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Forest Service
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File Code: 1570; 1950
Date: January 25, 2021

Mia Pisano

[redacted]

Dear Ms. Pisano:

This letter is in response to your objection (#21-06-06-0007-218(B)) to the draft Decision Notice (DN) and Finding of No Significant Impact (FONSI) for the Zigzag Integrated Resource Project, Zigzag Ranger District, Mt. Hood National Forest. I have read your objection and reviewed the project record, the draft DN/FONSI, and the final Environmental Assessment (EA). My review of your objection was conducted in accordance with the regulation at 36 CFR 218 (2013).

PROJECT DESCRIPTION

The legal notice announcing the Predecisional Administrative Review (Objection) Period for the draft decision notice (DN) and finding of no significant impact (FONSI) for the Zigzag Integrated Resource Project EA was published in *The Oregonian* on September 24, 2020. In the Draft DN, the Responsible Official selected the proposed action with minor modifications to proposed activities and project design criteria. The project area includes two distinct parts; one is referred to as the Mud Creek area and the other is the Horseshoe area. The proposed action would authorize the following:

- Vegetative treatments including variable-density and sapling thinning (2,000 acres) and regeneration harvest (13 acres),
- Construction of 3.9 miles of new temporary roads and reconstruction of 6.8 miles of existing old road alignments to provide access for vegetation management,
- After operations, approximately 6.5 miles of existing system roads within the project area would be closed and storm-proofed and approximately 2.3 miles of existing system roads would be actively or passively decommissioned,
- Additional restoration activities including fuels treatments, aquatic and riparian habitat enhancement, Top Spur trailhead improvement, huckleberry habitat improvement, and white pine blister rust treatment.

OBJECTION ISSUE DISCUSSION AND CONCLUSION

The objector's raised a variety of concerns related to the following topics: NEPA/purpose and need/alternatives; fish and wildlife impacts; soils and geology; huckleberries; fire and fuels management; roads; impacts to viewsheds/recreation; and impacts to climate change/carbon storage.

The objection resolution meeting was held on December 11, 2020. I believe it was a productive meeting that helped me better understand the objector's concerns. On the topic of roads, while I

find that roads and road-related impacts were adequately addressed in the EA and project record, during the resolution meeting, there was discussion about actively decommissioning road 1828-24. While the draft decision considered passively decommissioning this road, the responsible official has decided to actively decommission the road in order to address the objector's concern. This change will be made in the final DN. In addition, the District will post the documents that showed how comments and science were considered to the project's website. In addition, I have discussed with the responsible official how he can clarify in the final DN some of the concerns that were discussed at the resolution meeting, such as fuels treatment, red tree voles, riparian areas and unstable areas. Also, I encourage the responsible official to continue to have open, transparent dialogue with interested parties and individuals about this project. No other remedies or resolutions are required.

In summary, I conducted my review of the record, final EA, and draft DN/FONSI and found that other than the clarifications noted above, no other remedies or resolutions are needed. Based on my review, I conclude the following:

- The draft decision clearly describes the actions to be taken in sufficient detail that the reader can easily understand what will occur as a result of the draft decision.
- The draft decision considered a range of alternatives that was adequate to respond to the purpose and need. The purpose and need and alternatives considered in the final EA reflect a reasonable range of alternatives, consistent with law, regulation and policy.
- The draft decision is consistent with or moves toward attainment of Forest Plan standards and guidelines.
- The draft decision is consistent with policy, regulation, law, direction, and the final EA contains adequate evidence to support the decision. The record and final decision contain site-specific documentation regarding resource conditions, and the Responsible Official's draft decision document is based on the record and reflects a reasonable conclusion.

This concludes my written review of the project. By copy of this letter and the enclosed response document, the Responsible Official may sign the decision after including the clarifications noted above, then notify interested and affected persons in accordance with the regulation at 36 CFR 218.12 and 36 CFR 220.7(d). This written response is the final administrative review by the Forest Service or the Department of Agriculture [36 CFR 218.11(b)(2)].

Sincerely,

RICHARD PERIMAN

Digitally signed by RICHARD PERIMAN
Date: 2021.01.25 13:11:34 -08'00'

RICHARD PERIMAN
Forest Supervisor
Objection Reviewing Officer

Enclosure: Zigzag Objection Statement and Response Final

cc: Bill Westbrook; Michelle Lombardo; James Roden; Debbie Anderson; Heidi Hopkins

Zigzag Integrated Project
Final Environmental Assessment (EA)
Zigzag Ranger District
Mt. Hood National Forest
Objection Statements
January 2021

Objector	**Objection Number**
American Forest Resource Council (AFRC)	#21-06-06-0002-218(B)
Roberta Badger Cain (BC)	#21-06-06-0003-218(B)
Daniel O'Neil (ON)	#21-06-06-0004-218(B)
Melanie Farnsworth (MF)	#21-06-06-0005-218(B)
Rachel Freifelder (RF)	#21-06-06-0006-218(B)
Mia Pisano (MP)	#21-06-06-0007-218(B)
Bark (Bark)	#21-06-06-0008-218(B)
Jessica Morley (JM)	#21-06-06-0009-218(B)
Portland Area Climbers Coalition (PACC)	#21-06-06-0010-218(B)
Lloyd Vivola (LV)	#21-06-06-0011-218(B)

NEPA/Purpose and Need/Alternatives

Overview and Objector's Suggested Remedies: These objection issues surround the concern that the selected alternative does not meet the purpose and need, that the range of alternative was inadequate and that comments were not considered. Suggested remedies by Objector AFRC is that the Deciding Official consider and address their proposed modification to the transportation network and AFRC requests that the Deciding Official not incorporate any elements of the No Action alternative into the selected alternative.

Objector Statement #1: Objector stated that they are concerned that "Deferral of new/temporary road construction to access certain treatment units with conventional logging systems does not meet the Purpose & Need element related to Transportation System Management." AFRC at 2.

Response: I find that the Responsible Official considered the existing conditions within the project area against the desired conditions specified in the Forest Plan to develop a Proposed Action that best balance the interests of the purpose and need.

The regulation at 36 CFR 220.7(b)(2) states that an EA, "…must briefly describe the need for the project." The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA includes a discussion the overall purpose and need, as well as three different components; improving forest health, diversity and productivity; transportation system management; and aquatic/riparian habitat enhancement. EA at 5-6. The transportation system management goals of the action moving the roads system toward an appropriate network of roads that provide for management access and visitor safety while minimizing risk to aquatic resources. The EA proposes a mix of treatments including temporary road construction, road repair, maintenance, storm-proofing, closure and decommissioning. EA at 6. The temporary roads selected for use in the project work together to balance

the goals of transportation system management with improving forest health and aquatic/riparian enhancement. EA at 12. The Draft Decision found that the temporary roads proposed were carefully located to minimize resource impacts and are in appropriate locations to serve the transportation needs of this portion of the landscape allocated to timber management in the Forest Plan. DN at 5.

