis and Clark Revised Forest Plan Record of Decision Objection

Pursuant to 36 C.F.R. Part 218, the American Forest Resource Council (AFRC) files this objection to the Record of Decision for the Helena-Lewis and Clark Forest Plan Revision. Forest Supervisor Bill Avey is the responsible official.

Objector

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AFRC is an Oregon nonprofit corporation that represents the forest products industry throughout Oregon, Washington, Idaho, Montana, and California. AFRC represents over 50 forest product businesses and forest landowners. AFRC's mission 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. The Helena-Lewis and Clark Forest Plan Revision will, if properly implemented, benefit AFRC's members and help ensure a reliable supply of public timber in an area where the commodity is greatly needed. AFRC members, including Sun Mountain Lumber, Idaho Forest Group, Roseburg Forest Products, and members of Montana Logging Association, rely on wood from the Helena-Lewis and Clark National Forest (HLC NF) either directly or indirectly.

AFRC is submitting this objection based on information and conversations that we provided and shared with the Helena-Lewis and Clark National Forest during two previous meetings. Those meeting dates were May 23, and November 15, 2019.

The Helena-Lewis and Clark National Forest is located in central Montana and encompasses approximately 2.9 million acres and administers 31,000 acres of the Beaverhead-Deerlodge National Forests. The Forest stretches over 150 miles north to south and 200 miles east to west and includes portions of 17 counties.

The Helena and Lewis and Clark National Forests were administratively combined in 2015. The Forest Service proposes to revise the 1986 land and resource management plans (hereinafter referred to as the “1986 Forest Plans”) in compliance with the NFS land management planning rule. The purpose of the 2020 Forest Plan is to provide an integrated set of plan directions for social, economic, and ecological sustainability, and multiple uses of the HLC NF lands and resources. The requirements of the 2012 Planning Rule, findings from the assessment, changes in conditions and demands since the 1986 Forest Plans, and public concerns highlighted several areas where changes are needed to the current plan.

Currently, over 500,000 acres of the 2.9 million-acre Forest are designated Wilderness Areas, including portions of the Bob Marshall and Scapegoat Wilderness Areas and the entire Gates of the Mountains Wilderness Area. Additionally, approximately 50% (1.5 million acres) of the Forest is allocated as inventoried roadless areas (IRA). AFRC, outlines these issues as key to past and future management needs as the new Plan moves forward.

Many of the points we raise in our objection will deal with the importance of the timber industry in helping to manage the Forest, for providing jobs to the local communities and counties and creating retained receipts for doing other needed restoration work. From that perspective is it interesting to note that the Revised Plan outlines how the Forest plays an important role in local economies across central Montana by providing forest products, mining, grazing, recreational use, and clean water for downstream agricultural uses. These uses also contribute to the sense of place for residents and visitors. The Plan provides the guiding framework for ongoing important operations of the Forest, which in turn is expected to support \$83 million in labor income, an increase of \$11 million over current management accomplishments, as well as 2,000 jobs in recreation, timber, and other activities. The Forest contribution to regional recreation and other resource related economic activity is significant. While AFRC believes these statistics show improvements for various sectors of Forest users, we believe the forest products industry and the need for more robust forest management has not been given needed consideration.

Objector's Designated Representative

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Reasons for the Objection

The content of this objection below is based upon prior discussions AFRC has had with the Forest on the dates listed above and from specific written comments submitted on individual projects in which AFRC has outlined our priorities for Forest management and related community and county economics. AFRC and our members have been participating in the HLC NF plan revision process since 2012. In 2018, AFRC members Sun Mountain Lumber, Montana Logging Association, and Montana-DNRC submitted comments to the HLC NF plan revision, and AFRC's objections below are based on the prior written comments by those AFRC members. *See* 36 C.F.R. § 219.53(a). AFRC's objections will focus on several major areas where we believe the Final Plan is deficient. Before beginning AFRC will list the Alternatives for reference:

