USDA United States Department of Agriculture

Mud Creek Vegetation Management Project

Decision Notice and Finding of No Significant Impact (FONSI)

Forest Service Bitterroot National Forest West Fork Ranger District January 2023

For More Information Contact:

Matthew Anderson, Forest Supervisor
Bitterroot National Forest
1801 N 1st St
Hamilton, MT 59840
406-363-7100

matthew.anderson3@usda.gov

Photo: View of Mud Creek project area from Bare Cone Lookout. Rombo and Piquett Mountains in the background.

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Introduction

This document announces my decision regarding the Mud Creek Project and my finding that this project will not have a significant impact on the quality of the human environment. This decision notice and finding of no significant impact incorporates by reference the final environmental assessment for the Mud Creek Project, dated July 7, 2021, the 1987 Bitterroot National Forest Plan and associated environmental impact statement and record of decision; and their supporting project records.

My decision is to implement the modified proposed action alternative, as documented in the final environmental assessment. See project website: https://www.fs.usda.gov/project/?project=55744

This project was subject to the project-level pre-decisional administrative review process of 36 CFR 218, subparts A and B.

Project Area

The project area is in the Bitterroot Mountains southwest of Darby, Montana, on the West Fork Ranger District of the Bitterroot National Forest (Figure 1). The project area encompasses approximately 48,486 acres and includes the entire West Fork Bitterroot River-Rombo Creek watershed and portions of the Nez Perce Fork-Nelson Lake, Little West Fork, West Fork Bitterroot River-Lloyd Creek, Lower Blue Joint, and West Fork Bitterroot River-Painted Rocks Lake watersheds in the Bitterroot Mountain Range.

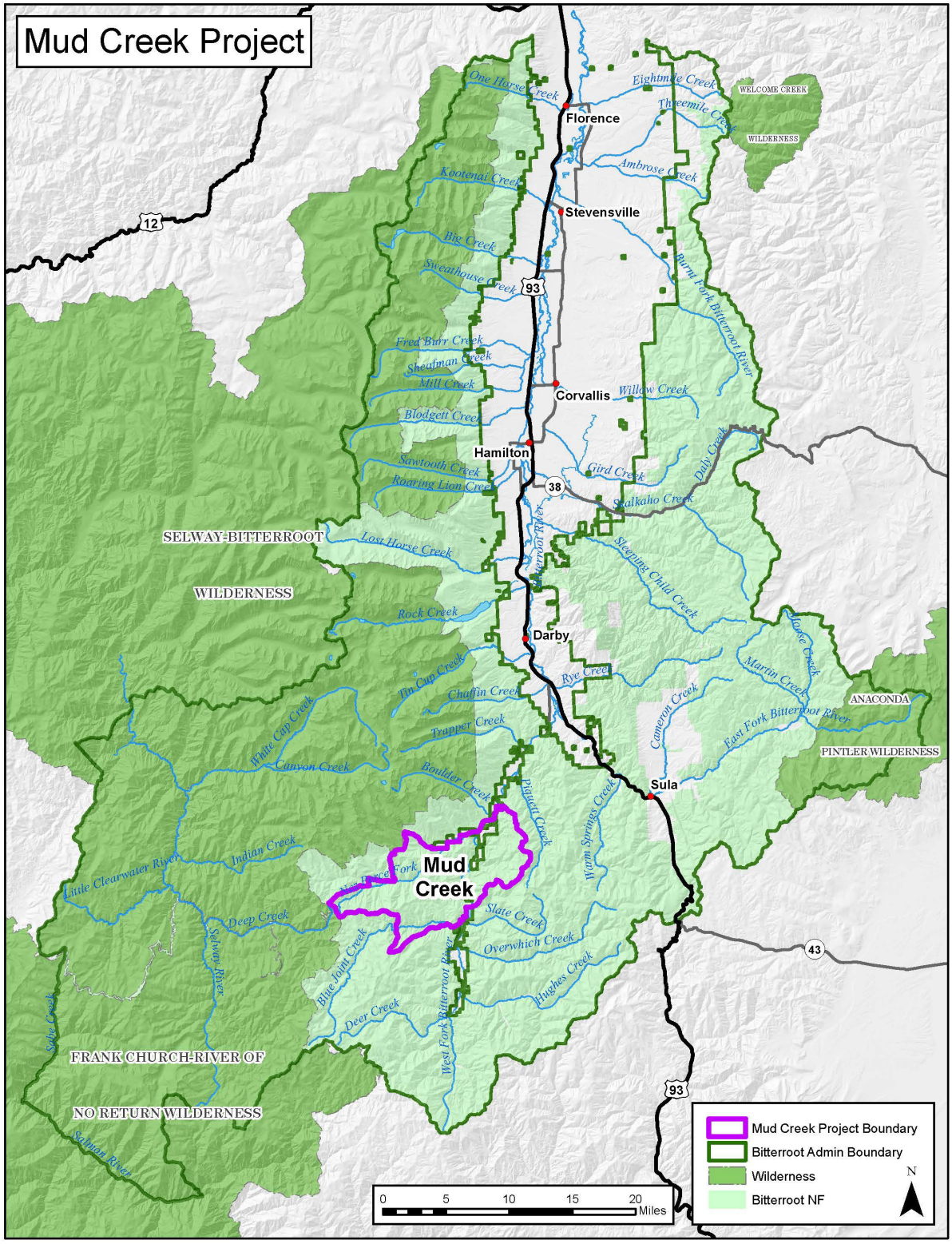

Figure 1. Mud Creek Project Vicinity.

Why are we proposing this project?

The interdisciplinary team designed the Mud Creek Project to address decreased resilience in forest ecosystems, decreased quality and abundance of important wildlife habitats, and resource concerns related to the existing roads and trails systems. Forest ecosystems in the project area have experienced changes in vegetation characteristics because of departures from historic disturbance regimes, especially wildfire. Fire suppression efforts since the early 20th century have resulted in forest stands characterized by high stem densities, hazardous fuels build up, and stressed tree conditions. This changed forest structure and composition has lost resilience to common disturbances, including wildfire, insects, and disease. Of particular concern is increased fire risk because the wildland urban interface constitutes approximately 43% of the project assessment area. The changed vegetation conditions have also caused shifts in habitat quality and availability for wildlife. Meadow habitats have reduced in size because of conifer encroachment, and understory forage in forested habitats has decreased because of high densities of shade-tolerant understory species.

The transportation system in the project area is dense, and several road segments need maintenance and repair to address resource concerns. Some roads are chronic sediment sources that reduce water quality and fish habitat. Other roads and trails are in conditions incompatible with their open status in the Bitterroot Travel Management Plan. Opportunity also exists to designate new trails; this is responsive to public interests and would reduce adverse environmental effects.

Decision and Rationale for the Decision

My decision is based on the information in the environmental assessment, the supporting project file, public comments received, and consideration of issues. I evaluated the alternatives based on how well each would achieve the purpose and need for the project while addressing issues and concerns. Based upon my review and further analysis, I have decided to implement a modified proposed action as explained below:

Achieving the Purpose and Need for Action

The resource areas of the ecosystem within the Mud Creek Vegetation project area that need maintenance or restoration treatments are listed below. Having considered on-the-ground conditions in and near the project area, input from the interdisciplinary team, public comments, the environmental assessment, supporting documentation in the project file, analysis of the issues, relevant scientific information, and the forest plan goals and objectives for management areas 1, 2, 3a, and 5, I have decided to implement the proposed action alternative and its associated project-specific forest plan amendments. For more context with each resource goal, please refer to the Purpose and Need section of the environmental assessment.

- Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure and composition, and fuels;
- Reduce crown fire hazard potential within the wildland-urban interface, adjacent community protection zone, and low severity fire regimes;
- Improve habitat and forage quality and quantity for bighorn sheep, mule deer, elk, and other regionally sensitive species; and

- Design and implement a suitable transportation and trail system for long-term land management that is responsive to public interests and reduces adverse environmental effects.

Changes between the draft decision notice and the final decision notice

This section documents the changes that were made between the draft decision notice that was released for objections in July 2021 and this final decision notice. Following the review of the Mud Creek Vegetation Management Project by a regional objection review panel, the responsible official was instructed to ensure consistency and compliance with a few project components. Issues considered in that review included: National Environmental Policy Act and National Forest Management Act compliance, monitoring, wildlife including Threatened and Endangered Species, watershed, fish, soils, vegetation including old growth, invasive plants, roads/travel management, special areas, fuels, fire, climate change, and economics. For changes in the project on lynx, we ensured design criteria and the implementation plan are consistent with the lynx Biological Assessment (which also demonstrates consistency with the Northern Rockies Lynx Management Direction). We heightened our project design to comply with forest plan standards MA1 and MA2 for even-aged regeneration harvest openings. Additionally, we further clarified our project design criteria to comply with the forest-wide snag retention standard.

The objection review also identified some opportunities for clarification of information in response to objections received or modification to project design to address concerns. These include clarifications on grizzly bear, North American Wolverine DPS (*distinct population segment*), flammulated owls, migratory birds, and bull trout. Modifications were made to those design features and are reflected in detail in the wildlife report and appendix A of the final environmental assessment.

