DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT

ZIGZAG INTEGRATED RESOURCE PROJECT

USDA FOREST SERVICE
MT. HOOD NATIONAL FOREST
ZIGZAG RANGER DISTRICT
CLACKAMAS COUNTY, OREGON

The Zigzag Integrated Resource Project Environmental Assessment (EA) contains an in-depth discussion of the setting, ecological processes, resource conditions, the purpose and need for action, the proposed action designed to achieve the purpose and need, project design criteria, alternatives considered, and the effects or benefits of those alternatives.

All section (s.) number references are to sections of the EA unless specified otherwise. The EA is incorporated by reference, summarized below, and can be found at the Forest's website[1]. Acres and miles are approximate since they are derived from GIS. The Mt. Hood National Forest is referred to as 'the Forest' in this document. The Mt. Hood National Forest Land and Resource Management Plan (1990) and Standards and Guidelines, as amended, are referred to as the 'Forest Plan' in this document.

Decision

I have reviewed the EA and the information contained in the project file. I have also reviewed and considered the public comments submitted on this project. I have determined that there is adequate information to make a reasoned choice. **I have decided to select the proposed action.** The proposed actions are described at Section 2.2 of the EA.

Forest Service Handbook 1909.15, Chapter 10, provides a process for making incremental changes to alternatives. Ongoing interdisciplinary analysis and consideration of public comments has resulted in modifications compared to what was described at the time of scoping, and what was disclosed in the preliminary environmental assessment. I believe these changes result in a better proposal and a better decision. I find that the changes will result in relatively minor differences in resource benefits and impacts.

[1] https://www.fs.usda.gov/project/?project=57109

Details of Decision

Table 1 - Summary of Vegetation Management Actions

Purpose & Need	Proposed Action	Mud Creek Acres	Horse Shoe Acres
Improve forest health, growth, and diversity while providing forest products	Variable-density thinning with skips and gaps in Matrix (includes huckleberry enhancement units)	952	604
Improve diversity and move stands toward late-successional characteristics	Variable-density thinning with skips in Riparian Reserves	119	175
Improve forest health, growth and diversity while providing forest products	Regeneration harvest in Matrix, site preparation and planting	13	0
Improve forest health, growth, and long-term productivity	Sapling thinning and brushing	126	0
Improve forest health, growth, and long-term productivity	Western white pine sapling pruning	143	0

Table 2 - Summary of Transportation System Management Actions

Purpose & Need	Proposed Action	Mud Creek Miles	Horse Shoe Miles
Manage the road system to allow for safe timber hauling	Maintain and repair Forest Service system roads	24.0	19.3
Provide access for vegetation management	Construct new temporary roads	3.2	0.7
Provide access for vegetation management	Existing road alignment reconstruction on road alignments that were once temporary roads	1.3	1.3
Provide access for vegetation management	Existing road alignment reconstruction on road alignments that were once system roads	3.2	1.0

Table 3 – Other Transportation System Actions

Purpose & Need	Proposed Action	Miles
Reduce resource risks and maintenance costs associated with Forest Service system roads	Active and passive decommissioning of system roads no longer needed	2.3
Reduce resource risks and maintenance costs associated with Forest Service system roads	Closure and stormproofing of roads that remain on the system	6.5

In addition to the above, the proposed action includes the relocation of the Top Spur Trail and trailhead (s. 1.3.4, s. 3.9), the acquisition of scattered fish logs from plantations along certain roads (s. 1.3.4), felling and leaving trees in riparian reserves (s. 2.2.3), and treatment of activity fuel (slash) inside harvest units (s. 2.2.1.2).

Project Design Criteria (PDC) in Section 2.2.4 are part of the project and provide important resource protections. No significant impacts were found that would require further mitigation.

Changes from the Time of the Draft Decision

I have decided to change one item of the proposed action based on discussion during the objection resolution meeting on December 11, 2020. That is to change the original plan for road 1828024 from passive decommissioning with a berm, to active decommissioning for the road's entire length after timber haul is finished on that road. Since that road was already authorized for decommissioning with a separate decision document, it is not included in the mileage in table 3 above. The only element of the previous decision that remained, was the timing and the specific method of decommissioning, which I have resolved here.

I have decided to delete unit 33 (10 acres) due to a clerical error. Prior to survey and manage surveys, an incorrect age for this stand was communicated to the wildlife biologist and as a result, surveys were not conducted in this unit because the stand was thought to be under age 80. Checks of the stand exam data show the unit to be 90 years-of-age. Initiating survey and manage surveys now could delay this decision by many months and would be costly to conduct for such a small area.

Decision Rationale

Thinning – The thinning treatments target overcrowded stands to increase their health and vigor, as well as to enhance diameter and height growth (s. 1.3.1.1 & s. 3.1). Thinning has been designed to have variable density with skips and gaps to enhance diversity (s. 1.3.1.1 & s. 2.2.4 at B8, B15, B16, J6, J7, K1, K5, & N6). Some of the thinning treatments have an objective of enhancing huckleberries (s. 3.1). Some of the thinning treatments result in forest product outputs now, while others are intended to enhance younger stands to be more productive and provide forest products in the future (s. 2.2.1.).

The stands included in this project have been examined and those proposed for thinning have been found to be overstocked. When trees are too closely spaced, they experience a slowing of growth due to competition for sunlight, moisture, and nutrients. Suppressed, slow-growing trees have begun to die and have become susceptible to diseases and wind damage.