Table 2. Comparison of issues (and their measurement indicators) by alternative

Issue	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Recommended wilderness and undeveloped areas						
1) Number of RWAs	3	9	9	16	0	7
2) Acres of RWAs	34,265	213,076	213,076	474,589	0	153,325
3) Acres of additional Primitive ROS areas	0	0	0	175,598	0	216,866
Suitability of motorized and mechanized means of transportation in recommended wilderness						
1) Miles of trail no longer suitable for mechanized means of transportation	0	204	59	328	0	135
2) Miles of road no longer suitable for motorized use	0	13	0	34	0	8
3) Acres no longer suitable for motorized over-snow use	0	24,404	25,349	79,194	0	8,046
4) Miles of trail no longer suitable for motorized use	0	0.1	0	60.1	0	0.1
Timber harvest						
1) Acres suitable for timber production	414,936	356,633	356,633	348,586	384,199	368,814
2) Acres unsuitable for timber production where harvest may occur	1,654,916	1,654,935	1,654,935	1,455,781	1,749,318	1,673,853
3) Projected timber sale quantity (PTSQ) Decade 1	4.70 mmcf (22 mmbf)	4.85 mmcf (23 mmbf)	4.85 mmcf (23 mmbf)	4.87 mmcf (23 mmbf)	6.7 mmcf (33 mmbf)	5.7 mmcf (27 mmbf)
4) Projected wood sale quantity (PWSQ) Decade 1	6.76 mmcf (26 mmbf)	6.92 mmcf (27 mmbf)	6.92 mmcf (27 mmbf)	6.95 mmcf (27 mmbf)	9.06 mmcf (38 mmbf)	7.91 mmcf (31 mmbf)
5) Projected average annual acres of timber harvest Decade 1	2,072 acres	2,176 acres	2,176 acres	2,101 acres	2,134 acres	2,279 acres

1. AFRC believes the Economic analysis as it pertains to timber is fatally flawed. We do not believe the Forest will be able to achieve outlined benefits of the Plan (Draft Record of Decision Pg. 9)

- **Forest products (primarily from timber harvest) will contribute approximately \$29.7 million in labor income (\$23.7 million more than currently contributed under the 1986 Plans) and 616 jobs. It is vitally important to continue to have a local timber industry that assists the Forest in achieving desired conditions while providing for the commercial sale of forest products.**

AFRC does not understand how the Forest can achieve \$23.7 million more in economic value than is currently being contributed under the 1986 Plan and create 616 more jobs when the Plan states:

- **Wood product outputs (similar to or above current levels), which include sawtimber and non-sawtimber, will contribute to social and economic sustainability (Draft Record of Decision Pg. 9).**

- **Actual predicted timber sale quantity from Table 2 above shows that the harvest will only be raised to 27 mmbf from 22 mmbf. This hardly would account for 616 more jobs and \$23.7 million more in economic contributions.**

Tables 243 and 245 are examples of how overstated the number of jobs in the Timber sector will be with both a budget constraint and non-budget constraint options.

Table 243. Employment in the analysis area by resource and alternative (direct employment contribution, estimated number of jobs)

Resource	Current	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Recreation	238	238	238	238	238	238	238
Grazing	252	252	252	252	252	252	252
Timber	119	512	528	528	530	721	616
Minerals	0	0	0	0	0	0	0
Payments to states/counties	151	151	151	151	151	151	151
FS expenditures	742	742	742	742	742	742	742
Total management	1,502	1,896	1,911	1,911	1,913	2,104	2,000

Table 245. Employment in the analysis area by resource and alternative without budget constraint (direct employment contribution, estimated number of jobs)

Resource	Current	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Recreation	238	238	238	238	238	238	238
Grazing	252	252	252	252	252	252	252
Timber	119	773	845	845	826	929	849
Minerals	0	0	0	0	0	0	0
Payments to states/counties	151	151	151	151	151	151	151
FS expenditures	742	742	742	742	742	742	742
Total management	1,502	2,156	2,228	2,228	2,209	2,312	2,232
Percent change from current		43.5%	48.3%	48.3%	47.1%	53.9%	48.6%

Increased timber harvest is the only way that the existing sawmilling infrastructure can survive and increase economic contributions. Since the Forest Plan Revision process started, R-Y timber in Townsend, Montana has announced its closure and other sawmills such as Pyramid Lumber are only operating on one shift per day. Based on these factors, the Forest will not achieve the increased predicted income.