The forest received a biological opinion from the U.S. Fish and Wildlife Service (USFWS) on effects to bull trout and its designated critical habitat on December 30, 2022. The response letter includes concurrence on our effects determinations to Canada lynx, grizzly bear, the North American Wolverine DPS and whitebark pine as a result of project activities. The complete USFWS response document can be found in Appendix D.

A final environmental assessment is being issued with this final decision notice.

How the Selected Alternative Responds to the Purpose and Need

The purpose of the Mud Creek Vegetation Project is landscape restoration with the following supporting goals to address: the departure from historic disturbance regimes and subsequent existing vegetation and fuel conditions; decrease in quality and abundance of important wildlife habitats due to vegetative changes; and conditions related to the current road and trails network. My decision is based on the information in the environmental assessment, along with the supporting project file, public comments received, and consideration of issues. Based upon my review, I have decided to implement a modified proposed action (the selected alternative) as summarized below and explained in detail in the environmental assessment.

Improve landscape resilience to disturbances

To improve forest landscape resiliency, forest stands would be managed using various silvicultural and fuels reduction prescriptions. The selected alternative would include the silvicultural prescriptions listed in Table 1 below (*those are total treatment amounts that will*

not exceed the proposed upper limit for each treatment type). Additional details on the silvicultural prescriptions are available in the silviculture specialist report (PF-SILV-001) on the project website.

Reduce crown fire hazard potential within the wildland-urban interface, adjacent community protection zone, and low severity fire regimes

See Table 1 below.

Improve habitat and forage quality and quantity for bighorn sheep, mule deer, elk, and other regionally sensitive species

Proposed vegetation treatments to improve habitat conditions for wildlife are based on an analysis of the condition of existing habitats and vegetation factors important to threatened and endangered, sensitive, and management indicator species on the Bitterroot National Forest. The analysis process is described in detail in PF-WILD-007. Recommended treatment types to improve habitat conditions, including commercial, non-commercial, or prescribed fire, are not delineated for specific locations because topography, existing conditions, desired future conditions, and wildlife response varies across the landscape, and management in one area may not be suitable for similar management in another area.

Design and implement a suitable transportation and trail system for long-term land management that is responsive to public interests and reduces adverse environmental effects.

The responsible official is not identifying a minimum road system for the project area. The regulations at 36 CFR 212.5(b) do not require identification of a minimum road system at the project level. The project file includes the forest-wide travel analysis report completed in 2015 (PF-ROAD-002), which identifies roads likely needed and not needed for future use across the forest. The interdisciplinary team has prepared a travel analysis report in accordance with the requirements at Forest Service Handbook 7709.55, chapter 20, which is now located in project file document ROAD-004. The travel analysis for the Mud Creek project area consisted of an assessment of the benefits of road segments for access for recreation and forest management and the risks of road segments to various resources. This risk-benefit assessment is documented in a table in attachment A of the project travel analysis report (PF-ROAD-004). Proposed changes to the transportation system are described in chapter 2 of the environmental assessment and listed by road segment in appendix E of the environmental assessment. Detailed maps of the proposed changes are available in appendix C of the environmental assessment. The interdisciplinary team documented the effects of the project's changes to the road and trail systems in the effects analyses in chapter 3 of the environmental assessment and in the resource-specific specialist reports in the project file.

Details of the Selected Alternative

The modified proposed action includes four implementation areas as described in the environmental assessment, those areas are: Blue Joint, Buck/Ditch, Castle/Cone and Nez/Mud. The acres listed in Table 1 below are intended to illustrate where treatments may occur rather than propose a specific amount of treatment in any location. The location in which treatments occur will be determined based on conditions at the time of implementation. Total treatments will not exceed the proposed upper limit for each treatment type, and not all estimated potential acres

shown in Table 1 must be treated. For additional information on implementation areas, see Figure 1 Mud Creek Implementation Areas in Appendix B of the Mud Creek Vegetation Project environmental assessment or resource reports in the project file.

Table 1. Estimated Potential Acres of Vegetation Treatment Types by Implementation Area.

Implementation area	Commercial harvest – regeneration[1]	Commercial harvest – intermediate[1]	Non-commercial treatment	Prescribed fire – site preparation[2]	Prescribed fire – low severity	Prescribed fire – mixed severity
Maximum Potential Treated Acres	4,800	8,900	26,282	4,800	28,235	12,125
Blue Joint	600	1,000	6,000	600	6,500	2,000
Buck/Ditch	3,000	4,000	8,500	3,000	8,500	4,000
Castle/Cone	0	0	100	0	2,500	4,500
Nez/Mud	3,000	6,000	12,000	3,000	12,000	2,000

1 Acres provided represent an estimated number of acres that could be treated within each implementation area based on satellite collected (VMap) dominant species mix data, insect and disease aerial detection survey flights, past field collected stand data (FSVeg), and current on the ground conditions based on recent field visits. Final treatment types will be determined during the implementation process, upon stand diagnosis and field review by a certified silviculturist, to select the best treatment for current site-specific conditions.

2 Prescribed fire – site preparation treatments will be applied where commercial harvest – regeneration occurs.

Condition-based Planning and Implementation Process

This proposed action is designed to improve landscape resilience to disturbances such as insects, disease, fire, and drought through a combination of vegetation and fuel reduction treatments. As a result, this project uses a condition-based implementation approach that is responsive to changing conditions and allows the flexibility to achieve desired conditions. Condition-based management is a system of management practices that relies on specific design features to create desired outcomes on the ground. The proposed action describes a suite of activities available to manage the project area over a period of approximately 20 years.

The implementation process involves several steps to move an activity through identification and prioritization, field review, contracting and documentation, and monitoring as well as adaptive management. Those steps are listed in detail in Appendix B of the Mud Creek Vegetation Project Environmental Assessment. In summary, those steps include:

- Step 1) Determine activity to be implemented
- Step 2) Check against the environmental assessment, decision, and design features
- Step 3) Obtain line officer approval and place in out-year plan
- Step 4) Conduct fieldwork and consultation
- Step 5) Line officer approval to implement
- Step 6) Prepare contracts and other implementation documents
- Step 7) Implement the activity and document implementation
- Step 8) Monitor

- Step 9) Adaptive management

Project Specific Plan Amendments

Implementation of the Proposed Action will require project-specific forest plan amendments to the 1987 Bitterroot Forest Plan to suspend certain Forest Plan standards relating to elk habitat effectiveness, elk habitat, old growth, and coarse woody debris. Discussion concerning the plan amendments and their effects is found in this document in Appendix C - Mud Creek Project Site-Specific Plan Amendments as well as in the environmental assessment Appendix D. The plan amendments are guided by the 2012 Planning Rule (December 2016 amendment), which has different provisions from the 1982 Planning Rule procedures that the Forest Service used to develop the existing forest plan.

Currently, the Forest Service is in the environmental analysis phase to develop a programmatic document on amendments. Programmatic amendments change plan direction for the duration of the plan and are being proposed as a result of new information or changed conditions, actions by regulatory agencies, monitoring and evaluation, or assessment. With the amount of project-specific plan amendments in past projects on the Bitterroot National Forest, a need for a programmatic amendment is warranted. In that document, the programmatic will disclose the impacts of amending plan components and definitions for elk habitat, old growth, snags, and coarse woody debris objectives in the Bitterroot National Forest Plan. The result will be a forest plan programmatic amendment that will align elk habitat, old growth, snag and coarse woody debris objectives on the forest with the best available scientific information. In the Mud Creek Project, a project-specific amendment is preferred versus a programmatic because of the deteriorating conditions, that result in increased fire intensity and potentially decreases in old growth and elk habitats. To meet the purpose and need of the project, the site-specific amendments aim to maintain or restore various resources across the National Forest, and to provide for ecosystem and habitat diversity, id. §§ 219.9(a)(1), 219.9(a)(2), multiple uses, id. § 219.10(a), and timber management, id. § 219.11.

Based on the analysis in the EA and as summarized here, I have determined that the amendments will not have substantially adverse effects on any resource or use and will not substantially lessen protections for species. Furthermore, the planning rule at 36 CFR 219.13(b)(5)(ii)(B) states that where I have made a Finding of No Significant Impact, there is a rebuttable presumption that the amendment will not have substantial adverse effects.

Creation of Openings Over 40 Acres

The Forest Service Manual ((FSM) 2470, section 2471.1, Region 1 supplement 2400-2016-1) generally limits the size of harvest openings to 40 acres or less. To exceed this size, regional forester approval is required except where natural catastrophic events, such as fire, windstorms, or insects and disease disturbance, have occurred. As defined by this policy, seed tree, shelterwood, and clearcut even-aged silvicultural methods create harvest openings.

The proposed action in the Environmental Assessment and the draft Decision Notice included even-aged regeneration activities that would create several forest openings that exceed 40 acres, ranging from 41 to 200 acres in size located in management areas 1 and 2. The public was notified through legal notice in the Ravalli Republic Newspaper on March 21, 2021 which included information about the required 60-day notice period initiation.

I have decided to modify the proposed action to keep all even-aged regeneration units to less than 40 acres in size so that no large openings over 40 acres will be created. Where forest conditions exist that are ideal for regeneration treatments, regeneration harvests may be implemented 40 acres or less in size, may be treated with an intermediate treatment such as an improvement cut or sanitation harvest, or may remain untreated if objectives cannot be met.