Objector Statement #2: Objector states that "because the inaction described in Alternative 1 (No Action) of the Final EA does not meet numerous components of the Purpose & Need of the project, incorporation of any of its elements would retard the attainment of the resource objectives that are identified in the Purpose & Need." AFRC at 3.

Response: I find that the Responsible Official fully considered the ability to meet the purpose and need from the proposed action, no action, and several alternatives not fully analyzed. EA at 9-17. This review concluded that taking no action would result in undesired conditions across the landscape and would not achieve the goals or outputs of the Forest Plan and was not selected. DN at 11.

The regulation at 36 CFR 220.7(b)(2) states that an EA "shall briefly describe the proposed action and alternative(s) that meet the need for action. No specific number of alternatives is required or prescribed."

The EA contains a review of the proposed action alternative and a no action alternative to contrast the difference between taking no action and implementing the proposed action. EA at 15-17. The EA then summarized the effects from each in the corresponding sections in Chapter 3.0 Environmental Consequences. EA at 17-49. Full analysis is included in the specialist reports included by reference and located in the project record.

Objector Statement #3: Objector would like the Forest to reconsider this decision based on the new Federal administration that will be coming into office. ON at 1.

Response: I find that the Responsible Official has been delegated the authority to approve the proposed action, ensured consistency with the guiding Management Plan and considered all required law, regulation, and policy in making the draft decision.

Direction for the management of the National Forest System lands within the Mt. Hood National Forest is guided by the Mt. Hood National Forest Land and Resource Management Plan Record of Decision and Final Environmental Impact Statement (USDA 1990a) and Standards and Guidelines (USDA 1990b), as amended. This document, which was first adopted in 1990 and amended by the Northwest Forest Plan in 1994, has for several administrations provided the foundation for guiding management on the Mt. Hood National Forest. Additionally, regardless of the administration, the Mt. Hood National Forest is tasked with the managing the agency's multiple use objectives in a manner consistent with all applicable laws, regulations, and policies, including the National Forest Management Act (NFMA). Therefore, I find that a change in administration is not likely going to alter the agency's direction regarding its multiple use objectives.

The National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), United States Department of Agriculture (USDA) NEPA Policies and Procedures (7 CFR part 1b), Forest Service NEPA Procedures (36 CFR part 220), Forest Service Manual 1950 and the Forest Service Handbook (1909.15) all provide the law, regulations and policies for ensuring that the Forest Service complies with Government, Department and Agency direction.

Objector Statement #4: Objector states that the Forest "Fails to meet its Purpose and Need regarding increasing diversity and gaining greater variability of vertical and horizontal stand structure." MP at 3.

Response: I find that the Responsible Official met the purpose and need for increasing forest health, diversity, and production through the selection of the Proposed Action Alternative. DN at 2.

The regulation at 36 CFR 220.7(b)(2) states that an EA, "…must briefly describe the need for the project." The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The need for the project is articulated to support meeting the desired conditions specified in the Forest Plan, as amended, when compared to the existing conditions within the project area. EA at 4. The EA further clarifies the purpose and need with the discussion in Section 1.3.1.1 and 1.3.1.2 describing the opportunities to improve those forest conditions. EA at 5-6.

The EA summarizes the existing condition in many of the stands as having slow tree growth, relatively uniform and lacking in some elements of diversity. Within the variation of the stands, the variations of the proposed actions by the interdisciplinary team were developed to move stands towards the desired conditions. EA at 18. Section 3.1.3.2 summarizes the effects to the vegetation from implementing the proposed action. This section describes that "Variable-density thinning could increase spatial heterogeneity in stand density and tree growth as well as heterogeneity in understory vegetation within stands. By inducing fine-scale variation in these otherwise homogeneous stands, variable-density thinning can promote biological and structural heterogeneity in the short term which can promote habitat while providing forest products." EA at 18.

Objector Statement #5: Objector states that the Forest "fails to meet its purpose and need of improving Aquatic/Riparian Habitat." MP at 3.

Response: I find that project adequately analyzes the effects of the project on aquatic/riparian habitat indicating that there will be some short-term adverse effects and some long-term beneficial effects, typical of most aquatic habitat improvement projects, and that the proposed action meets the purpose and need of the project.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA at 7 identifies 1.3.3 Aquatic/Riparian Habitat Enhancement as a purpose and need with several elements identified including: 1.3.2 Transportation System Management ("minimizing risk to aquatic resources "); 1.3.3.1 Riparian Habitat Enhancement - Large Woody Debris; 1.3.4 Other Opportunities Top Spur Trail relocation, and acquisition of fish logs for use off-site.

The purpose and need is then addressed in the proposed action by the following treatments: 1) EA at 13 - 2.2.1.1 Riparian Reserves: "In Riparian Reserves, the thinning outside the protection buffers would be designed to create conditions suitable for tree growth and to enhance diversity while providing sufficient quantities of large wood for future recruitment. The intention is to enhance Riparian Reserves by accelerating the development of mature and late-successional stand conditions;" 2) EA at 15 - 2.2.3 Aquatic/Riparian Habitat Enhancement - Large Woody Debris "In riparian areas that lack desired levels

of large wood, trees would be felled to create better quality riparian structure;" and, 3) EA at 15 - 2.2.2.3 Road Management for Reducing Resource Risks and Maintenance Costs.

The comparison of proposed action to no action in Table 3 of the EA at 17 summarizes the effects of the project on several aquatic and riparian habitat measures including: Transportation Management, Aquatic/Riparian Management, Water Quantity, Water Temperature, Sediment, Fisheries ESA-listed Fish Habitat and Aquatic Sensitive Species. The summary of the overall effect of the project on nineteen aquatic habitat indicators shows the project to have neutral, unsubstantial (meaning a person would not be able to meaningfully measure, detect, or evaluate these effects) or positive effects to aquatic and riparian habitat.

The Fisheries and Aquatic Resources Report (FARR) at 76 to 81 evaluates project effects on the Aquatic Conservation Strategy (ACS) and determined that the project will maintain five of the ACS indicators and improve four of the ACS indicators.

Objector Statement #6: Objector states that the Forest "fails to consider reasonable alternative actions presented by the public." MP at 3.

Response: I find that the District considered a reasonable range of alternatives.

The regulation at 36 CFR 220.7(b)(2) states that an EA "shall briefly describe the proposed action and alternative(s) that meet the need for action. No specific number of alternatives is required or prescribed."