Our members depend on a predictable and economical supply of timber products off of 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 needs in the future. 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 affect 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. The proposed treatments within the HLC NF Plan Revision will address long-term sustainability concern, and will provide in the short-term the products for the local industry and we want to ensure that this provision is an important consideration for the decision maker as the project progresses. 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 from the Plan is paramount. We would like the Forest Service to recognize the importance of economic viability and support to the local infrastructure by creating its own section in the purpose and need of the Plan instead of being imbedded with other desired outcomes. Supporting local industry and providing useful raw materials to maintain a robust manufacturing sector should be a principal objective to any Forest Service management plan. As the Forest Service surely knows, the "restoration" treatments that are desired on these public lands cannot be implemented without a healthy 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.

2. AFRC does not believe that the Proposed Plan complies with the Multiple-Use Sustained-Yield Act of 1960 (MUSYA).

The DEIS describes desired conditions for a multitude of resources, including vegetation. However, the DEIS does **NOT** define a "desired condition" for timber resources. AFRC interprets this as an indication that the Forest Service does not view timber as a resource worthy of managing to a desired condition in a similar manner as all other resources are. AFRC disagrees with this approach and believes it is in violation of MUSYA. Public Law No. 86-517, 74 Stat. 215 (1960). We believe that MUSYA mandates the Forest Service to manage its timber resources toward a *desired condition* of sustained-yield. In fact, nowhere did the DEIS include a sustained-yield of timber as a "desired condition." Therefore, the PRISM model and its volume outputs are not based on sustained yield and the subsequent Projected Timber Sale Quantities (PTSQs) are likely inconsistent with the MUSYA.

The MUSYA directs the Secretary of Agriculture to "develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom." MUSYA § 2, 16 U.S.C. § 529. The MUSYA also defines "sustained yield of the several products and services" as "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land." MUSYA § 4(b), 16 U.S.C. § 531(b).

For example, on pg. 107 of the FEIS the Forest showed the results of Departure scores, or how much each action departs from attainment of desired conditions. The Designation of Management Area Group (MAG) constraints reduced attainment of desired condition 39% compared to the baseline of analyzing all manageable acres without constraints.

Table 21. Harvest and silviculture method constraints in PRISM by management area group

Management area group	Harvest and silviculture method constraints
MAG1	Only the Rx burning (PB) regime can be selected.
MAG2	At least 10,000 average acres per decade must be allocated to PB (not necessarily in each decade). 0-5% of the total planned harvest acres can occur here.
MAG3	1-10% of the total planned harvest acres can occur here. PB can occur as desired.
MAG4	No more than 25% of harvest acres should occur here.
MAG5 & 6	At least 65% of planned harvest acres should occur here.

Table 59 below shows the acres where harvest may occur to benefit other resources. AFRC believes all of the potential acres that could produce timber should have been included in a timber assessment. By not following this protocol, AFRC does not believe this Plan is meeting the intent of the MUSYA.

Table 59. NFS lands unsuitable for timber production where harvest may occur by alternative (acres/% of all NFS lands)

	Including IRAs	Excluding IRAs
Alternative A	1,654,916 (57%)	521,619 (18%)
Alternative B/C	1,654,935 (57%)	571,126 (20%)
Alternative D	1,455,781 (50%)	551,631 (19%)
Alternative E	1,749,318 (61%)	548,815 (19%)
Alternative F	1,673,853 (58%)	561,696 (19%)

3. The Forest failed to prepare an Alternative that would depart from even-flow harvest to address the need to increase the amount of ponderosa pine and acres of large tree size.

It was stated in appendix H pg. 97 “*the primary desired conditions that influenced the model to schedule harvest were increasing ponderosa pine and the large tree size class, because these desired conditions are different than the existing condition.*”

Figure 19 below shows the current range of ponderosa pine compared to the natural range of variability. Figure 32 shows the abundance of Douglas-fir and shortage of ponderosa pine.