Other Alternatives Considered

In addition to the proposed action, I considered the no action alternative. Under the no action alternative, the purpose and need cannot be met because no action would be taken to move the project area toward desired conditions. I also considered several alternatives not analyzed in detail. Public comments received during scoping and in response to the draft environmental assessment provided suggestions for alternative methods for achieving the purpose and need for this project. In cases when we did not integrate suggestions into the proposed action, we briefly described the suggested alternative and provided rationale for not analyzing the alternative in detail in the environmental assessment.

***Rely solely on home-by home-fuel treatments to reduce risk to private structures as opposed to fuels reduction on the Bitterroot National Forest.** While removing fuel from within the home ignition zone is recommended and encouraged to reduce the probability a home would burn during a wildfire, it is not enough to meet the purpose and need within the project area.

The proposed treatments that would reduce crown fire hazard potential within the WUI, community protection zone and low severity fire regimes would also contribute to achieving several other project goals. The reduction of high stem densities would reduce the stressed tree condition by reducing tree to tree competition therefore increasing the resiliency of the forest to common disturbances. The proposed treatments that would reduce crown fire hazard potential would also improve the quality of wildlife habitats by removing shade tolerant species that have outcompeted forage plants in forested conditions. Also, these proposed treatments would move the forest structure and composition closer to what would have occurred in the absence of 20th century fire suppression, introducing heterogeneity and available wildlife habitats.

***Limit old growth treatments to non-commercial methods.** In many cases, non-commercial treatments or fire alone will not effectively or safely reduce competition and stand density enough to meet the purpose and need (e.g., increase landscape resilience to disturbances such as insects, disease, and fire). We can more precisely achieve our desired condition to maintain old growth stands and characteristics through the strategic application of tree harvest to reduce tree to tree competition for water and light resources within old growth stands. This prepares the old growth stand for a prescribed fire that will burn at a lower intensity and keep the fire effects to desired levels to achieve the project goals to maintain old growth stands and increase their resilience to disturbances such as wildfire, insects and disease. Therefore, I chose not to limit old growth treatments to non-commercial methods.

***No New Road Construction**. The use of the existing road network alone would not provide enough access for commercial harvest operations to be able to meet the purpose and need of this project. Some construction of specified and temporary roads would be needed to access stands that need treating. Since commercial treatments are a necessary tool to address forest health and fuels conditions within the project area, an alternative that precluded all road

construction would not meet the purpose and need of this project. All new permanent roads constructed during the project will be stored after implementation. All temporary roads will be rehabilitated within 3 years of use.

Public Involvement

On September 27, 2018, the Bitterroot National Forest hosted a public open house at the West Fork Volunteer Fire Department to discuss the proposed project and answer questions. Forest staff hosted a follow-up field trip on October 12, 2018 to tour the project area and discuss current vegetation conditions and possible treatment options. The project was listed in the Schedule of Proposed Actions in March 2019. On September 6, 2019, the Forest Service sent a scoping letter soliciting comments on the proposed action to adjacent landowners, organizations, other agencies, and individuals who had previously requested notification about the types of activities included in the project. The scoping letter also listed the proposal for a forest plan amendment regarding elk habitat objectives. The *Ravalli Republic* published a legal notice and the Forest Service issued a press release notifying the public of the scoping period. The scoping letter was available on the Bitterroot National Forest website. The Forest Service also sent letters to the Confederated Salish and Kootenai Tribes and the Nez Perce Tribe to invite them to comment on the Mud Creek Project, and annual program of work meetings have introduced the project and informed tribal staff of the forest's current project.

The Forest Service received approximately 30 scoping comment letters and several additional comment letters submitted prior to the scoping period. The draft environmental assessment formally documented the issues to be addressed based on scoping comments (project file document PF-SCOPE-037).

On March 21, 2021, the *Ravalli Republic* published a legal notice initiating the 30-day comment on the draft environmental assessment, including the need for a site-specific forest plan amendment for elk habitat and elk thermal cover; old-growth; and coarse woody debris. The Forest Service also published a press release on March 24, 2021 and sent approximately 90 letters and emails about the comment period to the two tribes originally consulted and to individuals and organizations that had previously commented on or expressed interest in the project. The draft environmental assessment, appendices, legal notice, and supporting documents were available on the Bitterroot National Forest website and in hard copy at the West Fork Ranger District. During the comment period, on April 6, 2021, project interdisciplinary team presented findings from the draft environmental assessment to the public in a virtual webinar. Approximately 15 people attended the webinar.

During the comment period on the draft environmental assessment, the Forest Service received 97 comment letters, including 43 unique letters and 54 additional form letters. Responses to these comments are available in Appendix B of this draft decision.

Consideration of Public Comments

I value public input and carefully considered the comments received on this project. My staff addressed the issues raised during the initial scoping period on the Proposed Action by refining the project design, identifying design criteria, and conducting analysis to determine environmental effects. In March 2021, a draft environmental assessment was released and 97 comment letters were received. Responses to public comments on the EA are contained in

Appendix B of this Decision Notice. In July 2021, a final environmental assessment, draft decision notice and finding of no significance was released, and the 45-day comment period resulted in 13 objection letters. How those letters were considered in my decision have already been addressed in the **Decision and Rationale** section of this draft decision notice.

Finding of No Significant Impact

As the responsible official, I am responsible for evaluating the effects of the project relative to the definition of significance in accordance with 40 CFR 1508.4. I have reviewed and considered the Environmental Assessment and documentation included in the project record, and I have determined that the modified proposed action will not have a significant effect on the quality of the human environment. As a result, no environmental impact statement will be prepared. The finding of no significant impact (FONSI) discussion here takes into consideration all information included in the environmental assessment, as well as documentation included in the project record. My rationale for this finding is as follows, organized by sub-section of the CEQ definition of significance cited below.

Context

For the proposed action and alternatives, the context of the environmental effects is based on the environmental analysis in the environmental assessment.

The significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale, rather than the world as a whole. The actions proposed in the Mud Creek project are site-specific. Specific activities have been proposed to meet the project purpose and need and align with goals and objectives identified in the Bitterroot Forest Plan. The effects of the proposed activities are known and disclosed in the environmental assessment.

Both short- and long-term effects are relevant (40 CFR 1508.27). The effects of the Proposed Action are limited in context. The project activities are limited in size and duration. Vegetation treatments including timber harvest and non-commercial vegetation treatments will be on a total footprint of approximately 40,360 acres, which is about 83 percent of the NFS land within the Mud Creek Vegetation Management Project area and 5 percent of the West Fork Ranger District. Management actions associated with the proposal will be completed within an approximate 20-year time frame. Effects are local in nature and will not significantly affect regional or national resources. Design Criteria (see Appendix A of environmental assessment) are incorporated into the Proposed Action to minimize and avoid adverse impacts to the extent that such impacts will be almost undetectable and immeasurable, even at the local level.

Within the context of the landscape as a whole, or at the stand level, the ecological consequences are not found to be significant in either the short- or long-term.

Intensity

Intensity is a measure of the severity, extent, or quantity of effects, and is based on information from the effects analysis of the EA and the references in the project record. The effects of this project have been appropriately and thoroughly considered with an analysis that is responsive to

concerns and issues raised by the public. The agency has taken a hard look at the environmental effects using relevant scientific information and knowledge of site-specific conditions gained from field visits. My finding of no significant impact is based on the context of the project and intensity of effects using the ten factors identified in 40 CFR 1508.27(b).

1) **Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on the balance the effects will be beneficial.**

   As described in the environmental assessment, along with the specialist reports found in the project record, there will be both beneficial and adverse effects to certain resources by implementing the Proposed Action. In reaching my finding of no significant impact, I did not ignore or trivialize negative effects by "offsetting" them with beneficial effects. The environmental assessment demonstrates that, due to careful project design that incorporates specific design criteria the possible negative effects are relatively minor and of short duration, and are not directly, indirectly, or cumulatively significant.

   Beneficial effects of the proposed action include improved watershed health from road management activities due to the long-term reduction of sedimentation, improved resilience of vegetation to disturbances and overall improved ecosystem health.

   Adverse effects of the proposed action include minor impacts to soils and short term effects to wildlife as disclosed in the EA. These effects are minimized by use of the project design features. In conclusion, these adverse effects are limited in context and intensity and are short term in nature.

2) **The degree to which the proposed action affects public health or safety.**

   It is my determination the Proposed Action will not have significant effects on public health and safety. Warning signs will be placed in areas where logging traffic may interfere with recreational traffic to inform visitors of logging activities. Prescribed burning will only occur when conditions are favorable for smoke dispersal and for burning control.

3) **Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

   There are no park lands, prime farmlands, research natural areas, or ecologically critical areas in or near the project area, and therefore none will be adversely affected by this project. No designated wild and scenic rivers, or river segments eligible for designation under the Wild and Scenic Rivers Act, are in or near the project area, and thus, there is no impact to this resource. No long-term, measurable negative effects to riparian areas or wetlands are expected with this project because we will be using riparian habitat conservation area standards.

4) **The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

   Note: The term "controversial" in this context refers to cases where substantial scientific dispute exists as to the size, nature, or effects of a major Federal action on some human environmental factor, rather than to public opposition of a proposed action or alternative.

   The disclosed effects of the proposal are typical of road management and vegetation management activities. Our contacts with the U.S. Fish and Wildlife Service, various

regulatory and government agencies of the State of Montana, did not identify any substantial scientific controversy regarding the direct, indirect, or cumulative effects of this project.