Based upon computer model simulation described in the Silviculture Specialist Report, the average diameter in thinned stands, after 50 years of growth would be 22.6 inches diameter in plantations and 27.7 inches diameter in fire-origin stands, compared to no action, which would result in diameters of 17.1 and 17.3 inches, respectively. Currently, the average diameters are 11.8 and 13.2 inches, respectively. Having larger, healthy trees on the matrix lands suitable for timber production is an important management goal associated with the Northwest Forest Plan's implementation; and, it is also key for land allocations where the objective is to accelerate the development of late-successional stand attributes. As forested stands reach an average diameter of 20 inches or larger, they begin to develop some of the characteristics (e.g., larger tree boles) necessary for late-successional dependent wildlife species.

The silvicultural activities associated with my decision will reduce the competition for nutrients, moisture, and sunlight, and discriminate against the smaller, overtopped, and/or less vigorously growing trees. As a result, the anticipated growth and developmental rate of the larger trees will

increase in comparison to no action. I believe that thinning is prudent to maintain health and growth and to achieve many important goals of the Forest Plan.

Regeneration Harvest – One 13-acre harvest unit is proposed for regeneration harvest to address a dwarf mistletoe disease issue (s. 3.1). The unit is 117 years old and has an average diameter of 11.5 inches.

I believe this action is relatively minor on a landscape scale and is appropriate to address a disease problem. It is a prudent action to achieve Forest Plan goals, namely, to improve forest health objectives by establishing tree species that are not susceptible to dwarf mistletoe. Dwarf mistletoe results in a dramatic decline in growth and vigor and readily spreads to all susceptible species including hemlock and Pacific silver fir which are common in this stand and already heavily infected. (Silviculture Report at 10)

Wood Products – My decision will provide forest products consistent with the Northwest Forest Plan's goal of maintaining the stability of local and regional economies now and in the future (s. 1.3.1.2, s. 3.1 & s. 3.10).

As a result of implementing the silvicultural prescriptions, the project will provide timber and will support jobs important to local communities. It will also result in vigorously growing stands that would be capable of providing future forest products. If I opted to take no action, there would be no wood products provided and it would result in stands with reduced growth and productivity. I believe this action is a prudent step toward sustainable forest management.

Transportation System Management – In the past decades, appropriated road maintenance funds have declined dramatically. Given that reality, I feel it is important to use the opportunity afforded by timber removal projects to use the value of the timber to fund road maintenance and repairs. There is also the opportunity to reduce road maintenance costs by decommissioning and closing roads (s. 1.3.2.1 & s. 2.2.2.3). The temporary roads constructed and the existing old road alignments that are reconstructed will be rehabilitated after use (See more on temporary roads on the following page). I have determined that the use and treatments of the roads is prudent and warranted to achieve resource objectives.

Riparian Habitat Enhancement – My decision will enhance riparian reserves by thinning in the dry upland portions of riparian reserves that have been found to benefit from this treatment (s. 3.4.6.3).

Management Direction (s. 1.2) – The project has been designed to meet the goals and objectives of the Forest Plan as amended by the Northwest Forest Plan and other amendments. The project would occur on riparian reserves and matrix land allocations. Even though each land allocation has different goals and objectives, I find that the various proposed actions are appropriate tools to use to move the area toward desired conditions. Further discussion of consistency with standards and guidelines can be found below.

Public Involvement

Section 1.4 describes the various opportunites for the public to submit comments.

I received a wide range of comments. The original letters are included in the analysis file. I documented consideration of the comments received in a separate document titled, "Consideration of Comments." I chose to document what I felt to be the key comments received under the headings: 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.

I considered the comments and suggestions received, and after making some incremental changes and adding some clarification on some topics, I feel that the proposed action provides the best mix of resource outputs, restorations and protections.

- **Temporary roads** are those roads that are built by timber contractors to access log landings and to facilitate efficient logging operations. After use, they are rehabilitated and closed (s. 2.2.2.2). Some commenters suggested that temporary road construction be minimized or eliminated altogether.

  The proposed action involves reusing 6.8 miles of existing road alignments and constructing 3.9 miles of new temporary roads. Several project design criteria (including A4, A6, A8, A9, A10, D5, D8, G1, G3, G7, H2, H4, H5, H6, M1, N1, N4, & N5) provide resource protection during construction and use of temporary roads.

  I did consider the option of not building temporary roads but decided that it did not warrant a fully developed alternative (s. 2.1.1). That option would result in a large portion of the landscape remaining unmanageable due to the infeasibility of logging with helicopters on such a large scale. Another factor influencing my decision, is that I examined the effects disclosed in the EA for temporary roads and found them to be minimal (s. 2.1.1, s. 2.2.2.2, s. 3.3.1.3, s. 3.3.3.3, & s. 3.6). Temporary roads are addressed is specialist reports including the Water Quality Report, at s. 2.3.1, s. 5.1.2, & s. 5.2.2.2; in the Fisheries Report at s. 5.3.2, s. 12.3.2, s. 16.4, s. 16.5; and in the Soil Report at 13. The new temporary roads have been carefully located to minimize resource impacts, they will be rehabilitated after use, and are in appropriate locations to serve the transportation needs of this portion of the landscape allocated to timber management in the Forest Plan.

  The alternative of logging with helicopters instead of constructing or reconstructing temporary roads was considered but not selected because it would not likely be viable and would not likely achieve the purpose and need on a large portion of the landscape.

  I considered the science that was cited by some commenters as well as other literature on the subject. The resource specialists including those evaluating water quality, fisheries, and soils, considered the latest science related to roads and used it in their analysis.

- Some commenters suggested that more **system roads** should be decommissioned while others suggested few if any roads should be decommissioned to provide access. The project includes

changes to roads based on the Forest-wide Travel Analysis Report (2015) that was refined by site-specific information in a project level analysis (s. 1.3.2, s. 2.2.2.3, s. 3.2). Roads that were found to not likely be needed for future management were proposed for decommissioning to move the project area toward a minimum road system.