The EA describes the alternatives considered for this project. The proposed action is summarized in Section 2.2 of the analysis. EA at 12-15. This section articulates the proposed action for the three purpose and need statements identified in the analysis. This section also presents the alternatives in comparative form, sharply defining the differences between the proposed action and no action. EA at 9. Additionally, there were several alternatives considered but not fully developed that were summarized in the EA. EA at 9. This included a review of reducing temporary roads. This was not included since the proposed temporary roads were analyzed and found to meet Forest Plan standards and guidelines; therefore, a wholly separate alternative further addressing temporary roads was not evaluated in detail. EA at 9. An alternative was considered that decommissioned more roads but not fully developed because the remaining roads were found to be needed for long-term management of the area and resource impacts were found to be minimal. EA at 10. Alternatives were considered that removed all regeneration harvest and conducting more regeneration harvest. No regeneration harvest was not fully developed because the impacts were found to be minimal and the benefits substantial to meeting the purpose and need. EA at 10. The alternative for more regeneration harvest was not fully developed because of the resource protections required and limited ability to balance the purpose and need. An alternative was considered that removed fire originated states but was not fully developed because preliminary analysis found that the impacts to resources were minimal while the benefits were substantial to achieving the Forest Plans goals. EA at 11. Finally, an alternative was described and not fully developed that removed all riparian reserve treatments. The impacts of variable-density thinning in the dry upland portion of riparian reserves was assessed and found to be minimal. The option of deleting riparian treatment was considered but not fully developed because of the above factors. EA at 11-12.

Objector Statement #7: Objector states, "At no point in the Preliminary Assessment or the Consideration of Scoping Comments is that consideration presented. I request documentation of the details of the agency's consideration of the cited science, which is not currently evident in the administrative record." MP at 2.

Response: I find that the District adequately considered public comments.

The regulation at 36 CFR 218.25(b) requires the responsible official to consider all written comments submitted and that all written comments received be placed in the project file and become a matter of public record.

The EA includes a discussion on the public involvement process, including a summary of the official scoping process and engagement that had occurred prior to scoping. EA at 8. The Draft Decision includes a summary of the public involvement process, including identifying that the comments received are included in the analysis file and that the consideration of comments are located in the project record in the document "Consideration of Comments." Draft DN at 5.

There are two documents that include the summaries of the consideration of cited science and public comment. The project record includes a file "Consideration of Comments" that provides a summary of key topics where comments were received, including the following topics: Temporary roads; System road management; Recreation; Regeneration harvest; Climate change; Snags and legacy trees; Fire-origin stands; Riparian management; Huckleberries; Site-specific recommendations; and Other recommendations. Additionally, the project record includes a copy of their consideration of science related to a suite of submitted documents from commenters as well as review of science related to climate change and other cited sources. The review of these documents indicates that the interdisciplinary team adequately considered all comments received, including cited science.

As was discussed during the resolution meeting, the District has agreed to post the documents showing how comments and science were considered to the project's website.

Final Remedies/Resolutions for NEPA/Purpose and Need/Alternatives: The analysis and draft decision documented how comments were considered, how the project met the purpose and need and that an adequate range of alternatives was considered. As was discussed during the resolution meeting, the District has agreed to post the documents showing how comments and science were considered to the project's website. No remedy or resolution is needed.

Fish and Wildlife Impacts

Overview and Objector's Suggested Remedies: These objection issues surround the concern that this project will negatively impact fish and wildlife species or their habitat. Suggested remedies include not going forward with this project. Suggested remedies by Objector Bark include changing/adding to PDCs as follows: "Through use of skips, exclude all legacy trees and legacy snags. If trees pose a danger, they shall be placed in skips, marked, and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee; Skips in units containing legacy trees and snags shall not be limited to the 5% of the unit area generally identified for skips in PDC N6." Objector Bark also requests: that the Forest work with them and other interested objectors while designing unit boundaries and contract language to protect snags and legacy trees, and to monitor before and after implementation the results of the project; that the Forest

removes the isolated northeast corner of Unit 168 from the proposed action; that the information submitted to the Forest regarding red tree vole presence after the decision is signed needs to be released and incorporated into the decision and implementation of the project through clarification of PDC K4, and suggests including the following language: "If locations of sites are shared with agency staff, agency staff shall coordinate confirmation and validation of these sites before any ground disturbing activities begin." Objector Bark also suggests that: "where they are already known by the agency to exist (as is stated in the EA), include buffers on these riparian areas on the project Decision maps in the form of unit boundary adjustments and subsequent acreage adjustments; where further verification is necessary, include buffers on these riparian areas on the contract maps in the form of unit boundary adjustments and subsequent acreage adjustments. Notify Bark to these changes before contracts are advertised; where a stream has alternating reaches of subterranean flow and above-ground scour, buffer subterranean reaches between two areas of scour the same as those above-ground reaches; and where subterranean water presence is apparent, but is not linear, allow no ground-based heavy machine operations to occur within Riparian Reserves.

Objector Statement #8: Objector states that they are concerned this project will negatively affect the salmon habitat restoration in the area. ON at 1.

Response: I find that the District adequately analyzed and found no significant cumulative effects regarding salmon habitat restoration.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA at 26 discloses cumulative effects of the proposed action on concluding that "No detrimental cumulative effects to instream sediment are expected as a result of activities within the cumulative effects analysis area." The cumulative effects analysis is sufficient, identifying the spatial scale and temporal scales for analysis (FARR at 14 and 15); indicators used for analysis of effects (FARR at 16); identification of past, present and future action that may contribute to cumulative effects, including salmon habitat restoration actions being implemented under the Upper Sandy Watershed Restoration Action Plan (WRAP); discusses the analysis methods and data sources used for the analysis (FARR at 19 to 22); and identifies and analyzes project specific actions on each of the indicators (FARR at 34, 41, 42, 44, 45, 55, 62, 65, 69 and 70), which supports the conclusion in the EA.

Objector Statement #9: Objector is concerned that this proposal does not adequately address the impacts of this project on northern spotted owl in unit 129. The objector states "according to this science (see objection), the Forest Service needs to address adequately whether the ecology of Unit 129, *if left to its own natural designs*, has the potential for growing a forest that could in a long-term future accommodate northern spotted owl nests, habitat, and food source prey." MF at 3-4.

Response: I find that EA adequately addresses the ecology of Unit 129, the proposed action for regeneration harvest, and how it impacts northern spotted owls.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The Wildlife Report at 9 describes the characteristics of northern spotted owl suitable habitat. The EA at 3.7.1 states that "with no action, the stands would grow into low quality suitable habitat." The Wildlife

Report states that "Among the Recovery Action of the 2011 Revised Recovery Plan for the Northern Spotted Owl, Recovery Action 32 is one of the most important actions in retaining high quality suitable habitat (see Recovery Action 32)." Zigzag Wildlife Report at 11-12.