The interdisciplinary team for this project considered scientific research (see project record) to determine its applicability to the project and found no controversy related to the predicted effects. Based on these factors, and the analysis provided in the environmental assessment and project record, I have concluded that the effects of the Proposed Action on the quality of the human environment are not highly controversial.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The treatments prescribed in the Proposed Action have been successfully demonstrated across the Forest. Past monitoring of similar actions and projects have not shown significant effects. The effects analysis for this project (found in the EA) demonstrates that the effects of these activities are not uncertain and do not involve unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

This is not a precedent-setting decision. Similar actions have occurred for decades in other areas on the West Fork District, and on other ranger districts of the Bitterroot National Forest. The effects of implementing the Proposed Action are disclosed in the environmental assessment are within the range of effects of these past similar actions. The analysis considered the effects of past actions combined with the estimated effects of the Proposed Action. I conclude there are no unique or unusual characteristics in the area which have not been previously encountered or which constitute highly uncertain or unknown risks to the human environment.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

The combined effects of past, present, and reasonably foreseeable future actions were considered and are summarized in the cumulative effects analysis for each resource. Past actions considered in the cumulative effects analyses include those that contributed to the baseline conditions in the project area (EA, p.48). There are no indications of significant cumulative effects to the environment. The interdisciplinary team carefully chose cumulative effects analysis areas, including private lands where it made sense for the resource, and timeframes that will most thoroughly examine and predict effects. Based on the analysis documented in the environmental assessment and project record, I have determined that implementing the Proposed Action will not result in significant cumulative effects.

8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in the National Register of Historic Places or may cause loss or destruction of significant cultural or historical resources.

By incorporating design features outlined in the EA (Appendix A of environmental assessment) to buffer or avoid cultural resources, negative effects will be adequately mitigated. Consultation with the Confederated Salish and Kootenai Tribes and the State Historic Preservation Office is ongoing.

9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act.

Complete biological assessments (BAs) are provided within the project file for additional information. The BAs provide a determination of **No Effect** on yellow-billed cuckoo, **May Affect, Not Likely to Adversely Affect** for Canada Lynx and grizzly bear, **Not Likely to Jeopardize the Continued Existence** of Whitebark pine and North American Wolverine Distinct Population Segment, and **May Affect, Likely to Adversely Affect** bull trout and bull trout critical habitat. The Forest Service received a response letter from the U.S. Fish and Wildlife Service which included concurrence for all determinations and included a Biological Opinion on bull trout which included the terms and conditions. The complete USFWS response document can be found in Appendix D.

Under the ESA, the focus on "take" involves the adverse impacts to individuals of the species, not to the species as a whole. If there is "take," the Services will consider the impacts to be significant resulting in a Likely to Adversely Affect determination. Under NEPA, one looks at the species as a whole in determining intensity, 40 C.F.R. 1508.27(b)(9). Even where there are significant effects on individual members of a species for ESA purposes, it may be reasonable, depending on the circumstances, to conclude there would not be a significant effect on the human environment under NEPA. Although hauling and sediment delivery would temporarily increase with the proposed action which would adversely affect some bull trout and bull trout critical habitat, the extent of these effects is limited (see discussion in Aquatics report, PF-AQUATICS-001). Therefore, I find that these determinations show the Proposed Action will not have a significant adverse effect on any listed species.

10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

A description of the project's compliance with applicable laws may be found in the Findings Required by Other Laws and Regulations section of this draft decision. I find that none of the actions in this decision threatens to violate applicable Federal, State, or local laws or other requirements to protect the environment.

Conclusion

After considering the environmental effects described in the EA and specialist reports, I have determined that the Modified Proposed Action will not have significant effects on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared.

Findings Required by Laws and Regulations

Bitterroot National Forest Plan

The Bitterroot National Land Management Plan (forest plan) contains programmatic direction for resource management on the forest. I find that the Mud Creek Project complies with all existing forest plan standards except where project-specific amendments are needed to meet project goals. The forest plan components applicable to this project are explained in several specialist reports in the project file also provide specific evidence for forest plan compliance. The Bitterroot National Forest Plan documents are located in project record and also on the Bitterroot National Forest website. In addition, appendix B of the environmental assessment provides design features that will ensure forest plan compliance.

To meet project goals, the proposed action will require project-specific amendments to the forest plan to suspend standards for elk habitat effectiveness, elk thermal cover, old growth, and coarse woody debris. The analysis for these amendments is discussed in appendix D of the environmental assessment.

The National Environmental Policy Act

The National Environmental Policy Act requires Federal agencies to (1) use a systematic interdisciplinary approach in planning and decision making, (2) consider the environmental impact of proposed actions, and (3) consider alternatives to the proposed action. Forest Service direction pertaining to implementation of the National Environmental Policy Act and Council on Environmental Quality regulations is contained in chapters 10 and 20 of Forest Service Handbook 1909.15 (Environmental Policy and Procedures).

The Council on Environmental Quality updated the regulations for implementation of the National Environmental Policy Act in 2020 (85 FR 43304). The new regulations apply to any National Environmental Policy Act process begun after September 14, 2020, and Federal agencies have the option to apply the new regulations to ongoing activities and planning processes (40 CFR 1506.13). Forest staff initiated the Mud Creek project prior to September 14, 2020 and chose to continue to prepare the environmental assessment for the project according to the regulations in place at the time of project initiation.

My review of the environmental assessment finds it meets the requirements of the act. The interdisciplinary team fully evaluated and disclosed the anticipated environmental effects of the project based upon existing data, the best available science, and their professional expertise as demonstrated by the contents of the project record.

The regulations used to guide preparation of the Mud Creek Project required Federal agencies to make diligent efforts to involve the public in preparing and implementing National Environmental Policy Act procedures (43 FR 56000). During development of the Mud Creek Project, we provided many opportunities for public involvement, and we used public comments received to develop alternatives that addressed issues raised by the public, stakeholders, and partners. Using the best available scientific information, the environmental assessment provides an adequate effects analysis to support a finding of no significant impact.

The National Forest Management Act

The National Forest Management Act, U.S. Public Law 94-588, 1976, is the principal law governing vegetation management treatments on the National Forest System. I find that the Mud Creek Project is consistent with the National Forest Management Act. As shown by the environmental assessment, vegetation management under this project will result in increased resilience to disturbance. As a result, appropriate forest cover and stocking levels will be more likely maintained than prior to treatment. My finding is based on forest plan objectives and direction and the implementation process adopted as part of this decision. As part of the implementation process, forest staff will review site-specific conditions before assigning a silvicultural treatment. The following list provides additional detail about how the Mud Creek Project meets specific requirements of the National Forest Management Act.

1. Suitability for Timber Production: No timber harvest, other than salvage sales or sales to protect other multiple use values, shall occur on lands not suited for timber production (16 USC 1604(k)). Lands identified as generally suitable for timber harvest and timber production are designated in the forest plan. Areas available for commercial harvest treatments are in management areas 1, 2, and 3a, which are suitable for long-term timber production as described in the forest plan. Suitability will be validated at the unit level during the implementation process. Stands identified for harvest treatment in this project will be examined for suitability by a certified silviculturist, soil scientist, and other resource specialists.
2. Timber Harvest: All projects that involve timber harvest for any purpose must comply with 4 requirements found in 16 USC 1604(g)(3)(E). I find that the prescribed treatments involving timber harvest shall only occur where:

   (i) Soil, slope, or other watershed conditions will not be irreversibly damaged.

   The interdisciplinary team fully assessed the potential effects of timber harvest on soil and water resources. The analysis is documented within the soils and aquatics sections of chapter 3 in the environmental assessment and corresponding reports in the project file. The project avoids impairment of site productivity and will result in a long-term improvement to watershed conditions. This determination is supported by disclosures in the environmental assessment and the application of design criteria and best management practices to help prevent the loss of soil or reduction in water quality, as described by the implementation process in appendix B of the environmental assessment. Field inventories and analysis during the implementation process will verify that the selected treatments will meet regional soil quality standards.

   (ii) There is assurance that such lands can be adequately restocked within five years after harvest.

   All regeneration harvest units will be examined following treatment to determine natural seedling density and composition. If natural regeneration is insufficient, tree planting will occur to ensure desired stocking levels and species composition. Activity card VM-08 in appendix A of the environmental assessment provides additional detail about tree planting to ensure adequate stocking. Additionally, a regeneration timeframe report was analyzed to review regeneration success within 5 years of harvest for all reforestation that occurred

on the West Fork District since 1977. This report documents a 98.5% rate of success. Database errors may be a factor in the remaining 1.5%. (PF-SILV-001). Based on this information, I find that there is reasonable assurance that all stands receiving a final regeneration harvest in the project will be adequately restocked within five years of harvest.

(iii) Protection is provided for streams, stream-banks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperature, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat.

Upon review of the environmental assessment, I find that the timber harvest activities associated with the project will comply with applicable Clean Water Act and Montana State Water Quality standards and Bitterroot Forest Plan standards. As documented in the aquatics effects analysis, treatments involving timber harvest will not adversely affect water conditions or fish habitat because of the application of design criteria, best management practices, and riparian habitat conservation areas during the implementation process. Other project activities, such as physical road decommissioning treatments and application of road best management practices will provide long-term improvement in watershed conditions.