Roads are managed for safe access while minimizing impacts to resources. Although some commenters might feel that the only way to resolve road issues is to decommission them, the proposed action includes many other actions to repair and restore roads, and to address erosion and sedimentation issues. The following actions reduce long-term modeled sediment contribution from system roads.

- Decommissioning of unneeded roads
- Road maintenance including blading, shaping, ditch cleaning
- Road repair
- Replacing poorly functioning culverts
- Road closures with stormproofing
- Project Design Criteria have been developed that address road- related erosion and sedimentation. They include the avoidance of maintenance or haul during wet periods.

I believe my team has conducted a sufficient project-level analysis of the transportation system and that the resulting network of both open and closed system roads is the minimum necessary to manage the land. I have considered this road network in terms of the resource risks that each remaining road poses, the current and future need for road access, and the minimization of road maintenance costs. The timber harvest elements of the project will provide substantial value to pay for road repairs and maintenance conducted by timber operators to supplement appropriated funding levels.

Some changes were made to the proposed action to decommission some other roads that were found to no longer be needed. At the time of scoping, the project information sheet identified 0.5 mile to decommission, but after considering comments and looking at some roads more closely, the proposed action was changed to include 2.3 miles that were found to be no longer needed. Similarly, after consideration of comments, road closures were increased from 5 miles to 6.5 miles.

I considered the comments received about the transportation system, and believe the road repairs, maintenance, closures, and decommissioning are appropriate to provide safe access to the Forest while minimizing resource impacts and cost. I 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).

I considered the science that was cited by some commenters as well as other literature on the subject. The resource specialists including those evaluating water quality, fisheries, and soils, considered the latest science related to roads and used it in their analysis.

- Comments were received about **recreation.** Some commenters suggest the area should have no logging and instead be managed for recreation and the economic benefits that accrue to the local economy. Some are concerned that trails, trailheads, and campgrounds would be closed for extended periods to allow logging to occur.

Some commenters feel that the local economy only thrives in the absence of logging, or that the proposed action would curtail recreation and dramatically harm the local economy. Some commenters presumed that all or most of the project would involve clear cutting because they were misinformed.

A review of the social science available on the subject shows that there is a growing local economy based on tourism and recreation. 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. The literature shows that most of the recreational benefit to the local economy is via downhill ski area use which would not be affected by the proposed action.

The recreation specialist on the team helped design the project, including the project design criteria, to minimize impacts to recreation. The recreation analysis found that minimal interruption would occur. Closures, where appropriate for safety, would be short in duration, and would not occur on weekends or holidays. Some actions would not occur during the peak summer or peak winter seasons. In some cases, flaggers would be used, resulting very short delays.

The landscape architect on the team helped design the project, including the project design criteria, to minimize impacts to scenery. The thinning that would occur in viewsheds was carefully designed to be consistent with visual quality objectives. I believe that the minor alterations to scenery would not likely cause anyone to stay home or recreate elsewhere outside the mountain zone.

If temporary shifts to recreation use patterns do occur, they would likely be to adjacent areas on the mountain and would still likely contribute in a similar way to the local tourism economy.

At the suggestion of the Pacific Crest Trail Association, I have agreed to reexamine the portion of Units 61 and 96 adjacent to the Pacific Crest Trail to better enhance scenery. I find this to be a minor change that involves a special prescription on very few acres.

I considered the comments received and I find that the proposed actions would not likely harm local communities nor would they interfere substantially with recreation.

- Comments were received about the proposal to use the **regeneration harvest method**. Regeneration harvest is proposed for one 13-acre unit with dwarf mistletoe. Some commenters suggested that regeneration harvest be eliminated. Although only 13 acres of the project are proposed for regeneration, some commenters presumed that all or most of the project would involve clear cutting because they were misinformed.

  Unit 129 has health issues that are not allowing it to grow to its full potential. The regeneration harvest would retain 15% of the largest trees individually and in patches to provide an element of diversity as the young plantation grows.

  Even though some commenters stated opposition to regeneration harvest, I believe the analysis shows that the proposal is a prudent action to achieve Forest Plan goals, namely, to improve forest

health objectives by establishing tree species that are not susceptible to dwarf mistletoe. I have considered these comments and I feel that the impacts and benefits of regeneration harvest are sufficiently documented in the EA.

Other commenters request consideration of additional regeneration harvest in the project area. Even though some commenters stated their desire for more regeneration harvest, I believe the analysis shows that the proposal is a prudent action to achieve Forest Plan goals. I have considered these comments and I feel that the mix of harvest types is appropriate for this place and time.

- Comments were received about **climate change** and the desire to see a quantitative carbon analysis. Some feel that it is best to keep all trees in the forest for maximum on-site carbon sequestration.

  I have decided that a quantitative carbon analysis is not appropriate at the project scale. I have reviewed the qualitative analysis of effects and benefits at s. 3.14. Carbon sequestration is only one of the many important values and uses of the forest. Increasing or maximizing on-site carbon sequestration is likely very compatible with many forest land allocations such as wilderness, but I do not find it to be a key objective for the treatment areas proposed in this project. I have reviewed the science and I believe there are far too many disagreements regarding the assumptions and unknowns about the factors that would go into a quantitative analysis that would render the results speculative.

  In terms of maximizing on-site carbon sequestration, I have decided that making stands more resilient to the future climate by thinning is important and appropriate and is supported by the preponderance of the recent science on the subject. For example, there is the recent document titled Climate Change Vulnerability and Adaptation in the Columbia River Gorge, Mount Hood National Forest, and Willamette National Forest; and the work of the Intergovernmental Panel on Climate Change as documented in their special report on Climate Change and Land.