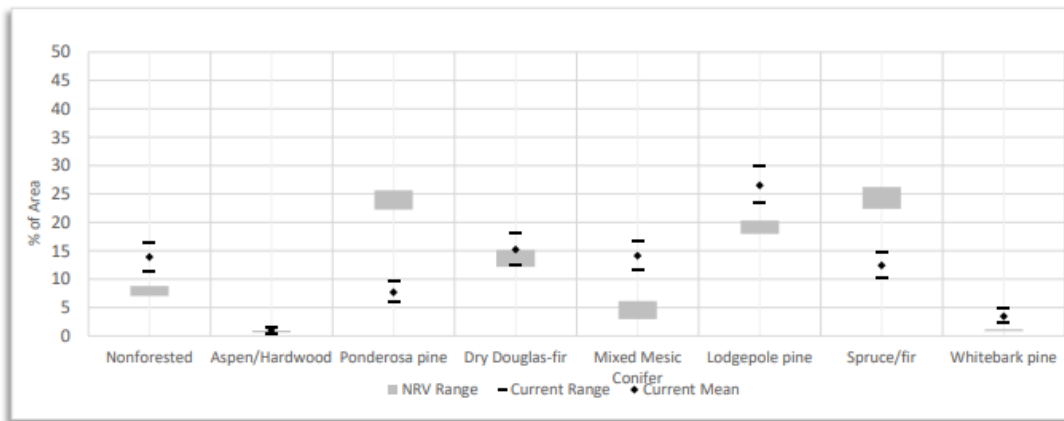


Figure 19. NRV range of cover types compared to existing condition, HLC NF forestwide

NRV compared to Existing Condition

The following tables display the existing condition versus NRV for cover type.

Table 31. Cover Type, NRV versus existing condition – forestwide

	NF	AS/HW	PP	DF	LP	SpFir	WBP
NRV	7-9	0.6-1	22-26	15-21	18-20	22-26	1-1.2
Existing	14 (11-16)	1 (0.4-2)	8 (6-10)	29 (25-35)	27 (24-30)	13 (10-15)	4 (2-5)

NF = nonforested; AS/HW = aspen/hardwood; PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; SpFir = spruce/fir; WBP = whitebark pine. Values are percentages of total NFS lands of the scale of interest, rounded to the nearest whole number unless the value is small enough to require showing decimal to the tenth place.

Figure 53 below shows the Natural Range of Variability for large trees across the Forest compared to current range and mean. The graph shows that in some areas the large tree size is 20-30% below NRV.

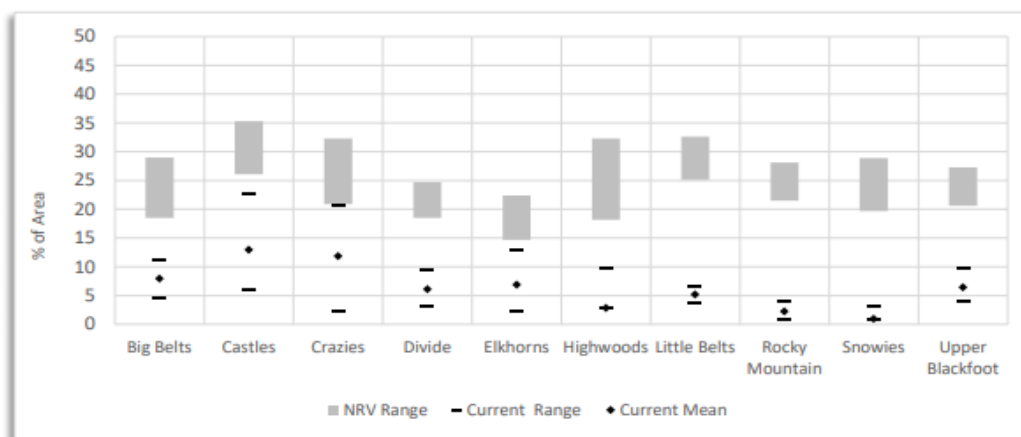


Figure 53. Large tree size class NRV range compared to existing condition, by GA

AFRC believes the Forest should have provided an alternative that would have more quickly returned ponderosa pine to a larger portion of the Forest landscape and more quickly produced larger trees. Both of these options would have required more removal of Douglas-fir and lodgepole pine and thinning more acres to wider spacings. The mixed mesic conifer species are also much higher in percentage than under NRV which points out the need for more rapid management.

4. The Forest has not done an adequate job of providing an alternative that would address the insect and disease problems found on the Forest.