(iv) The harvesting system to be used is not selected primarily because it will give the greatest dollar return.

The selected timber harvest is governed by objectives to improve forest health and stand resilience, not strictly economics. Economic factors were considered, and economic value is associated with the project's timber volume (PF-ECON-001). The level of timber harvest is important in providing jobs in the timber industry and through indirect and induced impacts on other business sectors. However, I decided to implement the timber harvest components of the project primarily because they will improve forest resilience in accord with the project's purpose.

3. Clearcutting and Even-aged Management: Projects in which timber is to be harvested using an even-aged management system must comply with 5 requirements at 16 USC 1604(g)(3)(F). I find that even-aged management under the Mud Creek Project will occur only where:

(i) For clearcutting, it is determined to be the optimum method, and for other such cuts it is determined to be appropriate, to meet the objectives and requirements of the relevant land management plan.

Even-aged management will occur where conditions are appropriate as determined during implementation. I find that the field inventories and analysis during the implementation process and use of the design features will ensure consistency with this requirement.

(ii) The interdisciplinary review as determined by the Secretary has been completed and the potential environmental, biological, esthetic, engineering, and economic impacts on each advertised sale area have been assessed, as well as the consistency of the sale with the multiple use of the general area.

Full interdisciplinary review has been completed for this project, as documented by the environmental assessment and the specialist reports in the project file. In addition, I find that all treatments meet a portion of the multiple use goals and objectives in the Bitterroot Forest Plan for designated management areas.

(iii) Cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain.

As part of the implementation process, even-aged cutting units will be designed to blend with the natural environment as much as possible and meet visual quality objectives. I find that the project design features ensure visual quality objectives will be met or exceeded for each type of treatment, as described in appendix B of the environmental assessment.

(iv) Cuts are carried out according to the maximum size limit required for areas to be cut during one harvest operation, provided, that such limits shall not apply to the size of areas harvested as a result of natural catastrophic conditions such as fire, insect and disease attack, or windstorm (FSM Region 1 supplement 2400-2001-2-2471.1, 16 USC 1604 Sec.6 (g)(3)(F)(iv)).

I have decided to keep all even-aged regeneration units to less than 40 acres in size so that no large openings over 40 acres will be created. Where forest conditions exist that are ideal for regeneration treatments, regeneration harvests may be implemented 40 acres or less in size.

(v) Such cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and esthetic resources, and the regeneration of the timber resource.

I find that the project design features ensure that even-aged harvest will be carried out in a manner consistent with the protection of the various forest resources, as shown by the effects analyses in the environmental assessment.

4. Culmination of mean annual increment: Stands of trees must have reached the culmination of mean annual increment prior to harvest (16 USC 1604(m)(1)).

   Field investigations by professional foresters and silviculturists during the implementation process will determine whether stands proposed for harvest have reached the culmination of mean annual increment. Culmination of mean annual increment is not applicable to intermediate harvests (such as thinning or other stand improvement measures) or uneven-aged management.

5. Temporary roads: Unless permanent roads are needed, all roads constructed in connection with a timber contract must be designed with the goal of reestablishing vegetative cover on the roadway (16 USC 1608(b)).

   I find that the transportation system analysis completed for the Mud Creek Project is consistent with this requirement. Permanent road construction would occur only where analysis showed the need for long-term access for future land management activities. Temporary roads would be constructed to a minimal standard to provide access for timber harvesting equipment and log trucks. Temporary roads will be decommissioned after use, returning the road footprint to its condition prior to use. Activity card TRM-02 in appendix A of the environmental assessment provides additional information.

6. Standards of roadway construction: Roads constructed on National Forest System lands must be designed to standards appropriate for the intended uses, considering safety, cost of transportation, and impacts on land and resources (16 USC 1608(c)).

   I find that the design features and implementation process in appendices A and B of the environmental assessment ensure consistency with the requirement to design roads to standards appropriate for their intended uses.

Endangered Species Act

The Endangered Species Act requires that all Federal agencies ensure through consultation with the appropriate Federal wildlife management agency that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species and their critical habitats (16 USC 1536(a)). The interdisciplinary team prepared and submitted to the U.S. Fish and Wildlife Service biological assessments for threatened species and critical habitat. The biological assessment for terrestrial wildlife made an effects determination of "may effect, not likely to adversely affect" for the threatened Canada lynx. The Forest Service sent a letter requesting concurrence with this determination on March 21, 2021. Due to the changed status of grizzly bears "may be present" in the project area and the changed status of the North American Wolverine Distinct Population Segment to proposed, an updated biological assessment with a request for concurrence was sent to the U.S. Fish and Wildlife Service on July 29, 2022. The biological assessment for aquatic species made an effects determination of "may affect, likely to adversely affect" for the threatened bull trout and bull trout critical habitat. The Forest Service sent a letter requesting formal consultation for bull trout on March 21, 2021. The Forest Service received a response letter and bull trout biological opinion from the U.S. Fish and Wildlife Service on December 30, 2022. The complete USFWS response document can be found in Appendix D.

National Historic Preservation Act

To comply with the National Historic Preservation Act, the Forest Service is required to inventory for and assess effects to historic properties for all areas potentially affected by Mud Creek Project activities. The implementation process will ensure compliance through use of the field review checklists and compliance with design features. Activities associated with this decision will not be implemented until concurrence is received from the Montana State Historic Preservation Office.

Clean Water Act

The beneficial uses of water in streams draining the project area will be maintained during and following the implementation of the Proposed Action. As the water resources, riparian and aquatic habitat, and soils sections in the environmental assessment, along with the various specialist reports in the project record make clear, application of Forest Plan standards and guidelines, best management practices, and project design features will ensure protection of water resources. Therefore, I have determined that this decision is in compliance with the Clean Water Act.

Montana Wilderness Study Area Act

The Bluejoint Wilderness Study Area (WSA) overlaps some of the Mud Creek project area. The activities planned within the WSA intend to reduce potential wildfire severity, create landscape diversity, and achieve desired conditions. Prescribed fire is compatible with the forest plan goal of utilizing fire to perpetuate natural ecosystems within the WSA. Under this alternative, no commercial harvest will occur within the WSA or Inventoried Roadless Areas (IRA).

Prescribed fire is planned for 14,901 acres in the IRAs and WSA:

- WSA- 6,575 acres (Mixed Severity- 4,323 acres, Low Severity 2,252 acres)

If fire (wildfire or mixed severity prescribed fire) were to occur at elevations above 6,800' in the WSA, post-fire conditions (open canopies and bare mineral soil) may offer an ecologically beneficial opportunity to plant whitebark pine seedlings, a proposed species that historically was present at greater numbers in this area. Where an existing sizeable cone-bearing whitebark pine seed source is present, Clarks nutcrackers may assist in natural whitebark pine seed caches increasing the amount of whitebark pine on the landscape. However, most of the mature cone-bearing whitebark pine in the area are dead or dying from whitepine blister rust making natural regeneration of notable numbers unlikely and undependable.

2001 Roadless Rule

The 2001 Roadless Rule establishes prohibitions on road construction, road reconstruction, and tree-cutting within inventoried roadless areas, with certain exceptions. The Blue Joint and Allan Mountain inventoried roadless areas overlap the Mud Creek project area. 8,326 acres of prescribed fire is planned (Mixed Severity-5,888 acres, Low Severity 2,438 acres) and no commercial harvest-based treatment will occur in the inventoried roadless areas.

Non-commercial, whitebark pine daylight thinning may occur within the inventoried roadless area in locations where whitebark pine are present and habitats are most suitable for whitebark pine.

Executive Order 12898 – Environmental Justice

Executive Order 12898 requires fair treatment and meaningful involvement of all citizens regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This decision will not disproportionately affect any minority or low-income population. We have treated all citizens fairly and allowed meaningful involvement by every person regardless of race, color, national origin, or income.

Compliance with 36 CFR § 212.55 (b)

36 CFR § 212.55 (b) provides direction to Federal agencies in response to Executive Order 11644, as amended by Executive Order 11989. The rule applies to decisions on motorized access designations. Subsection (b) provides:

b. ***Specific criteria for designation of trails and areas.*** In addition to the criteria in paragraph (a) of this section, in designating National Forest System trails and areas on National Forest System lands, the responsible official shall consider effects on the following, with the objective of minimizing:

1) Damage to soil, watershed, vegetation, and other forest resources;
2) Harassment of wildlife and significant disruption of wildlife habitats;
3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System lands or neighboring Federal lands; and
4) Conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands.

Where 36 CFR § 212.55 (b) Applies

This sub-section applies to the "designation of trails and areas" for motorized use. In the Mud Creek Vegetation Management Project, existing trails within the project area include:

Table 2. Existing miles of trails within the Mud Creek project area.