  Some commenters stated their desire for a quantitative analysis or feel very strongly about their desire to maximize on-site carbon sequestration. I have considered these comments and the relevant science. I believe that the proposal is a prudent action to move stands in the right direction to be well positioned to thrive in a changing climate.

- Comments were received about **snags and legacy trees** and the desire to maximize protection for these elements.

  The analysis in the Wildlife Biological Evaluation and Specialist Report shows that no action would result in the most snags, but it also shows that the project would result in a sufficient quantity over time to meet the needs of snag-dependent species. In the future, if thinned stands are too healthy for trees to die on their own, snags can be created manually. I have considered the science that was cited by some commenters as well as other literature. I believe that the effects to these stand elements were sufficiently analyzed and documented in the specialist report.

- Comments were received about **fire-origin stands**. Some commenters suggest that stands that were burned many years ago should not be thinned and that they be allowed to grow into maturity

on their own. They feel that this would be best for a number of reasons including northern spotted owl habitat and carbon sequestration.

The wildlife biologist has identified needs to accelerate development of key habitat features while protecting legacy trees. If left untreated, most dense stands would have a phase of self-thinning. However, these stands have other objectives including the production of wood products. The Forest has consulted with the U.S. Fish and Wildlife Service and they concurred that the project would not likely adversely affect spotted owls.

I have considered these comments and the relevant science, and I find that the proposals for fire-origin stands are appropriate.

- Comments were received about **riparian management**; some supporting passive management while other support active management.

  The analyses in the Water Quality Report and the Fisheries and Aquatic Resources Report and Biological Evaluation (s. 3.3 & s. 3.4) show that the proposed actions are appropriate for riparian reserves. Team fisheries biologists have identified which riparian areas are functioning properly on their own and which areas would benefit from thinning in the dry upland portion. The analysis found that streamside protection buffers will be sufficient to provide shade and wood recruitment, and that the dry upland portions of riparian reserves will benefit from the prescribed active management to accelerate late-successional characteristics. The analysis found no change in stream temperature and a net reduction of sediment from the proposed actions.

  I have considered the science that was cited by some commenters as well as other literature. I believe that the effects to project area streams was sufficiently analyzed and that the project would meet riparian reserve standards and guidelines and is consistent with the Aquatic Conservation Strategy Objectives because it would lead to improved conditions in the long term (s. 3.4.7).

- Comments were received about **huckleberry management**. Some proposed units have a primary emphasis as the enhancement of huckleberries. Some commenters suggest that climate change may negate any of the possible benefits of treatment. Some commenters suggest the use of fire as a means to enhance huckleberry productivity. The use of fire in this area was found to be infeasible. The project area does not lend itself to conditions that would safely support fire as tool to enhance huckleberries because of the very short potential window of opportunity to burn after snow melt and before conditions become too dry and too hazardous. The proposed method of using timber harvest to reduce canopy cover and enhance huckleberries has been used successfully before in other similar areas on the Forest. I believe that changes to huckleberry productivity that may come with climate change make these active enhancements even more urgent.

  I have considered the science that was cited by some commenters as well as other literature. I believe that the effects and benefits of the huckleberry enhancement, as proposed, are appropriate in this area.

- I'm anticipating comments related to the **forest fire situation**. There has been much more fire on parts of the Forest in 2020 compared to average years. However, large intense stand-replacing wildfire is not unexpected and is considered the natural fire regime for much of the west side of the Forest. In fact, much of the west side of the Forest burned with high intensity in the early 1900s.

  My intention here is not to assess the impact of the recent fires, but to consider whether to proceed with this project in light of what is currently happening. Fire has not burned in any substantial way in the Zigzag Integrated Resource Project area. When my staff conducts their analysis of effects for a given resource, they include an analysis of reasonably foreseeable effects that have a reasonably close causal relationship to the proposed action. These effects could conceivably include wildfire and the effect it has on their resource. To decide what area to use for analysis, each specialist first considers how far across the landscape the effect is felt. For example, water quality and fisheries analyses consider watersheds and an owl analysis uses owl home ranges. The analysis shows that most of the effects that could be quantified are not felt past the Upper Sandy or Salmon River watersheds which did not burn.

  Comments have been received from the public suggesting that the Forest allow fires to burn, which is a subject that is outside the scope of project-level planning. Since the purpose and need of the Zigzag Integrated Resource Project is not related to fuel reduction or curbing wildfire, and because the fires did not encroach into the project analysis area, I find that the analysis already conducted is sufficient to move forward with this project.

- Public comments were received that **included site-specific recommendations**. I have considered many general comments and concerns, some of which I have discussed above. The administrative record also contains evidence of this consideration.

  However, some commenters that included site-specific recommendations did not feel that they received an adequate response to those issues. I would like to address that here. It is agency policy[2] to consider comments received from the public, yet there is no requirement for environmental assessments to respond to those comments individually. While I have considered site-specific recommendations, I have decided that item-by-item responses to site-specific concerns are not warranted for this type of project-level environmental assessment. I understand that some commenters would like a detailed dialogue on each point, but I have chosen instead to document how I considered them. The document titled *Consideration of Comments* shows examples of site-specific recommendations and how they were considered for topics like red tree voles, wet areas, botanical findings, road recommendations, and legacy trees.

- A letter related to this project was received by the Forest Supervisor very late in the planning process; after the close of the objection period. The letter was initiated by local residents but had

[2]https://www.fs.fed.us/im/directives/fsh/1909.15/wo_1909.15_40_Environmental%20assessments%20and%20related%20documents.doc

many names and email addresses attached. This letter contains comments and recommendations that are similar and overlap many of the comments addressed above.