The EA at 3.1.3.1 discusses the "no-action alternative" and states that "Where currently present, dwarf mistletoe infection would continue to infect regenerating trees in the understory." In addition, the EA at 2.1.3 states that "Deletion of treatment was considered but not fully developed because the impacts were found to be minimal and the benefits substantial." Finally, the EA states that "The project area does not contain Critical Habitat for spotted owls or any Late-Successional Reserves. There are no proposed habitat removing or degrading treatments within suitable owl habitat." EA at 3.7.1.

The EA and Wildlife Report analyzed the potential effects of the proposed action on northern spotted owls in the project area. The analysis included the potential effects of regeneration harvest on these species. EA 3.7.1.4 at 34-35; Wildlife Report at 17-18. A summary of effects determinations is found in the EA 3.7.1.4 at 35, which shows that adverse effects or impacts on the viability of these species are not expected, "The proposed action may affect, but is not likely to adversely affect territorial or dispersing northern spotted owls and their habitat, due to maintaining, by avoidance, all suitable habitat conditions."

Objector Statement #10: Objector states that the project fails to protect existing snags and legacy trees, in violation of the Mt. Hood National Forest Land and Resource Management Plan (LRMP), as amended by the Northwest Forest Plan (NWFP). Bark at 4-9. Objector also states that created snags do not function as well as naturally created snags, and that retention of natural snags and legacy trees[1] in skips should be prioritized and that natural snags "should always come before creating snags artificially." Bark at 5-8.

Response: I find that Responsible Official established sufficient project design criteria that will protect and retain existing snags and legacy trees within the project area. I find that the EA explains the need for creating artificial snags, taking into account their functionality compared to natural snags, and how the project is designed to utilize skips and gaps to retain legacy trees and snags.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The project design criteria at 17-18 and Wildlife Report at 86-87 outlines the criteria to retain all legacy trees and all snags where safety permits. The effects of the proposed action were analyzed and the standards and guidelines for snags and down wood would be met. The cumulative effects were not found to be substantial. EA 3.7.5.2 at 36.

[1] Objector Bark states that there are pockets of large trees, multi-aged stand conditions and dead wood habitat in parts of Units 4, 6, 8, 18, 20, 31, 33, 43, 62, 64, 68, 119, 130, 132, 168, 178 and 182, and that these sections of the units should be excluded from harvest in the form of skips or unit boundary adjustments. Objector Bark also states that the patch cut in Unit 62 that is purported to promote deer and elk habitat is not likely to do so because it is steep and unlikely to be used by deer and elk at any time of year and that the rationale for the patch cut should be removed from this unit.

The comparison of effects to snags and down wood by alternative (Wildlife Report at 86-88) explains the need for creating artificial snags in the short term and how this allows retention of naturally created snags in the long term.
The project design criteria utilize skips to retain snags. "Snags that are left standing after proposed treatments would be more prone to wind damage and snow breakage than they would have been without treatment. There would likely be some loss of these snags within 10 years after harvest which would become down wood. This highlights the importance in planning skips to include areas with the greatest concentration of naturally occurring snags." Wildlife Report at 87.

Objector Statement #11: Objector states that the Forest should buffer danger trees and snags and not cut them in order to provide for worker safety as required by OSHA. Bark at 8.

Response: I find that the project design criteria for snags and legacy trees sufficiently supports worker safety while allowing for snag and legacy tree retention on the project.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

See the response to Objector Statement #10. In addition, a cooperative study at the Wildcat Thin with Bark and the Forest has shown the retention of most legacy snags while thinning. This showed that buffers were not needed and that many snags are not hazardous. Project Record, Other Zigzag Comment Consideration #18.

Objector Statement #12: Objector states that the Forest failed to take a hard look at and protect survey and manage species, in particular the red tree vole, in violation of the NWFP. Bark at 9-11. Specifically, objector believes that more trees should have been climbed to assess for presence of red tree vole. Bark at 9-11.

Response: I find that the EA and Wildlife Report adequately addressed the hard look at protecting survey and manage species, in particular the red tree vole.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

Red tree vole surveys were required by protocol (Huff 2012) in 16 of the proposed treatment units equaling a total of 449 acres, all within the Horseshoe portion of the project area. Surveys were not required in the other proposed treatment units primarily due to ages of the stands or elevation constraints (all of the Mud Creek area) of the species. Wildlife Report at 63.

Although the exact particulars of each suggested potential nest tree are not responded to individually, the project wildlife biologist identified an appropriate strategy to survey and to protect red tree vole habitats and that the agency is taking appropriate actions consistent with law, regulation and policy. Consideration of Comments at 10.

The wildlife biologist looked at the legacy tree locations provided by Bark. The trees listed will not be climbed for red tree voles for the following reasons.

- Units 33 and 43 are thinning of stands under 80 years old, and because of the Peckman ruling, are exempt from survey requirements.

- Units 34 and 180 do not meet the survey protocol because the stands' quadratic mean diameter is less than 15.5 inches.
- Units 108, 119, 129, 130, 132, 168, and 178 do not meet the survey protocol because they are over 3,500 feet elevation.
- Unit 68 was surveyed for red tree vole. However, the contractor did not identify any trees he felt should be climbed and did not locate any high-quality habitat. The team wildlife biologist concurred on that assessment.

The large live legacy trees identified by Bark would not be cut (PDCs B4, K5, and N6). Bark Zigzag Comment Consideration at 34. Finally, red tree voles have been surveyed where necessary and buffered appropriately via the deletion of 2.5 units. See the Wildlife Biological Evaluation and Specialist Report at 63.

Objector Statement #13: Objector states that thinning riparian reserves is not needed to meet Aquatic Conservation Strategy (ACS) Objectives and doing so violates the Northwest Forest Plan. Bark at 16-20. Objector specifies that the agency has failed to establish the need for commercial thinning to attain ACS objectives, and that the Forest's main justification is to make the area more resilient to wildfire, which objector states is not supported by science or recent fire behavior on the westside of the forest. Bark at 17.

Response: I find that the project is consistent with the NWFP standards and guidelines for riparian reserves and that the project does not retard or prevent attainment of ACS objectives, either maintains or restores each of the ACS objectives, and designed to acquire desired vegetation characteristics.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The standard and guidelines of the NWFP (under TM-1) prohibit timber harvest, including fuelwood cutting, in riparian reserves, except where the Forest proposes to "Apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives."