Trail Number	Trail Name	Trail Mileage	Trail Class	Designed Use	Trail Restriction
627	Castle Rock	2.8	Trail Class 2 Pack and Saddle	Motorcycle 0.0 – 3.45	Motorcycle 0.0 – 3.45
183	Bare Cone	3.2	Trail Class 2 Pack and Saddle	Non-motorized	Non-motorized
676	Piquett Ridge	5.6	Trail Class 2 Pack and Saddle	Motorcycle 0.0-8.7	Motorcycle 0.0-8.7
12	Indian Trail	2.6	Trail Class 2 Pack and Saddle	Non-motorized	Non-motorized
16.2	Divide South	0.1	Trail Class 3 Pack and Saddle	Non-motorized	Non-motorized
TRD 13415	Two Creek	1.0491	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13415	Two Creek	1.0491	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13426	Lower Blue Joint	0.3984	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13427	Lower Blue Joint	1.0361	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13429	Lower Blue Joint	0.6846	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13450	Beavertail	0.8309	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13451	Beavertail	1.159	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13452	Steep Creek	1.1926	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13453	Steep Creek	0.27	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13492	Beavertail Creeks	0.8	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13492	Beavertail Creeks	0.7383	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13808	Little Boulder	1.0833	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less
TRD 13815	Took-Mud Ridge	2.0309	Trail Class 3 ATV </= 50"	ATV's 50" or less	ATV's 50" or less

Trail Number	Trail Name	Trail Mileage	Trail Class	Designed Use	Trail Restriction
TRD 13817	Took Mud Ridge	1.7323	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13844	Bonnie Blue	1.7577	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13845	Bonnie Blue	0.1863	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13847	Bonnie Blue	1.6742	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13849	West Fork Face Basin Creek	0.3187	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13850	Basin Creek	1.1982	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13877	Buck Creek	0.4867	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13878	Buck Creek	0.3656	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 13881	One Creek	0.9494	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74020	Soda Springs	0.3977	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74026	Bonnie Blue	0.0992	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74048	Mud Creek	0.9757	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74051	Mud Creek	0.7049	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74052	Mud Creek	1.0273	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74053	Bonnie Blue	0.5717	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74056	Mud Creek	0.8865	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74062	Took Creek	1.5161	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74063	Took Creek	0.4385	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74064	Took Creek	1.1295	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74065	Took Creek	0.4833	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74066	Took Creek	0.557	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74067	Took Creek	3.803	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74068	Took Creek	0.7095	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74070	Mud Creek	0.7283	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less

Trail Number	Trail Name	Trail Mileage	Trail Class	Designed Use	Trail Restriction
TRD 74077	Mud Creek	0.2531	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74080	Blue Joint	0.5148	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74081	Blue Joint	0.321	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74082	Blue Joint	0.5486	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74084	Blue Joint	1.1887	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74085	Took Creek	0.6093	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74086	Took Creek	1.2991	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74087	Blue Joint	0.2376	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74088	Took Creek	2.2207	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74089	Took Creek	1.1438	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74090	Took Creek	0.1889	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74091	Mud Creek	0.9811	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74092	Took-Mud Ridge	1.1083	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74094	Blue Joint	0.3836	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74095	Took-Mud Ridge	1.8218	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74096	Took Creek	2.0765	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74097	Mud Creek	1.487	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74098	Took Creek	0.6175	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74099	Took Creek	1.0927	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74100	Took Creek	0.9701	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74101	Took Creek	0.3094	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74102	Took Creek	1.0532	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74105	Took Creek	0.6993	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74120	Took Creek	0.3053	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less

Trail Number	Trail Name	Trail Mileage	Trail Class	Designed Use	Trail Restriction
TRD 74121	Took Creek	0.6708	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74122	Took Creek	0.1516	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74304	Buck Creek	0.8563	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74307	Buck Creek	0.3986	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less
TRD 74700	One Creek	0.4384	Trail Class 3 ATV </= 50”	ATV’s 50” or less	ATV’s 50” or less

Other Considerations

Ravalli County Natural Resource Use Policy

The Ravalli County Natural Resource Use Policy was signed and adopted by the Ravalli County Board of Commissioners on November 21, 2012. The policy was developed to help guide the county with their involvement with public land managers. The Ravalli County Natural Resource Use Policy contains Goals and Objectives for how the county would like to see natural resources within the county managed. The interdisciplinary team reviewed the relevant goals and objectives of the natural resource policy.

I understand county representatives perceive issues regarding effects related to the proposed road management activities in the Mud Creek project area. My decision authorizes road and motorized trail decommissioning. My decision addresses the need to treat roads within problem areas to address resource issues and to monitor those that are currently stable. I acknowledge the county disagrees with whether my decision will strike the correct balance between ecological protection and local access needs. I recognize the public is dependent on access and use of the Forest. Most of the roads being proposed for decommissioning and storage were already closed to motorized travel, therefore there is little change to public access. By not physically recontouring most of the roads planned for decommissioning, the road prisms will still be available for non-motorized access even though they are no longer part of the road system.

Administrative Review and Objection Rights

In July 2021, a draft decision notice and finding of no significance was released, which was subject to the objection process pursuant 36 CFR 218. The 45-day objection period commenced with publication of a legal notice in the *Ravalli Republic* on July 7, 2021.

The objection comment period resulted in 13 objection letters. How those letters were considered in my decision have already been addressed in the Decision and Rationale section of this draft decision notice. Those objectors with standing to object are listed as follows:

1. James Olsen
2. Roger Miller
3. Patrick Connell
4. Ravalli County Commissioners
5. Larry Campbell
6. Mike O'Herron, MT DNRC
7. Willy Peck, Idaho Forest Group
8. Michael Garrity, Alliance for the Wild Rockies
9. Jeff Lonn
10. Michele Dieterich
11. Jim Miller, Friends of the Bitterroot
12. Michael Hoyt
13. Sara Johnson, Native Ecosystems Council

Following the end of the Mud Creek Project objection period, Deputy Regional Forester, Keith Lannom conducted a resolution meeting with objectors on September 23, 2021 that was attended by:

- Jim Miller of Friends of the Bitterroot
- Jeff Burrows and Dan Huls of Ravalli County
- Larry Campbell
- Jim Olsen
- Jeff Lonn

The objector's letters and written responses to these objections are posted on the Bitterroot National Forest website.

I have determined that this project complies with all laws, regulations, policies and the Forest Plan. Furthermore, the objection review requirements under 36 CFR 218.12 have been met, therefore implementation on this project may begin immediately.

Implementation

The West Fork Ranger District will work through the implementation planning process to identify specific treatment units and activities. The public, Tribes, and other stakeholders will have the opportunity to collaborate with the Forest Service at workshops and provide feedback for the proposed treatments identified. Once the implementation plan is completed, treatments within portions of the project area could begin as early as this summer.

Upon the listing of whitebark pine as a threatened species effective January 17, 2023, the Forest will reinitiate consultation with the U.S. Fish and Wildlife Service. Treatment activities in units where whitebark pine may be present and habitats suitable for whitebark pine will not be implemented until the reinitiation of consultation is complete.

Further information about this decision can be obtained from Dan Pliley, West Fork District Ranger. Contact information is included on the cover page of this document.

Signature

Approved by:

MATTHEW ANDERSON Digitally signed by MATTHEW ANDERSON Date: 2023.01.13 11:43:48 -07'00'

MATTHEW D. ANDERSON
Forest Supervisor
Bitterroot National Forest

Date

Appendix A – Forest Plan consistency

See pages A-1 through A-53 on the Mud Creek Project Website under the Decisions tab or click here.

Appendix B - Consideration of Comments

See pages B-1 through B-74 on the Mud Creek Project Website under the Decisions tab or click here.

Appendix D – USFWS Consultation and Biological Opinion for Mud Creek Project

Posted on the Mud Creek Project Website under the Decisions tab or click here.

Appendix C - Mud Creek Project Site-Specific Plan Amendments

Under the National Forest Management Act and its implementing regulations at 36 CFR 219 (2012 Planning Rule), a plan may be amended "in any manner whatsoever" (16 USC 1604(f)(4)). Plan amendments may be broad or narrow, depending on the need for the change. I have the discretion to determine whether and how to amend the Bitterroot National Forest Plan (Forest Plan) and to determine the scope and scale of any exception or amendment.

These project-specific amendments were prepared in accordance with the 2012 Planning Rule.

Amend Consistent with Forest Service NEPA Procedures (§ 219.13(b)(3))

The effects of the site-specific plan amendment are documented in the Mud Creek Project EA (Appendix D) following Forest Service NEPA procedures at 36 CFR Part 220. Because this amendment applies to only this project, it is not considered a significant change to the plan for purposes of the NFMA (36 CFR 219.13(b)(3)).

Purpose of the Amendments ((§ 219.13(b)(1))

The purpose of the amendments is to achieve Forest Plan goals and objectives by exempting the Project from adhering to outdated prescriptive standards, and instead use best available scientific information under ((§ 219.13(b)(1)) and ((§ 219.15(c)(4)). New information and changed circumstances have caused challenges with implementation of some of these standards, particularly those related to elk habitat effectiveness and elk thermal and hiding cover. These standards have limited the ability of the Forest Service to maintain other important elk habitats on the forest and manage for consistency with forest plan goals, objectives, and desired conditions for other resources. As a result, the Forest Service is issuing amendments that are site-specific and are applicable only to this project, allowing it to continue without unnecessary delay for a broader plan amendment process. In July 2022, the Forest Service published a letter soliciting comments to begin the programmatic amendments, once complete, those amendments subsequently will change plan direction for the duration of the forest plan. In the interim, the following standards that are subject to the site-specific amendments for the Mud Creek Project are:

- Elk habitat standards related to road densities and thermal cover
- Old growth standards
- Coarse woody debris standards

Purpose of Elk Habitat and Wildlife Thermal Cover Amendments

During scoping for the Mud Creek Vegetation Project, the public was notified there would likely be a site-specific Forest Plan amendment to suspend requirements related to Elk Habitat Effectiveness. During the analysis for the EA, it was determined that the following standards would need to be amended to achieve Forest Plan and Project goals and objectives.