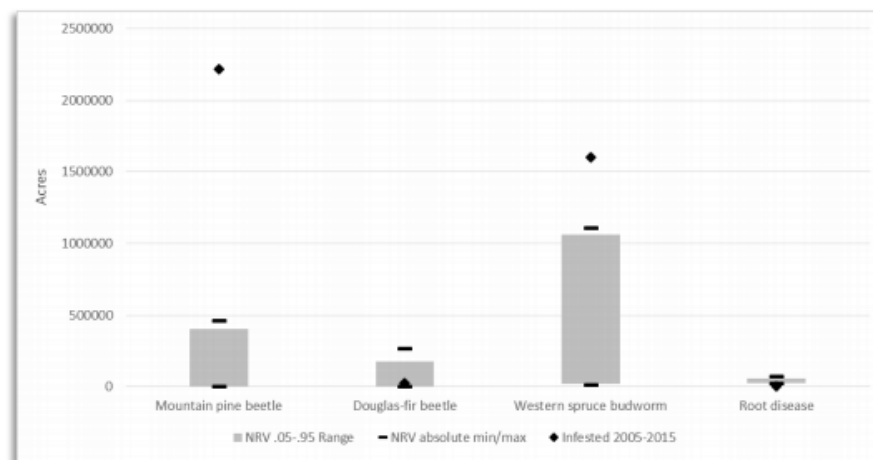


Figure 15. NRV acres impacted by insects and disease per decade compared to 2005-2015 forestwide

Figure 15 shows how out of balance the Forest is regarding populations of both mountain pine beetle and western spruce budworm. Again, AFRC believes the Forest should have made a departure from even-flow management to address the insect and disease issue. While many of the lodgepole stands have already been hit heavy, new pockets are popping up as well as heavy infections of Douglas-fir bark beetle and western spruce budworm. The Forest has been focused in recent years on salvaging heavily damaged stands of lodgepole pine and have neglected thousands of acres of Douglas-fir. One of the first priorities of this Plan should be to address the forest health problems on those acres.

5. The Forest did not prepare an Alternative that would have produced the Sustained Yield Limit (SYL).

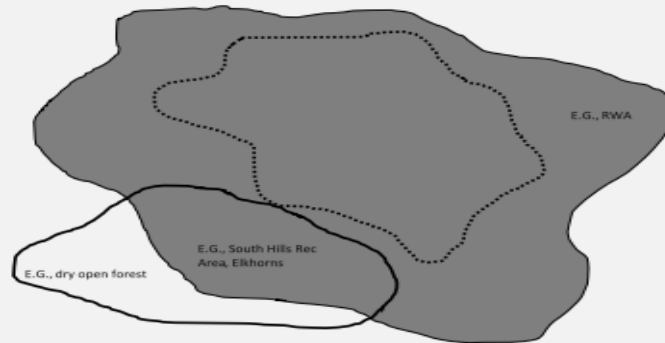
The Example in Box 2 below was used to identify how Sustained Yield and Projected Timber Sale Quantity were calculated. AFRC strongly believes that one Alternative should have been analyzed and modeled that would have allowed the Forest to hit the SYL. The SYL as calculated is 57.57 mmbf, and none of the alternatives, even with unconstrained budgets came close to hitting that number. Deferring such an alternative inappropriately limits the reasonable range of alternatives and ultimately inhibits the decision-maker's ability to make an informed decision. AFRC believes the Forest should and could have developed an alternative that achieves SYL especially considering all of the Forest health issues facing the Forest.

Box 2: Summary of timber suitability classifications and associated timber metrics

- A. *Lands that May be Suited for Timber Production*  Includes all lands that meet the technical NFMA criteria. Does not vary by alternative. Provides the area from which lands suitable for timber production may be selected.
- B. *Lands that Are Suited for Timber Production*  A subset of Lands that May be Suited, where timber production is a primary or secondary purpose consistent with other resource objectives. Varies by Alternative.
- C. *Lands Unsuitable for Timber Production, where Harvest Can Occur*  Lands where harvest is permitted, but are not suitable for timber production. Varies by Alternative. May include lands outside of those areas that May be Suited for timber production (for example, very dry or low productivity forests).

Sustained Yield Limit (SYL) is calculated from all Lands that May be Suited for timber production (A). It is a limit on harvest. It includes lands that are not suitable in an alternative.

Projected Timber Sale Quantity (PTSQ) and Projected Wood Sale Quantity (PWSQ) are calculated from all lands where harvest may occur (B + C).



The SYL for each of the Forests, Helena and Lewis and Clark is listed below in table 63. Again, none of the Alternatives approach the SYL volume.

Table 63. Sustained yield limit for the HLC NF

	SYL – mmcf	SYL - mmbf
Helena National Forest	5.75	31.21
Lewis & Clark National Forest	4.95	26.36
HLC Combined Forest	10.7	57.57

Table 3 below shows the projected timber sale program with an unconstrained budget. Again, the Forest does not attempt to reach SYL. An Alternative describing the needs and necessary funding required to hit the SYL should have been included.