The purpose and need for action (EA at 6) identified the need to improve vegetative conditions within the riparian reserves, specifically, "For example, in Riparian Reserves there is an opportunity to make some of these changes to accelerate and promote desired conditions. The desired condition in reserves is a multi-layer canopy with large-diameter trees, a well-developed understory, more than one age class, sufficient shade, and sufficient quantities of snags and down woody debris. These desired conditions are described in the Forest Plan on page Four-67 and in the Northwest Forest Plan on page C-32." The EA at 8 also notes that "Within riparian areas, the desired condition is to have mature riparian vegetation with large trees that periodically fall into streams to provide large woody debris and the in-stream diversity needed to provide for good water quality and aquatic habitats. Due to past fires and management practices, large trees are lacking adjacent to some project area streams. There is an opportunity to take actions to enhance riparian habitat by increasing the amount of large woody debris."

The EA at 29 to 31 and FARR at 48 documents current conditions as not properly functioning for large wood within the project area and cites the science behind thinning (FARR at 54 and 55) to increase the

pace of tree growth and large wood recruitment and compares the effects between no action and action alternatives (FARR at 48).

The ACS analysis in the EA 29 to 31 and FARR at 76-81 determined that the project will improve four of the ACS indicators (ACS-4 Water Quality, ACS-5 Sediment Regime, ACS-6 In-stream flows, and ACS-9 Well Distributed Populations of Native Species) while the remaining five will be maintained.

Further, review of purpose and need for action (EA at 5 to 8) does not identify wildfire resiliency as a need for the project, rather in Other Opportunities (EA at 8) the EA does disclose that "Inside many of the vegetation management actions described above, fuel treatments will occur. This is considered a connected action, to break up the contiguity of fuels and to provide a safer setting for fire suppression forces in the event of wildfire."

Objector Statement #14: Objector states that the Forest failed to incorporate information relevant to the analysis in violation of NEPA, specifically the information provided by the objector about unmapped riparian areas within proposed units that they submitted during scoping and comment periods, which they state was not included in final unit maps. Bark at 18-20. Objector points specifically to Unit 168 and other units where they submitted specific locations of unmapped riparian areas that should be dropped from the units. Objector states that they also recommended that no heavy ground-based machinery operate within riparian reserves. Bark at 18-20.

Response: I find that the District considered relevant information submitted by the objectors and that unit maps will be updated once layout crews verify ground conditions.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives; there is no requirement for an affected environment section in an EA.

The Forest Plan, as amended, only requires that riparian reserves be identified as to one of the five types (Fish-bearing streams, Permanently flowing non fish-bearing streams, Constructed ponds and reservoirs, and wetlands greater than 1 acre, Lakes and natural ponds, and Seasonally flowing or intermittent streams, wetlands less than 1 acre, and unstable and potentially unstable areas) so that the proper buffer width can be applied. There is no requirement that these be displayed upon EA unit maps. Many of these riparian reserve delineations would be too small to be visible given at the current map scale. A review of the project record shows that the project hydrologist did review the information submitted by the objector and that appropriate buffers were identified.

The Fisheries Report at 13 states, "The Zigzag Ranger district supervisory fish biologist (Greg Wanner) and the district hydrologist (Todd Parker) were heavily involved with determining protective stream buffers and project design criteria (PDCs). These buffers and PDCs are designed to protect and/or enhance water quality and aquatic habitats and to promote the development of late seral characteristics. Zigzag ranger district field technicians visited each unit in the summer of 2019 and identified intermittent and perennial water sources. Based on field observations, historical data, and professional opinion, the fish biologist determined whether each stream was fish bearing or not. These stream data were used to ensure accurate determination of riparian reserves in accordance with the NWFP." Additionally, the FARR Table 34 at 93 lists riparian buffers contained within Unit 168, as well as all riparian buffers for each unit (FARR at 90 to 94).

As to the recommendation that no heavy ground-based machinery operate within riparian reserves, Forest Plan Riparian Reserve Standards and Guidelines do not prohibit use of equipment in Riparian Reserves. Several project design criteria (A2, A3, A4, A5, A6, B1, C5, C6, C7, C8, and C11) are designed to minimize effects of ground-based equipment within riparian reserves and address the objector's concerns.

Final Remedies/Resolutions for Fish and Wildlife Impacts: Potential impacts to fish and wildlife were considered; no remedy or resolution is required.

Soils and Geology

Overview and Objector's Suggested Remedies: These objection issues surround the concern that known unstable or potentially unstable areas in proposed units have not been adequately protected. Suggested remedies include providing detail on how geology and soil resources in unstable areas will be protected by use of PDCs, including what types of areas will be excluded from final units based on geologic/soils concerns.

Objector Statement #15: Objector states that Units 4, 6, 12, 13, and 68 contain rocky cliffs and other steep outcrops and that these areas have not been adequately protected, noting that there are no PDCs that relate to rock outcrops or unstable areas, and that PDC C10 allows tethered ground-based equipment to operate on slopes up to 60% which is "markedly steeper than any ground-based logging seen by Objectors in FS projects thus far." Objector also states that the geology effects analysis is inadequate. Bark at 20-21.

Response: I find that the geology effects analysis was adequate.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

Riparian reserves as defined in the NWFP are lands along streams and unstable and potentially unstable areas where special standards and guidelines direct land use NWFP at B-12. Riparian Reserves (which includes unstable areas) as outlined in Zigzag Integrated Resources Project PDCs at 3-7 are adequately protected. In terms of protecting rocky areas, PDC C10 does allow tethered logging up to 60% but the following would be applied: "Limited to dry season (generally June 1-October 15), shall operate on slash mat, outside of 1 SPTH, or protection buffer (whichever is greater) and required monitoring on all units." See PDC at 7. In addition, as was discussed during the resolution meeting, the District clarified that unstable areas were excluded from the unit boundaries during the planning process.

Final Remedies/Resolutions for Soils and Geology: The geology and soils in the project area have been adequately protected. No remedy or resolution is required.

Huckleberries

Overview and Objector's Suggested Remedies: These objection issues surround the concern about the proposal to enhance huckleberries. Suggested remedies include not going forward with this project.

Objector Statement #16: Objector states that the Forest should "address this USDA science in its proposed action for Huckleberry Enhancement in the Zigzag Integrated Resource Project." MF at 5.

Another objector states that the "Draft Decision fails to address the emerging science that shows how warming temperatures due to climate change can impact pollination of huckleberry plants." LV at 1.

Response: I find that the District addressed huckleberry science.

The Consideration of Comments document and the Silviculture Report addressed the objectors' concerns that the Forest should address or failed to address science in the proposed action for huckleberry enhancement in the project. The Silviculture Report at 9 states that "thinning would reduce the overstory canopy to enhance huckleberry growth and production. Reducing the overstory was found to be positively associated with big huckleberry (*Vaccinium membranaceum*) berry production (Minore 1984)."