Forest-wide standard for Elk Habitat Objectives (Hiding Cover) (Forest Plan pp. II-21, F.1.e.(12)): Big-game cover/forage relationships, as described in Guides for Elk Habitat Objectives (USDA, 1978), will be a consideration in planning timber management activities.

- **Purpose:** This proposed project-specific suspension of this standard is intended to update the project's thermal and hiding cover design and adapt to changes that have occurred on the landscape to achieve Forest Plan and project goals and objectives.

Forest-wide standard for Elk Habitat Effectiveness (Forest Plan pp. II-21, F.1.e.(14)): Manage roads through the Travel Plan process to attain or maintain 50 percent or higher elk habitat effectiveness (Lyon, 1983) in currently roaded third order drainages. Drainages where more than 25 percent of roads are in place are considered roaded. Maintain 60 percent or higher elk habitat effectiveness in drainages where less than 25 percent of the roads have been built.

- **Purpose:** This project-specific variance from this standard is needed because the existing condition of elk habitat effectiveness in the analysis area does not meet this standard. The small size of the third order watersheds in this project area limits the amount of roads that can be present on the ground. To meet the standards, the mileage of roads needed to be closed would limit forest management access and conflict with other Forest Plan management objectives to provide roaded, dispersed recreation.

Management Area 2 standard for Guides for Elk Habitat Objectives (Forest Plan pp. III-10-11, e.(1)(e)): Timber harvest on land unsuitable for timber production is appropriate for meeting cover/forage objectives if other resource objectives including soil and water can be met.

- **Purpose:** This proposed project-specific suspension of this standard is intended to update the project's thermal and hiding cover design and adapt to changes that have occurred on the landscape to achieve Forest Plan and project goals and objectives.

Compliance with the Rule's Procedural provisions

As explained below, this amendment complies with the procedural provisions of the 2012 Planning Rule (36 CFR Part 219.13(b)). The effects of the plan amendment is documented in the Final Mud Creek EA pursuant to FS NEPA regulations at § 220. As an amendment that applies to only this project, it is not considered a significant change to the plan for purposes of the NFMA.

Using the best available scientific information to inform the planning process (§ 219.3):

Intent of Forest Plan Standards

The Forest Plan standard for elk habitat effectiveness (EHE) cites Lyon et al. (1983) as a standard for road density that should be used to evaluate elk habitat effectiveness. The intent of the standard was to provide better security for animals.

The purpose of the thermal cover requirement was to provide habitat that, at the time, was believed to be necessary to support viable populations of wildlife species and to maintain the current level of big game hunting opportunities (USDA Forest Service 1987, p. II-5).

Elk Habitat Effectiveness

The Forest Plan says Lyon et al. (1983) should be applied to third order drainages. There are 385 third order drainages on the forest which range between 3 – 9,625 acres in size. Only 75 drainages (19%) are >3,000 acres. Lyon et al. 1983 says his standards should be applied to an area >3,000 acres. The standard does not state what roads are to be considered: all roads, all publicly open roads, and/or only roads open during hunting season. Most recently, the Bitterroot NF has been using all roads open at any point during the year in the EHE calculation, maximizing the number of drainages that do not meet the standard. The elk population in the Bitterroot has

increased dramatically since the Forest Plan has been written despite non-compliance with this standard in 110 drainages (out of 386 drainages across the forest). Elk habitat "effectiveness" is more related to forage abundance and quality than road density (Millspaugh et al. 2015, Ranglack et al. 2016, Crane et al. 2016). The Mud Creek Wildlife report (PF-WILD-001) provides more details on habitat effectiveness objectives.

Elk Habitat Objectives (Thermal and Hiding Cover)

Thermal cover is difficult to accurately measure on the landscape. Procedures outlined in Guides for Elk Habitat Objectives (USDA Forest Service, 1978) are no longer used and standards are expressed in crown closure, not canopy cover. This nuance is important in that each is measured in a different way. As defined by Paletto and Tosi (2009):

> *"The canopy cover can be defined as the percent forest area occupied by the vertical projection of tree crowns (Avery and Burkart 1994; Korhonen et al. 2006), which can be assumed as the true value of the overstorey cover according to Bonnor (1967). The canopy closure has an analogous meaning but it is represented by the proportion of sky hemisphere obscured by vegetation when viewed from a single point (Jennings et al. 1999) and, with the maximum expansion's degree of its angle of view, it is a projection of a hemisphere onto a plane (Daubenmire 1959)".*

Closure when measured from the ground using a wide-angle view (spherical densiometer) or from antiquated aerial hemispherical digital photographs, both of which overestimate canopy cover (Paletto and Tosi 2009). Furthermore, there is significant variability of results from different techniques to measure canopy closure (Paletto and Tosi 2009). Whereas different techniques to measure canopy cover are more correlated and produce more similar results (Mirik and Absley 2012, Hulet at al. 2013, Richardson and Moskal 2014). Techniques used to measure canopy closure overestimate canopy cover on average by 10.15% (Paletto and Tosi 2009). Therefore, values ≥60% canopy cover likely fulfill the Forest Plan standard of ≥70% crown closure. VMap is the most appropriate tool for assessing canopy cover and other vegetation variables because it captures a moment in time for comparison across the entire forest, uniformly measured, and is sufficiently accurate. VMap accuracy is >90% (Ahl and Brown 2017). Landscape scale remote sensing mapping is considered suitable for management planning when overall accuracy is >85% (Anderson et al. 1976, Hulet et al. 2013).

Hiding cover is also difficult to measure at the landscape scale. Hiding cover cannot be readily assessed with VMap or with remote sensing. Hiding cover has not likely been a limiting factor in elk population growth in the project area. In the Mud Creek project area, much of the woody vegetation is regenerating and provides hiding cover as defined by the forest plan: "Vegetation, primarily trees, capable of hiding 90 percent of an elk seen from a distance of 200 feet or less." Early regeneration vegetation can be used as a surrogate to estimate hiding cover, and is identifiable by remote sensing. An elk cover/forage analysis was completed for the Mud Creek analysis area (Table 12 in PF-WILD-001 and Figure 16).

Cumulative Impact of Elk Habitat Effectiveness and Habitat Objectives Amendment

There have been 11 project-specific amendments (one more anticipated with reasonably foreseeable projects (Gold Butterfly) related to EHE since the Forest Plan was approved in 1987. There have been 9 project-specific amendments related to thermal and hiding cover. Despite these numerous Forest Plan amendments, the Forest Plan objective of maintaining the current (1987) level of big-game hunting opportunities has been achieved. The number of hunters, as well as the

number of elk, continues to increase, and the general hunting season has remained at five weeks. We have added an elk security analysis (Hillis et al. 1991) to our environmental analysis protocol that has proven to be a better tool than EHE analysis for achieving the Forest Plan objective to maintain elk populations and hunting season opportunities in cooperation with the Montana Department of Fish, Wildlife and Parks. In summary, the proposed activities, in combination with past and reasonably foreseeable future actions in this analysis area, are not expected to cumulatively degrade the habitat effectiveness for elk.

Providing Opportunities for Public Participation (§ 219.4) and Providing Public Notice (§ 219.16) (§ 219.13(b)(2))

During project scoping in September 2019 the Forest sent a scoping letter soliciting comments on the proposed actions, including the need for forest plan amendments on elk habitat objectives, thermal cover and hiding cover. A news release was submitted February 8, 2021 as an early announcement of the opportunity to comment once the draft environmental assessment was released, and included the need to amend standards for elk habitat objectives related to road densities and thermal cover, as well as amendments for old growth and coarse woody debris standards. The environmental assessment was released for comment on March 24, 2021. The public had a 30-day period to provide comment on the elk habitat effectiveness and the thermal cover/hiding cover amendments as part of the Mud Creek Project draft EA. This forest plan amendment is described in Appendix D of the EA.

Comments specific to the proposed amendment that were received were considered by the responsible official (Decision Notice Appendix B- Consideration of Comments).

Format for plan components (§ 219.13 (b)(4); § 219.7 (e)):

Because the amendment is limited to where existing plan direction applies, the Forest Plan formatting will not be changed (§ 219.13 (b)(4)).

The plan amendment process (§ 219.13(b)(3)):

This plan amendment is consistent with Forest Service NEPA procedures. An environmental assessment was prepared and the forest plan amendment along with project activities will be authorized with the signing of the final Decision Notice. There are no significant effects as described in Mud Creek Project EA and the Finding of No Significant Impact (FONSI).

Objection Opportunity (§ 219.57(b))

As a plan amendment that only applies to this project, the amendment decision is being made concurrent with the project decision and is subject to the administrative review process of § 218 subpart A and B. Refer to Decision Notice above.

Effective date (§ 219.17(a)(3):

This forest plan amendment will be effective immediately after the decision is signed pursuant to 36 CFR 219.17(a)(3).

Documenting Compliance with the Rule's Applicable Substantive Provisions[1]

The planning rule requires that those substantive rule provisions within 36 CFR 219.8 through 219.11 that are directly related to the amendment are applicable to this amendment. The applicable substantive provisions apply only within the scope and scale of the amendment (36 CFR 219.13(b)(5)).