The letter expressed frustration that they felt their comments had been ignored. A similar concern was raised by some objectors. A document titled *Consideration of Comments*[3] was posted on our website that addressed key concerns in a general manner. My team and I have gone to great lengths sorting through comments, reading cited scientific papers, and making changes to the project where appropriate. There are many documents in the administrative record that would help demonstrate this and I have decided to post some of them on the Forest's website. For example, one documents the changes that were made[4] throughout the planning process based on public input and the work of my interdisciplinary team. Others document consideration of cited scientific papers.

Some may feel that if I didn't change the project in the way they suggested, that indicates to them that their comment wasn't considered or taken seriously. I hope to demonstrate in this decision document and in the documents posted on our website, how seriously I take the process of considering comments.

As an agency, we have specific management direction that we follow, including laws, regulations, and a Forest Plan that has been amended multiple times. This plan and each amendment were the subject of public participation efforts that found a balance between the various resources and uses of public lands. Although some hold different views, this plan remains the collective public direction for land management. Where conditions or the advancement of science were found to warrant changes, the Forest Plan was amended (18 times to date). Although not specifically part of the Forest Plan, other management direction documents also responded to the latest science including consultation documents under the Endangered Species Act for listed fish and spotted owls and the Upper Sandy River Watershed Restoration Action Plan. This project is consistent with the overarching goals of restoration expressed in all these plans.

I have considered our management direction and how it relates to the site-specific resource conditions and needs in the project area. I feel that we have appropriately balanced all of these multiple objectives (vegetation management; restoration; sustainable recreation; etc.) and a diversity of perspectives (internally and externally), while still meeting the goals and mission of the agency.

To summarize, I considered the comments received and I believe that the proposed action is both appropriate and consistent with relevant management plans (s. 1.2) and laws (s. 3.15) and that the environmental assessment and specialist reports clearly explain the effects and benefits. I find that the science used to develop the project and to assess the effects is current and valid. I believe that I have made a decision that balances the need for these actions against impacts to resources, and I have incorporated adequate design features (s. 2.2), and project design criteria (s. 2.2.4) to minimize

[3] https://www.fs.usda.gov/nfs/11558/www/nepa/112557_FSPLT3_5659397.pdf
[4] https://www.fs.usda.gov/nfs/11558/www/nepa/112557_FSPLT3_5659594.pdf

impacts to resources and that those impacts have been thoroughly disclosed in the EA and specialist reports.

Even though I respect the opinions and wishes of commenters and appreciate the dialogue that has occurred, I do not consider most of the comments received to warrant the generation of additional fully-developed alternatives in the environmental assessment. The following section describes alternatives that were considered and the rationale for their elimination from detailed study.

Description of Other Alternatives and Reasons for Non-Selection (s. 2.1)

In the EA, 'No Action' is not described as an alternative. Taking no action, is assessed in all of the topics in section 3 in terms of how the existing conditions might change over time. This is particularly important for the elements of the purpose and need (s. 1.3) because it helps show the urgency of taking action. Taking no action would result in undesired conditions across the landscape and would not achieve the goals or outputs of the Forest Plan, as amended.

Other Alternatives Considered

The EA discusses comments that were received from the public suggesting the consideration of other alternatives. Details of the suggestions and responses are in the EA at s. 2.1.

- The option of not constructing temporary roads was considered (s. 2.1.1).
- The option of additional road decommissioning was considered (s. 2.1.2).
- The option of no regeneration harvest was considered (s. 2.1.3).
- The option of additional regeneration harvest was considered (s. 2.1.4).
- The option of deleting fire-origin stands was considered (s. 2.1.5).
- The option of deleting riparian management was considered (s. 2.1.6).
- While not technically evaluated as an alternative, the option of taking no action was suggested by many commenters and was used as a baseline to compare and contrast the proposed action.

The benefits and impacts of the above options that involve deletions are described in the EA and specialist reports under "no action." The rationale for considering these options but not fully developing them or selecting them is discussed in the EA for each section listed above. I have chosen the proposed action, as refined based on public comments, over these other options because it provides a better mix of outputs, resource enhancements, and protections.

The environmental impact and benefits of the project elements suggested for change or deletion have been fully analyzed and disclosed in Chapter 3; the effects were found to be minimal. The analysis found the impacts to be sufficiently mitigated by project design criteria (s. 2.2.4). Forest Plan standards and guidelines would be met, and the project would be consistent with the Aquatic Conservation Strategy (s. 3.4.7.1).

The Forest Plan as amended, directs where it is appropriate and desired to manage vegetation to meet the multiple objectives of resource management. The areas affected by requested changes are on land allocations considered suitable for vegetation management as well as road construction.

While some commenters suggest that the project elements are controversial, I disagree. The projects are consistent with the Forest Plan as amended by the Northwest Forest Plan. These plans were the subject of extensive public participation efforts that found a balance between the various resources and uses of public lands. These plans were also challenged in court, where judicial review found them valid. Even though some hold different views, these plans remain the collective public direction for land management.

I considered the suggested alternatives. Even though I respect the opinions and wishes of commenters and appreciate the dialogue that has occurred, I do not consider the suggestions received to warrant the generation of additional fully-developed alternatives in the environmental assessment.

FINDING OF NO SIGNIFICANT IMPACT (40 CFR 1501.6)

The Zigzag Integrated Resource Project Environmental Assessment is incorporated by reference, summarized below, and can be found at the Forest's website[5].

I have determined that this is not a major Federal action that would significantly affect the quality of the human environment; therefore, an Environmental Impact Statement is not needed. This determination is based on the site-specific environmental analysis documented in the EA which considered all the proposed action, connected actions, and project design criteria. In the case of a site-specific action such as this, significance depends on the effects in the local area (40 CFR 1501.3 (b)(1).