This topic was also discussed in the Consideration of Science document at 9, which also addresses this issue and why the Forest Service has chosen not to add the use of fire as an enhancement tool. Finally, the draft DN at 9 addressed comments and concerns about huckleberry management.

Final Remedies/Resolutions for Huckleberries: Huckleberry science was addressed. No remedy or resolution is needed.

Fire and Fuels Management

Overview and Objector's Suggested Remedies: These objection issues surround the concern that the EA lacks specificity of fuels treatments and that there is confusion regarding the purpose of fuels treatments. Suggested remedies include: disclosing "exactly what the Forest Service proposes to do to "treat fuels" and/or modify fire behavior in the Zigzag Project;" and if the Forest Service is proposing to log fuels breaks, or to claim that logging in Riparian Reserves will make them more fire resilient, the Forest Service must recognize the scientific controversy around this issue, engage the research and create supplemental NEPA analysis that discusses the efficacy of logging to affect fire behavior in westside forests."

Objector Statement #17: Objector states that the EA failed to take a hard look at fuels management in violation of NEPA. Bark at 21-24. Objector states that they found "no clear disclosure of proposed actions regarding fire and fuels, or reference to relevant scientific research to support any actions. plans to take." Bark at 21. Objector states that there is little to no specificity regarding fuels treatments and that it is unclear if fuels treatments are confined to treating activity fuels or if there will be other fuel reductions treatments along roads, as indicated in the preliminary EA at 45. Bark at 22.

Response: I find that the EA and draft decision adequately addressed fuels management.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA at 4 does not have a purpose and need element for hazardous fuels reduction. The only fuels treatments prescribed are to reduce activity-generated fuels within treatment units. The EA at 12 and Silviculture Report at 13-14 discuss taking a more precise look at activity units after harvest to see if fuels treatments are needed. The EA at 45 states that there will be some fuels reduction work along roads. This was addressed in the Consideration of Science at 14 which states that "The fuel treatments proposed in this project involve pulling back activity fuels inside thinning units along certain key roads.

Fuel reduction is not the primary purpose of the thinning. However, there is a low-cost opportunity to rearrange activity fuels to allow suppression forces to operate along roads in the event of a fire. This treatment is not a traditional fuel break." The draft DN at 10 addressed the objector's concern about fire management.

Objector Statement #18: Objector states that the if the EA is suggesting that thinning "will affect the behavior of future fires, as seems the thrust of the Fisheries report and the Fire & Fuels Specialist's report, then we object on the grounds that this approach is highly controversial according to relevant science, requiring a thorough EIS NEPA analysis. See Bark v. United States Forest Serv., 958 F.3d 865 (9th Cir. 2020)." Bark at 22.

Response: I find that the EA does not suggest that thinning will affect future fires and their management.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

As previously noted, the project's only fuels reduction work on activity units. The EA at 4 does not have a purpose and need element for hazardous fuels reduction. The Fisheries report does not include any information referencing or supporting the effects of thinning on future fires, prescribed or wildfires. The EA at 45-46 does speak to the potential of fire behavior moderation with the intent to lower flame lengths within the treated units. Those efforts would be to help the fire suppression efforts. The EA at 7 states that "Inside many of the vegetation management actions described above, fuel treatments will occur. This is considered a connected action, to break up the contiguity of fuels and to provide a safer setting for fire suppression forces in the event of wildfire." The EA at does not have a proposed action of thinning for fuels reduction.

The Consideration for Comments at 5 states that "Fuel treatments in this project involve pulling slash back from certain roads to provide areas for fire suppression forces to engage a potential fire safely." The Fuels specialist report does speak to cumulative effects of the stands and their relationship to flame lengths which has a direct correlation to suppression actions. The Fuels Specialist report at 10-18 projects flame length over time for treated and untreated units. This modeling is not to reduce fire or fire behavior to a point that no suppression effort is needed, but to provide a reasonable amount of safety to the firefighter and general public if one was to occur. The EA at 45 states that there will be some fuels reduction work along roads. This was addressed in the as the Bark Zigzag Consideration of Science document at 14, which states that "The fuel treatments proposed in this project involve pulling back activity fuels inside thinning units along certain key roads. Fuel reduction is not the primary purpose of the thinning. However, there is a low-cost opportunity to rearrange activity fuels to allow suppression forces to operate along roads in the event of a fire. This treatment is not a traditional fuel break."

As was discussed during the objection resolution meeting, the final decision will include language clarifying the intent of the fuels treatment.

Final Remedies/Resolutions for Fire and Fuels Management: The project does not have a purpose and need element for hazardous fuels and clearly the intent of fuel treatments is to reduce activity generated fuels. As was discussed during the objection resolution meeting, the final decision will include language clarifying the intent of the fuels treatment. No remedy or resolution is required.

Roads

Overview and Objector's Suggested Remedies: This objection issue surrounds the concern that the proposal of road building and rehabilitation will negatively affect the diversity and health of the forest. Suggested remedies include not building new roads. Suggested remedies by Bark include actively decommissioning Road 1828-024 and Road 1828-022; dropping Unit 6 and Unit 119 in order to eliminate the need for long temporary roads, which would also reduce impacts to unroaded blocks and elk habitat provided by Unit 119.

Objector Statement #19: Objector notes that "major road building destroys the integrity of forests for the diversity and health of its flora, fauna, fish." BC at 1.

Response: I find that the District addressed potential impacts from roads.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The draft DN at 6 documented the responsible official's consideration of comments regarding the road system. As noted in the draft DN, the responsible official "examined the effects disclosed in the EA and found them to be minimal while the benefits are substantial (s. 3.2, s. 3.3.3, & s. 3.7.3)."

Objector Statement #20: Objector states that the Forest failed to accept information relevant to the analysis in violation of NEPA, specifically the information provided by the objector about their concerns regarding temporary road building. Bark at 12.

Response: I find that the District considered relevant information regarding temporary road building.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives. The regulation at 36 CFR 218.25(b) requires the responsible official to consider all written comments submitted and that all written comments received be placed in the project file and become a matter of public record.

Road related comments were accepted and considered and where appropriate, were acted upon. See the EA at 9-10 and the draft DN at 5-6, as well as the Consideration of Comment at #10 in project record.

Objector Statement #21: Objector states that the proposed road density violates the Mt. Hood National Forest LRMP. Bark at 12-14. Objector states that they proposed opportunities to reduce road-related impacts to remedy the inconsistency with road densities and the Forest Plan, and that these opportunities were not considered in the analysis. Bark at 13.

Response: I find that the project does not violate the Forest Plan because an exception was documented.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA at 36 and the Draft DN at 16 documented the exception for open-road density, as allowed by the Forest Plan (see the Forest Plan at pages 40-45 for discussion of exceptions). The team considered all of the roads in the planning area as documented in the project record in the Transportation Specialist Report.