Table 3. Projected timber sale program, annual average volume outputs for the first and second decades of the plan period, unconstrained by reasonably foreseeable budget

Category and decade	Decade 1 (mmcf)	Decade 1 (mmbf)	Decade 2 (mmcf)	Decade 2 (mmbf)
Timber Products (A1). Lands suitable for timber production	5.7	26.8	5.3	25.4
Timber Products (A2) Lands not suitable for timber production	2.3	10.8	2.7	12.6
Projected Timber Sale Quantity¹ (A1 + A2)	7.9	37.6	7.9	37.9
Other Wood Products (B). All lands	2.5	5.6	2.5	5.7
Projected Wood Sale Quantity² (A1 + A2 + B)	10.5	43.2	10.5	43.7

AFRC believes it is both illegal, and does not meet the needs of the Forest, to tie the projected wood sale quantity and the projected timber sale quantity to current budgets. The Forest proposes that both be based on reasonable expectations about the fiscal capability and organizational capacity to achieve the desired conditions and objectives in the revised plan for the planning period. As such, calculation of these volume estimates are sensitive to a number of important assumptions including future budget trends, future markets for timber products, efficiency in planning and implementation, and the timing and locations of large disturbance events. AFRC believes that this severely limits future management opportunities and taints the current needs of the Forest and those who depend on resources from the Forest.

AFRC acknowledges that the 2012 Planning Rule requires the responsible official to ensure that plan content is within the “fiscal capability” of the unit. 36 C.F.R. § 219.1(g). “Fiscal capability” is not defined in the Rule or elsewhere. The 2012 Rule also states that “objectives should be based on reasonably foreseeable budgets.” 36 C.F.R. § 219.7(e)(1)(ii). To the extent that budget leads the Forest to impose a limit on future timber production that is not tied to the capability of the land, it is violating NFMA, the MUSYA, and the Organic Act. The Plan should make clear that any figures tied to budget are merely non-binding *projections* rather than restrictions on future management.

The 2012 Planning Rule (Rule) violates the Organic Act, NFMA, and MUSYA in several respects. Among these violations, the Rule establishes “ecological sustainability” as an overriding objective of forest management, through the maintenance of “ecological integrity” and “diversity of ecosystems.” 36 C.F.R. § 219.8(a). This violates the management mandates of the Organic Act, 16 U.S.C. § 475, the MUSYA, 16 U.S.C. § 528, and NFMA, 16 U.S.C. § 1604(e). The Rule also contains an improper requirement to provide “ecosystem services.” 36 C.F.R. §§ 219.10, 219.10(a). The ecosystem services requirement again violates the Organic Act, MUSYA, and NFMA. At minimum, the Forest must recognize that the ecosystem services contemplated by the rule include the provision of a sustainable yield of timber to support employment in adjacent communities and maintain infrastructure essential to long-term forest health.

Section 219.3 of the Rule imposes a “best available science” use requirement which unlawfully limits the information on which forest planning decisions can be based. This violates the analysis requirements in NFMA sections 1604(b) and 1610. The Rule omits, and the Plans accordingly fail to include, provisions for increasing harvest levels pursuant to 16 U.S.C. § 1604(g)(3)(D). Finally, the Rule violates NFMA section 1604(k) because it does not allow salvage or sanitation harvest as provided by the statute. 36 C.F.R. § 219.11(d).

6. AFRC believes the decision to add 153,325 acres of additional Wilderness study area in not in line with the forest health needs.

Table 1 below details the recommended wilderness in Alternative F, the preferred Alternative. There is already over 500,000 acres of wilderness on the Forest and nearly half of the 2.9 million acres on the Forest designated as Inventoried Roadless Area. The IRA’s may at least have the option of management at some point and with the insect and disease issues listed above, AFRC believes that Alternative E which recommends no additional Wilderness is the preferred option.

Table 1. Recommended wilderness areas with acres¹

Recommended wilderness area	Geographic area	Acres
Big Log	Big Belts	7,035
Mount Baldy	Big Belts	8,141
Electric Peak	Divide	18,239
Big Snowies	Snowies	66,894
Silver King	Upper Blackfoot	18,568
Red Mountain	Upper Blackfoot	2,500
Nevada Mountain ²	Divide and Upper Blackfoot	31,948
Total		153,325

To further emphasize our position that additional wilderness conflicts with forest health needs can be found on Table 57 below. This points out that in all of the options 86-88 percent of the Forest land is not suited for timber production. AFRC believes strongly that any existing acre available for management and harvest should be left in that status.