I also find that this is not a "mitigated FONSI" as described at 40 CFR 1501.6, and therefore there are no required monitoring elements to avoid significant impacts.

In assessing the degree of effects, I have considered both the short- and long-term effects, both beneficial and adverse effects, the effects on public health and safety, and consistency with laws protecting the environment (40 CFR 1501.3 (b)(2).

- The analysis found no significant effects. When my staff conducted their analysis of effects for their resource, they included an analysis of reasonably foreseeable effects that have a reasonably close causal relationship to the proposed action. The analysis included short- and long-term impacts and benefits. Past, present, and foreseeable future projects have been included in the analysis. The analysis considered the proposed actions with project design criteria.

  Effects were assessed in each section of the EA including; Stand Productivity, Health and Diversity (s. 3.1.3 & s. 3.1.4); Transportation (s. 3.2.2 & s. 3.2.3); Water Quantity and Quality (s. 3.3.1.3, s. 3.3.1.4, s. 3.3.2.3, s. 3.3.2.4, s. 3.3.3.3, & s. 3.3.3.4); Fisheries (s. 3.4.4.3, s. 3.4.5.3, s. 3.4.6.3, & s. 3.4.8); Geologic Stability (s. 3.5.2 & s. 3.5.3); Soil Productivity (s. 3.6.2.2 & s. 3.6.2.3); Spotted Owls (s. 3.7.1.4 & s. 3.7.1.5); Deer and Elk (s. 3.7.3.2 & s. 3.7.3.3); Snags and Down Wood (s. 3.7.5.2); Scenery (s. 3.8.3.2 & s. 3.8.3.3); Recreation (s. 3.9.3.2 & s. 3.9.3.3); Economics (s. 3.10.2.2); Botany

[5] https://www.fs.usda.gov/project/?project=57109

(s. 3.11, s. 3.12.2.2 & s. 3.12.3); Fuels and Fire Hazard (s. 3.13.2.2 & s. 3.13.3); and Climate Change (3.14.1.2 & s. 3.14.3).

The effects disclosed were found to be minimal because of the interdisciplinary team's efforts to design the project by locating reasonable actions and by the careful development of project design criteria. In some cases, minor short-term adverse impacts were found to be outweighed by longer-term beneficial effects.

- The project contains design features to protect public health and safety including burning when conditions are appropriate (s. 3.13). Roads that are deteriorating would be repaired to provide for user safety (s. 3.2).

- My decision will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (s. 3.15).

  - *Endangered Species Act*: Consultation with U.S. Fish and Wildlife Service concerning the northern spotted owl has been completed (s. 3.7.1.1). The Letter of Concurrence from the U.S. Fish and Wildlife Service found that the project may affect but is not likely to adversely affect the spotted owl. The project is not in critical owl habitat.

    Consultation with National Marine Fisheries Service (NMFS) for Endangered Species Act listed fish, has been completed. Project Design Criteria related to listed fish were developed in coordination with NMFS. The analysis found that the project may affect but is not likely to adversely affect listed fish or their critical habitat (s. 3.4.1). It also found that the project would not adversely affect Essential Fish Habitat as defined by the Magnuson-Stevens Fishery Conservation Management Act.

  - *Magnuson-Stevens Fishery Conservation and Management Act*: The project would not adversely affect essential fish habitat for chinook or coho salmon (s. 3.15.12).

  - *Clean Air Act:* My decision is consistent with the Clean Air Act. Burning would be scheduled in conjunction with the State of Oregon to comply with the Oregon Smoke Implementation Plan to minimize the adverse effects on air quality (s. 3.13 & s. 3.15.5).

  - *Clean Water Act:* The Water Quality Report discusses the Sandy and Salmon Rivers' listing as impaired under the Clean Water Act (303(d)). The project would not exacerbate any of the water quality issues there (s. 3.3). Implementation of my decision will incorporate Project Design Criteria, as described in the EA (s. 2.2.4), which will protect and maintain water quality conditions. It is anticipated that only minor amounts of sediment would actually enter any stream as a result of implementation (s. 3.3.3.3).

  - *National Forest Management Act:* The proposed actions were developed to be in full compliance with NFMA via compliance with the Forest Plan, as amended. The project area has been found to be suitable for timber management (s. 3.1.6 & s. 3.15.6). Other requirements are discussed in the Mt. Hood Forest Plan section below.

- *National Historic Preservation Act:* The Forest operates under a programmatic agreement between the Oregon State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation for consultation on project determination. Consultation with SHPO was completed for this project (s. 3.15.1). The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places and will not cause loss or destruction of significant scientific, cultural, or historical resources.

- The project complies with Executive Order 12898 regarding environmental justice (s. 3.15.2). No disproportionately high adverse human or environmental effects on minorities and/or low-income populations were identified during the analysis or public involvement process.

Consistency with Mt. Hood Forest Plan

I find that the proposed action is consistent with direction found in the Forest Plan as amended. It is consistent with standards and guidelines specific to the relevant land allocations and it is consistent with the applicable Forest-wide standards and guidelines (s. 1.2 & s. 3).

Through consistency with standards and guidelines, the project is also consistent with the goals of the Forest Plan (page Four-2).

- Protect, maintain or enhance riparian and aquatic habitats (#6).
- Protect, maintain or enhance water quality (#7).
- Protect, maintain or enhance wildlife habitat and plant and animal habitat diversity (#12).
- Provide safe and efficient roads (#17).
- Produce wood products consistent with other resource values (#19).

Consistency is documented in specialist reports that were incorporated by reference and summarized in the appropriate EA sections. A few key topics are highlighted below.