Road densities were also considered in the Wildlife Biological Evaluation and Specialist Report at 49 and in the Bark Zigzag Comment Consideration document #36.

During the resolution meeting, there was discussion about actively decommissioning road 1828-024. While the draft decision considered passively decommissioning this road, the responsible official has decided to actively decommission the road in order to address the objector's concern. This change will be made in the final DN.

Objector Statement #22: Objector states that the Forest failed to consider viable alternatives that included no temporary roads in the Horseshoe area and no new temporary roads in key watersheds, stating that there are 7.7 miles of temporary road construction/reconstruction and 1.5 miles of decommissioning, which they believe is in violation of the "no net increase of system and non-system roads" requirement in Tier 1 key watersheds. Bark at 13-14. While objector notes that an alternative considering helicopter logging was considered, that was not their request. Bark at 14.

Response: See the response to Objector Statement #6. During the resolution meeting, there was discussion about actively decommissioning road 1828-024. While the draft decision considered passively decommissioning this road, the responsible official has decided to actively decommission the road in order to address the objector's concern. This change will be made in the final DN.

Final Remedies/Resolution for Roads: Roads and road-related impacts were adequately addressed. No remedy or resolution is required. However, during the resolution meeting, there was discussion about actively decommissioning road 1828-024. While the draft decision considered passively decommissioning this road, the responsible official has decided to actively decommission the road in order to address the objector's concern. This change will be made in the final DN.

Impacts to Viewshed/Recreation

Overview and Objector's Suggested Remedies: These objection issues surround the concern that the proposal did not disclose the effects to the viewshed at H3.1. Suggested remedies include disclosing the visual impact analysis and information about the timing and scale of the project and its impact to French's Dome.

Objector Statement #23: Objector notes that "the details on the visual impact analysis that was performed for location H3.1" were not disclosed in the EA or draft decision. PACC at 1.

Response: I find that visual impact analysis was performed for location H3.1.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The EA includes a summary of the effects analysis to scenic resources and concludes that the implementation of the "scenery PDCs would enable the proposed action to meet or exceed required

minimum VQOs / SIOs and be consistent with Forest Service Handbooks and with Forest Plan standards and guidelines for scenic resources." EA at 39.

The Zigzag Integrated Resource Project Scenery Analysis Report identifies Observation Point H3.1 as one of the observer positions for review and identifies that unit 4 will be in the near foreground, and unit 6 in the far foreground of this viewer position and several other units in the seen area. Scenery Specialist Report at 39-40. Additionally, because those maps are based on bare earth DEM analysis, the actual seen area relative to each observer position is likely to be much more limited or even nonexistent when the screening provided by existing vegetation is taken into consideration. Scenery Specialist Report at 22.

The EA concludes that at locations with greater landscape visibility, such as H3.1, the scenery PDC would provide guidelines for deviations resulting from treatment activities to reflect the dominance elements of the surrounding characteristic landscape and that implementation of scenery PDCs would enable the proposed action to meet or exceed required minimum VQOs / SIOs and be consistent with Forest Service handbooks and with Forest Plan standards and guidelines for scenic resources. Scenery Specialist Report at 20. EA at 39.

Objector Statement #24: Objector would like the Forest to disclose further information as to the timing and scale of impact to access at French's Dome. PACC at 1.

Response: I find that the District adequately disclosed impacts to the area associated with French's Dome.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The selection of observer positions for scenery and visual effects was "based on two criteria, the first of which was the identification of primary use areas, primary travel ways, and areas of special significance within or adjacent to the project area, which, due to their higher visitation and/or public concern level, would result in greater landscape visibility. The second selection criterion was the identification of areas that have been assigned more restrictive VQO / SIO requirements by the Forest Plan, such as designated viewsheds, Wild and Scenic River corridors, Sensitivity Level I Trails, and Special Interest Areas." (Scenery Analysis Report at 7)

The EA analyzes impacts to designated observation positions and corridors (see Objector Statement #23 Response) including a trailhead identified as H3.1 and Trail #776C in the vicinity of French's Dome. Similar to other popular climbing areas, the Forest Plan does not include the top of French's Dome as an observation position (Comment Consideration #67 at page 16).

In the Recreation Report, the Forest identifies the top of French's Dome is considered a dispersed recreation area (Recreation Report at 5), not a developed one. The Forest states "the agency does not have the expertise to appropriately design safe climbing routes that are readily accessible" (Comment Consideration #65 at 16). The Forest Service does not certify the conditions of the rock-climbing route and does not examine the area for hazard trees (Comment Consideration #65 at 15-16).

Although not a designated observation point, the District stated that "the view from the top of French's Dome would likely remain similar to the current condition" (Comment Consideration #67 at page 16)

since the closest units are proposed to be thinned by helicopter. The District explains that "the viewer would see the tops of trees at an oblique angle and therefore the proposed thinning would not be readily noticeable. The viewers from the top would not have objectionable views of close up stumps, slash or landings." Comment Consideration #67 at page 16.

Objector Statement #25: Objector questions if the Forest has "adequately researched and profiled the broader ecological concerns of contemporary recreation-seekers. While the Zigzag PA has calculated the small economic contribution the prescribed action makes to the local timber industry, I must question whether the Forest Service has adequately researched and profiled the broader economic impact of a high visitation recreation area that is being re-opened to logging after a 20-year hiatus." MF at 7.

Response: I find that the District adequately evaluated the recreational, social, and economic impacts associated with the proposed actions.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives. According to 40 CFR 1508.14, the human environment shall be "interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment."

The objector brings up questions raised during the 30-day comment period and that the Forest Service has responded to in the draft Decision Notice, Recreation Report, and Consideration of Comments document. The draft Decision Notice at 7 states that "I have reviewed the science and it does not support the notion that carefully planned variable-density thinning, and the other connected actions would detract from or harm the local economy." Literature shows that the majority of recreational benefit to the local economy comes from the downhill ski area which will not be impacted by the proposed actions (DDN at 7).

Furthermore, a recreation specialist and a landscape architect helped design the project, including the project design criteria to minimize impacts to recreation and scenery (draft DN at 7). Closures necessary for safety would be "short in duration and would not occur on weekends or holidays" (draft DN at 7). The draft decision at 7 also states that many actions would not occur during the peak summer or winter seasons. The analysis finds that the minor alternations to scenery are not expected to cause the recreating public to stay at home or recreate elsewhere. If there would be temporary shifts to recreation use patterns, they would likely be to adjacent areas on the mountain and would likely still contribute to the local tourism economy (draft DN at 7).