Table 57. Lands suitable for timber production by alternative (acres and percent)

Land classification category	Alt A	Alt B/C	Alt D	Alt E	Alt F
A. Total NFS lands in the plan area	2,883,227	2,883,227	2,883,227	2,883,227	2,883,227
B. Lands not suited for timber production due to legal or technical reasons.	2,216,098	2,216,098	2,216,098	2,216,098	2,216,098
C. Lands that may be suited for timber production (alternatives A and B)	667,129	667,129	667,129	667,129	667,129
D. Total lands suited for timber production because timber production is compatible with the desired conditions and objectives established by the plan	414,936 (14%)	356,633 (12%)	348,586 (12%)	384,199 (13%)	368,814 (13%)
E. Lands not suited for timber production because timber production is not compatible with desired conditions and objectives established by the plan (alternatives C and D)	252,193	310,496	318,543	282,930	298,315
F. Total lands not suited for timber production (alternatives B and E)	2,468,291 (86%)	2,526,594 (88%)	2,534,641 (88%)	2,499,028 (87%)	2,514,413 (87%)

7. AFRC does not believe the RMZs should have been constrained to an artificially low harvest level as stated on pg. 235 in the FEIS.

Table 263. Lands (acres) where harvest may occur in RMZs

Alternative	A	B/C	D	E	F
Total acres unsuitable for timber production, where harvest may occur	1,654,916	1,654,935	1,458,710	1,749,318	1,673,853
Riparian management zone acres in areas where harvest may occur	293,851	344,008	313,169	363,209	348,824
% of lands where harvest may occur in riparian management zones	18%	21%	21%	21%	21%

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. Current science supports the need for treatments that address multiple habitat types and we encourage the HLC NF 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 riparian needs should be considered.

The tradeoffs that the Forest Service will likely be considering 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 decision-making process 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.

Resolution Requested

This HLC NF Plan will provide management direction to the HLC National Forest for the next 15 plus years. The Final Plan attempts to provide public benefits including making available recreation access, facilities, and services; supplying renewable and non-renewable forest products; and providing roads, services, and accommodations to support local economies. AFRC believes this Final Plan fails to provide the certainty needed for our membership that a consistent, and predictable volume of timber will be produced in a timely manner that will more quickly move the Forest toward the desired HRV.

To resolve the issues that AFRC has raised above, the following actions will need to occur.

- 1. Rework the Economic analysis to more accurately portray the jobs and economic benefits with only a slight increase in timber volume in the FEIS.**
- 2. Make the Plan implement the intent of the Multiple-Use Sustained-Yield Act of 1960 (MUSYA) by calculating the desired condition for timber rather just managing for the benefits of other resources.**
- 3. Prepare an Alternative that would depart from even-flow harvest to address the need to increase the amount of ponderosa pine and acres of large tree size.**
- 4. Prepare an Alternative that would address the insect and disease problems found on the Forest.**
- 5. The Forest should provide an Alternative that would produce the Sustained Yield Limit (SYL).**
- 6. No additional wilderness study areas should be added.**
- 7. Remove the management restraints from the RMZs which are artificially lowering harvest levels.**

Request for Resolution Meeting

Pursuant to 36 C.F.R. § 218.11, the objectors request to meet with the reviewing officer to discuss the issues raised in this objection and potential resolution. In the event multiple objections are filed on this decision, AFRC respectfully requests that the resolution meeting be held with all objectors present. AFRC believes that having all objectors together at one time, though perhaps making for a longer meeting, in the long run will be a more expeditious process to either resolve appeal issues or move the process along. As you know, 36 C.F.R. § 218.11 gives the Reviewing Officer considerable discretion as to the form of resolution meetings. With that in mind, AFRC requests to participate to the maximum extent practicable, and specifically requests to be able to comment on points made by other objectors in the course of the objection resolution meeting.

Thank you for your efforts on this project and your consideration of this objection. AFRC looks forward to our initial resolution meeting. Please contact our representative, Tom Partin, at the address and phone number shown above, to arrange a date for the resolution meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Travis Joseph", written in a cursive style.

Travis Joseph, President