- **Aquatic Conservation Strategy** – The project will contribute to maintaining or restoring aquatic conditions and is consistent with the Aquatic Conservation Strategy objectives (s. 3.4.7.1).

  - I have considered the relevant information from the watershed analyses completed for the watersheds (s. 1.2.2 and the Zigzag Project Additional Information[6] document). This project has adopted the concepts for riparian reserve delineation described in the watershed analyses (s. 2.2.1.1).

  - I find that the Project Design Criteria (s. 2.2.4), such as stream protection buffers and operating restrictions on ground-based machinery, will minimize impacts and maintain the function of key watershed indicators that make up elements of the Aquatic Conservation Strategy. These key indicators for water quality, habitat, flow, channel condition, and watershed condition will be maintained or enhanced (s. 3.4.7.1).

[6] https://www.fs.usda.gov/nfs/11558/www/nepa/112557_FSPLT3_5659605.pdf

- **Management Indicator Species** – I have considered the impacts to Forest Management Indicator Species (MIS) (Wildlife Report at s. 5.0). MIS for this portion of the Forest include northern spotted owl, pileated woodpecker, American marten, deer, elk, salmonid smolts and legal trout. I find that the proposed action is consistent with the standards and guidelines pertaining to MIS, and that based on the limited effects to any MIS, the proposed actions do not contribute toward a negative trend in viability on the Forest.

- **Invasive Plants** – I find that the proposed action is consistent with Pacific Northwest Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision issued in 2005 and the Site-Specific Invasive Plant Treatments for Mt. Hood National Forest Record of Decision issued in 2008 (s. 3.12). Design criteria are included to minimize the spread and establishment of invasive plants (s. 2.2.4).

- Compliance with the **2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines** (s. 3.4.2, s. 3.7.4 & s. 3.11).

  I have reviewed the relevant sections in the Environmental Assessment, and I find this decision to be consistent with the 2001 Record of Decision. For many of the stands, survey and manage does not apply because of the Pechman exemption and the proposal to thin stands under 80 years of age. Other stands were surveyed where there was likely habitat. The only species found is the red tree vole. The Wildlife Report (s. 6.1.1) identifies the changes needed for red tree voles.

Exceptions – The Forest Plan describes the process for documenting exceptions to "should" standards and guidelines (p. Four-45). The Forest Plan does not require a Forest Plan amendment for project-level exceptions to these standards and guidelines. The following documents the rationale for exceptions.

I approve an exception related to the **National Forest Management Act**, as documented at section 3.1.5.

FW-306 indicates that timber stands should not be regeneration harvested until they have reached or surpassed 95 percent of culmination of mean annual increment measured in cubic feet. FW-307 explains that exceptions to this may be made where resource management objectives or special resource conditions require earlier harvest.

Mean annual increment is a calculation that measures stand growth. Culmination of mean annual increment is the time in a stand's life when it is considered biologically mature (i.e., when growth slows and when decay and mortality increase).

Unit 129 has not culminated. Regeneration harvest is proposed to deal with an urgent dwarf mistletoe situation. The action creates early-seral conditions without impacting suitable spotted owl habitat or old growth.

I find that an exception for FW-306 is appropriate to achieve the stand health goals for this area.

I approve an exception related to **open-road density**, as documented at section 3.7.3.2.

> The project would close some roads. Open-road density is one way to measure disturbance to deer and elk. The project would close about 10 miles of open roads and reduce open-road densities in both summer and winter range. Summer range open-road density would be reduced from 3.5 to 2.8 miles per square mile which is still above the 2.5 miles per square mile in Forest Plan standard FW-208. In winter range, the open-road density would be reduced from 4.7 to 4.5 miles per square mile which is above the 2.0 miles per square mile in Forest Plan standard FW-208.
>
> These high road densities are somewhat misleading because so much of the adjacent land is Wilderness and roadless areas which are excluded from the calculation (as directed by the Forest Plan). The Wilderness boundaries often hug close to the roads so that the roads are in the analysis area but the roadless areas are not, which skews the road density. Deer and elk in these areas can easily seek and find solitude in these roadless areas. It is highly unlikely that the road densities could be reduced any further within the project area as most of the remaining roads access Wilderness trailheads, campgrounds, or the adjacent power line corridor and these need to remain open.
>
> I find that an exception for FW-208 is appropriate to achieve the road management goals for this area.

Predecisional Administrative Review Process

This project was subject to predecisional administrative review pursuant to 36 CFR 218, Subpart B, also called the "objection process." The full text of the rule can be found at USDA website[7].

A draft decision notice was made available during a 45-day period for objections to be filed prior to making this final decision. The legal notice of the opportunity to object was published in the Oregonian newspaper on September 24, 2020. Ten objections were filed: American Forest Resource Council #21-06-06-0002-218(B); Roberta Badger Cain #21-06-06-0003-218(B); Daniel O'Neil #21-06-06-0004-218(B); Melanie Farnsworth #21-06-06-0005-218(B); Rachel Freifelder #21-06-06-0006-218(B); Mia Pisano #21-06-06-0007-218(B); BARK, Oregon Wild, 350PDX, and Physicians for Social Responsibility #21-06-06-0008-218(B); Jessica Morley #21-06-06-0009-218(B); Portland Area Climbers Coalition #21-06-06-0010-218(B); and Lloyd Vivola #21-06-06-0011-218(B).

An objection resolution meeting was conducted on December 11, 2020 with the Forest Supervisor, the Objection Reviewing Official. No resolution was made on most of the issues raised by objectors.

In letters dated January 25, 2021, the Objection Reviewing Official, Richard Periman, Forest Supervisor, documented the following:

- The draft decision clearly described the actions to be taken in sufficient detail that the reader

[7] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5442116.pdf

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 was consistent with or moves toward attainment of Forest Plan standards and guidelines.
- The draft decision was 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.