The Recreation Report outlines a qualitative analysis based on a review of the available literature on potential impacts to the recreational economy (Recreation Report at 7-8). Similar projects with comparable design criteria elsewhere on the Forest have not resulted in dramatic changes in recreation use patterns (Consideration of Comments at 3). Specific metrics associated with the use of various recreation sites within the project area are unavailable therefore a quantitative economic analysis would be speculative and not reflective of the temporary nature of minor recreational displacement (Recreation Report at 12-13).

Final Remedies/Resolution for impacts to Viewshed/Recreation: Impacts to recreation and visuals were adequately addressed. No remedy or resolution is required.

Impacts to Climate Change/Carbon Storage

Overview and Objector's Suggested Remedies: This objection issue surrounds the concern that the EA did not disclose the effects of this project on climate change. Suggested remedies include disclosing a complete analysis on climate change. Objector Bark suggests reviewing the scientific research on this issue and creating a "more up-to-date, well-reasoned analysis of the impacts of this project on increasing climate resiliency in the Zigzag project area."

Objector Statement #26: Objectors are concerned that a complete effects analysis of this proposal on climate change was not disclosed. MF at 1. LV at 1.

Response: I find that the EA and associated resource reports adequately addressed the potential effects of this project.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed project, including disclosing the direct, indirect and cumulative effects. The Washington Office's January 13, 2009 Memo on "Climate Change Considerations in Project Level NEPA Analysis" documents that when relevant, the analysis should document the project's effects on climate change and the effects of climate change on the project.

The District did include climate considerations in the effects analysis for the project. A Climate Report completed for the project included analysis of project effects on carbon emissions and sequestration and how the project may help or hinder the "forest's ability to deal with climate change." Zigzag Climate Report at 1. The report and EA disclose that vegetation treatments aimed at enhancing the health of the stand could leave residual trees "better able to withstand stresses such as dry summer conditions." The report reveals that equipment needed to log the stands will emit fossil fuels and carbon would be released into the atmosphere from burning associated with slash. Some debris will be left on the ground which will increase carbon sequestration and trees removed are likely to be used as long-term wood products which may lead to a "more favorable carbon balance when compared to other building materials such as steel, concrete or plastic." Climate Report at 2-3.

Additionally, the Consideration of Comments document provides an additional discussion on the consideration of public comments related to climate change. Consideration of Comments at 3-4. This clarifies that many of the comments suggesting no action were considered to contrast with the proposed action to support an informed decision. EA at 15. Additionally, there was further consideration of science provided by the commenters. This document clarifies areas where additional science was considered by the responsible official and used to support their informed decision. Project Record, Consideration of Climate Science at 1-27.

Objector Statement #27: Objector states the "Climate Change Report concerns me for the way it fails to address fully available science on a full range of climate change impacts, including changes in precipitation, snow melt in transient snow zones, and flooding events." MF at 6.

Response: I find that the Responsible Official considered available science on the full range of climate change impacts.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

Rain-on-snow/peak flow events were disclosed in the Fisheries and Aquatic Resource Report at 66-69. See the response to Objector Statement #26.

Objector Statement #28: The objectors are concerned that the EA fails to "adequately address the concerns raised in public comments about the project's potential impact on climate change concerns. Failing to take a "hard look" at the way that this project may exacerbate the present and future realities of climate change violates the same laws and policies as were deemed illegal in the Crystal Clear Timber Sale proposal with regard to NEPA." JM at 1 and MP at 1.

Response: See the response to Objector Statement #26.

Objector Statement #29: Objector states that the Forest "failed to engage with most issues raised in comments regarding the climate analysis" and they incorporated their issues that they raised in scoping, including failure to use best available science and failing to take a hard look at climate change. Bark at 24-27. Objector states that there is nothing to confirm the assertion in the EA that cited science or more recent science has been considered. Bark at 25-27.

Response: See the response to Objector Statement #26. The project record includes documentation of how the District considered climate science (Consideration of Science Related to Climate Change).

Objector Statement #30: Objector states that the draft decision did not explain why a quantitative carbon analysis, which was requested by many commenters, was inappropriate or speculative. Bark at 25-27. Objector states that the Forest could have extrapolated existing scientific information about carbon impacts, which the BLM has been doing for the past 10 years for their timber sales. Bark at 25-26. Objector states that even if a qualitative analysis was not strictly necessary, the EA contained little to no qualitative information, which means that the Forest failed to take a hard look at climate change. Bark at 26.

Response: I find that the Responsible Official discussed the impacts on climate change from the project, including a discussion on why a quantitative analysis was not conducted.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed project, including disclosing the direct, indirect and cumulative effects. The Washington Office's January 13, 2009 Memo on "Climate Change Considerations in Project Level NEPA Analysis" documents that when relevant, the analysis should document the project's effects on climate change and the effects of climate change on the project.

In its consideration of public comments on the project, the District recognized that a site-specific analysis would not likely "lead to changes to the proposed action or to the creation of other alternatives that achieve the purpose and need." EA at 46. The Climate Change analysis includes the discussion that the proposed action would lead to achieving the desired conditions at the stand level and would allow stands to adapt to the future climate. EA at 46. The specialist report identifies that the change would be minor relative to the Forest as a whole at 1.1 million acres or the Zigzag Ranger District encompassing about 235,900 acres of the Forest. This equates to approximately 0.2% of the Forest and 1% of the Ranger District. Climate Specialist Report at 5.

Objector Statement #31: Objector states that logging does not increase the forests resiliency to climate change, and that the decision rationale that the proposed action would move stands to be able to thrive in a changing climate is not supported by the best available science. Bark at 27. Objector states that "proforestation" is the most effective approach to increase carbon storage and climate change resilience and that the beset available science agrees that maintaining intact mature forests is best for forest resiliency. Objector states that the Forest is not engaging in the best available science and cannot support the decision rationale because the science they submitted has not been considered. Bark at 27-28.

Response: I find that the Responsible Official considered "proforestation" in its analysis of the no-action alternative.

The regulation at 36 CFR 220.7(b)(3) requires that an EA include a discussion of the environmental effects of the proposed action and alternatives.

The environmental assessment summarizes that under the no action alternative, that the project area would continue to sequester carbon on-site. EA at 46. The specialist report further identifies that as stands grow and become overcrowded, their growth rates and health would gradually decline. Individual trees and stands would become susceptible to stressors of insects and disease that may be exacerbated by climate change. Climate Specialist Report at 4.

In order to best meet the purposes and needs for the project area, the Responsible official considered the cost and benefits of the no-action alternative to the proposed action, and determined that the various proposed actions are appropriate tools to use to move the area toward desired conditions. DN at 5.

Final Remedies/Resolution for Climate Change/Carbon Storage: Climate change and carbon storage were adequately considered. No remedy or resolution is required.