I would like to respond briefly to some of the issues raised during the objection resolution meeting, particularly where some clarification is appropriate. Although few issues were resolved, I feel that the conversation was productive.

- I decided to change the disposition of one **road-decommissioning** effort described at the top of page 3 above based on the conversation at that meeting.
- I also decided to post some additional **documents on the Forest's website** that help show how we considered public comment. This is elaborated in greater detail at pages 10 and 11 above. I hope that this decision document and the documents posted on the website will go a long way toward helping objectors feel that they were heard. I'm sure that some objectors still wish I would change the project the way they suggested, but I feel that the project is a good one and will move the landscape in an appropriate direction.
- I understand that some are concerned about **climate change** and want trees to be left in the forest to maximize on-site carbon sequestration. My consideration of the science has led to my understanding that the best thing to do in the face of climate change is to help make dense stands more resilient to the projected future climate by thinning. Documents posted on the Forest's website show the consideration of climate science[8].
- Some were uncertain about what our **fuel treatments** entail. I feel that the description in the EA at s. 2.2.1.2 was clear that our fuel treatments involve activity fuels, sometimes called slash, inside the harvest units. I added some extra text at page 2 above to reinforce that.
- There was also some confusion about the acquisition and placement of large wood (sometimes called **fish logs**) into streams that I would like to clear up. The Zigzag Ranger District has been recognized as a leader in stream and aquatic habitat restoration. Often, that restoration involves the placement of logs or whole trees into streams to create the desired habitat for important fish species and other organisms. This additional wood is particularly important in stream reaches that do not have enough wood falling into streams naturally. Large wood creates pools, provides hiding

[8] https://www.fs.usda.gov/nfs/11558/www/nepa/112557_FSPLT3_5659443.pdf

cover, and traps sediment adding to a structurally diverse aquatic system. The projects that place wood into streams are ongoing and are covered by other documents including a 2018 Decision Memo for Forest-Wide Instream and Floodplain Restoration and a region-wide 2019 Decision Notice for the Aquatic Restoration Project. Therefore, the actual placement of logs or trees into streams is not covered by this Zigzag Integrated Restoration Project.

The Zigzag analysis does, however, include a project to acquire whole trees as described in the EA at s. 1.3.4, and in the Project Design Criteria document at page 19. Second-growth trees would be tipped over so that logs can be acquired with root wads attached within 30 feet of road 2656309. Trees would only be acquired shortly before they are needed so they can be moved directly to appropriate streams. The operation would be guided by the Project Design Criteria L2.

- Some wanted assurances that if information was submitted by the public in the future related to locations of **red tree voles** that it would be considered in a similar manner to what occurred on the North Clack project. I am committed to following the guidance for red tree voles described at PDC K4, which says, "There is the possibility that red tree vole sites may be found, even after a decision is made for this project. As they are confirmed and validated, additional deletions or buffers may be incorporated where appropriate based on the direction in the Survey and Manage Standards and Guidelines (page 24), and the Red Tree Vole Management Requirements, as guided by the Pechman exemptions." This is similar to the North Clack project process.

  Surveys for red tree voles were conducted at a greater intensity than what is required by the current survey protocol. Red tree vole nests were discovered, and my biologist made appropriate recommendations related to properly managing for this species and its habitat.

  I understand that there are ongoing tree-climbing efforts by a group of concerned citizens with expertise in locating red tree vole nests (NEST, or, Northwest Ecosystem Survey Team). I believe this effort is ongoing and that new nest location data may or may not be provided in the future. I feel, however, that I have sufficient information at this time to make an informed decision. The following factors helped me come to that conclusion.

  - My staff already conducted appropriate surveys in 16 units totaling 449 acres, and the nest sites that were discovered were appropriately buffered.
  - The best red tree vole habitat was never included in proposed harvest units. Old-growth stands were excluded and stands considered suitable habitat for spotted owls were excluded.
  - The stands suggested for additional tree climbing during public comment periods were addressed by my team's biologist. They were found to not warrant tree climbing because they were either too high in elevation or the tree's average diameter was too small to meet the survey protocol requirements or because the stands were too young and excluded by the Pechman exemption. See discussion on page 3 above.
  - Although it is possible for red tree voles to live in the tops of larger legacy trees that are sometimes scattered within relatively young thinning stands, those legacy trees would not be cut.
  - The process built into the Survey and Manage Standards and Guidelines (page 24), does allow for changes to be made after the decision if new sites are discovered. As stated above, PDC K4

addresses the possibility of validating and incorporating red tree vole sites that may be found after this decision, consistent with the Red Tree Vole Management Requirements, as guided by the Pechman exemptions.

Therefore, I believe that changes that may result from citizen data, if any, would be minor in scope and that the project would still contribute meaningfully to the purpose and need while meeting the required habitat conservation measures for red tree voles.

The draft decision notice is replaced by this final decision notice.

For further information regarding this project, contact Jim Roden at 541-604-1230 or by email at james.roden@usda.gov. For further information regarding objection procedures, contact Michelle Lombardo at 971-303-2083 or by email at michelle.lombardo@usda.gov.

Project Implementation

Implementation may occur immediately following the date that this final decision is signed.

The EA, decision notice and maps can be downloaded from the Forest website[9].

WALLACE WESTBROOK

Digitally signed by WALLACE WESTBROOK
Date: 2021.09.02 14:25:13 -07'00'

Bill Westbrook
District Ranger
Zigzag Ranger District
Mt. Hood National Forest

[9] http://www.fs.usda.gov/projects/mthood/landmanagement/projects