As explained in the discussion that follows, both the purpose and the effects of the amendment are such that provisions in § 219.10(a)(5) Multiple Use are directly related to the amendment. I have applied those provisions within the scope and scale of the amendment.

Scope and scale of the amendment

The rule requires that substantive rule provisions (§ 219.8 through 219.11) that are directly related to the amendment must be applied to the amendment. A determination that a rule provision is directly related to the amendment is based on any one or more of the following criteria:

1. The purpose of the amendment (§ 219.13(b)(5)(i));
2. Beneficial effects of the amendment (§ 219.13(b)(5)(i));
3. Substantial adverse effects associated with a rule requirement (§ 219.13(b)(5)(ii)(A)); "when an EA or CE is the NEPA documentation for the amendment, there is a rebuttable presumption that there is no substantial adverse effect, and thus no direct relationship between the rule and the amendment based on adverse effects (§ 219.13(b)(5)(ii)(B))."
4. Substantial lessening of protections for a specific resource or use (§ 219.13(b)(5)(ii)(A)).
5. Substantial impacts to a species or substantially lessening protections for a species (36 CFR 219.13(b)(6).

The scope and scale of the amendment are defined by the purpose for the amendment as described in the Purpose and Need section of this document. The scope of the project-specific amendment is limited to desired conditions, standards, and guidelines relative to management of elk habitat effectiveness and elk thermal cover objectives. Similarly, the scale of the project-specific amendments is limited to the project area for Mud Creek Vegetation Project. Accordingly, the amendments do not impact other resource areas or other areas of the West Fork Ranger District.

Rule provisions that are directly related to the amendment

Based on the NEPA analysis in the EA (Mud Creek Project EA, Appendix D) and as summarized here, I have determined that the amendment will not have substantially adverse effects on any resource or use and will not substantially lessen protections for species (EA). Furthermore, the planning rule at 36 CFR 219.13(b)(5)(ii)(B) states that where I have made a Finding of No Significant Impact, there is a rebuttable presumption that the amendment will not have substantial adverse effects. No evidence has been presented to rebut that presumption.

[1] The applicable substantive provisions of the Rule are within 36 CFR 219.8 through 219.11. (81 FR 90723, December 15, 2016).

Purpose of Old Growth Amendment

There is a need to modify the forest-wide standard and glossary definitions in the 1987 Forest Plan to those described in Old-Growth Forest Types of the Northern Region by Green et al. (2011) to provide consistent, measurable criteria for monitoring old growth at the project scale and when evaluating whether project activities are maintaining and promoting old growth characteristics associated with the varying forest types and habitat type groups (biophysical settings) across the Bitterroot National Forest. The amendment would align the Bitterroot Plan with the definition used in Region One and what is being used for the national inventory effort (FIA or Forest Inventory Assessment). This amendment will also align with Executive Order 14072, which provides agency-wide direction for an inventory of old growth and mature forest.

The Forest Plan standard for old growth is Forest-wide. A site-specific amendment is needed to replace the standard that states "Old-growth stands may be logged and regenerated when other stands have achieved old-growth status" (USDA Forest Service 1987a, p. II-20) with a guideline that conserves old growth but allows for exceptions when a stand is heavily impacted by insects and/or disease will provide flexibility until national policy is developed. This policy is expected to be developed in late 2023.

Wildlife and Fish (2) Stand conditions that qualify as old growth will vary by habitat type and landform. Criteria to consider for identifying old growth include:

- large trees, generally 15 per acre greater than 20 inches diameter-breast-height (dbh) for species other than lodgepole pine and 6 inches for lodgepole pine;
- canopy closure at 75 percent of site potential;
- stand structure usually uneven-aged or multistoried;
- snags, generally 1.5 per acre greater than 6 inches dbh and .5 per acre greater than 20 inches;
- more than 25 tons per acre of down material greater than 6 inches diameter.
- heart rot and broken tops in large trees are common; and
- mosses and lichens are present.

Site-specific modification of standards in Management Areas 1, 2, 3a, and 3c of the project area is also needed to delineate old growth by stand as identified in Forest Service Handbook 2409.17. Old growth would be delineated at the stand level based on forest composition and structure as defined by Green et al. (2011)

Management Area 1 (chapter Wildlife and Fish)

(2) Old growth stands should be 40 acres and larger, distributed over the management area. About 3 percent of Management Area 1 suitable timberland, in each third order drainage will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas and with intermingled riparian and unsuitable management areas (USDA, 1979).

Management Area 2 (chapter Wildlife and Fish)

(2) Old growth stands should be 40 acres and larger, distributed over the management area. About 8 percent of the Management Area 2 suitable timberland, in each third order drainage, will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas and intermingled riparian and unsuitable areas (USDA, 1979).

Management Area 3a (chapter Wildlife and Fish)

(2) Old growth units should be 40 acres and larger, distributed over the management area. About 8 percent of the Management Area 3a suitable timberland in each third order drainage will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas especially Management Area 3b, riparian areas (USDA, 1979).

This project-specific amendment is needed to replace the Forest Plan criteria and definition for old growth with the best available scientific information for old growth, Green et al. (1992, amended 2011). This project-specific amendment is also needed to change Management area direction related to minimum stand size to classify stands smaller than 40 acres as old growth to better align with Forest Service handbook direction and to protect smaller stands of old growth that are ecologically important.

The Forest Plan definition of old growth is unclear for several reasons including not being based on the variability found across different habitat types, immeasurable criteria, and no minimum age requirement among other reasons as described in this document.

The Forest Plan criteria for old growth is not easily measured and therefore is an inappropriate monitoring tool; the Bitterroot Forest has no way of knowing how much forest would qualify as old growth using the 1987 Forest Plan criteria. Conversely, the Bitterroot has been using Green et al. criteria to inventory and monitor old growth since this best available science became available. Monitoring informs us whether we are meeting Forest Plan goals and desired conditions.

Green et al. (1992, amended 2011) represents the best available scientific information to define old growth. This work contains measurable criteria to consistently define old growth based on a national definition that old growth forests are distinguished by old trees and related structural attributes (Green et al. 1992, amended 2011). The old growth definitions are specific to forest type and habitat type group. Key attributes include age, numbers, and diameter of the old tree component within the stand and stand density. Minimum thresholds have been established for these attributes. Associated characteristics are also defined such as probabilities of coarse woody debris, number of canopy layers, and number of snags over 9 inches diameter at breast height. For those reasons, Green et al. (1992, amended 2011) is a better measure to evaluate whether the project maintains and promotes old growth.

The habitat-type specific definitions of old growth, as well as the removal of the 40 acre minimum stand size is more inclusive and results in more forest correctly identified and managed as old growth.

The intent of old growth management in the Forest Plan is: *"The amount and distribution of old growth will be used to ensure sufficient habitat for the maintenance of viable populations of existing native and desirable vertebrate species, including two indicator species, the pine marten and pileated woodpecker."*

Compliance with the Rule's Procedural provisions

As explained below, this amendment complies with the procedural provisions of the 2012 Planning Rule (36 CFR Part 219.13(b)). The effects of the plan amendment is documented in the Final Mud Creek EA pursuant to FS NEPA regulations at § 220. As an amendment that applies to only this project, it is not considered a significant change to the plan for purposes of the NFMA.

Using the best available scientific information to inform the planning process (§ 219.3):

Cumulative Impact of Old Growth Amendment

A project-specific amendment to support using the old growth definitions in Green et al. for the Mud Creek Project rather than the 1987 Forest Plan old growth criteria would not result in any negative cumulative effects when considering the foreseeable Gold Butterfly and Bitterroot Front projects. Since old growth stands have been identified in all three project areas using the definitions in Green et al., a project-specific amendment to support using the Green et al. definitions for the Mud Creek Project would not result in changes to the amount of old growth identified or managed in any of these projects. Likewise, a project-specific amendment to support using the old growth definitions in Green et al. for the Mud Creek Project would not affect the amount of habitat available for species such as pileated woodpeckers or marten that are associated with habitat components that are most common in mature or over-mature forests, but also occur in stands that do not meet old growth definitions.

Providing Opportunities for Public Participation (§ 219.4) and Providing Public Notice (§ 219.16) (§ 219.13(b)(2))

During project scoping in September 2019 the Forest sent a scoping letter soliciting comments on the proposed actions, including the need for forest plan amendments on elk habitat objectives, thermal cover and hiding cover. A news release was submitted February 8, 2021 as an early announcement of the opportunity to comment once the draft environmental assessment was released, and included the need to amend standards for elk habitat objectives related to road densities and thermal cover, as well as amendments for old growth and coarse woody debris standards. The environmental assessment was released for comment on March 24, 2021. The public had a 30-day period to provide comment on the old growth amendment as part of the Mud Creek Project draft EA. This forest plan amendment is described in Appendix D of the EA.

Comments specific to the proposed amendment that were received were considered by the responsible official (Decision Notice Appendix B- Consideration of Comments).

Format for plan components (§ 219.13 (b)(4); § 219.7 (e)):

Because the amendment is limited to where existing plan direction applies, the Forest Plan formatting will not be changed (§ 219.13 (b)(4)).

The plan amendment process (§ 219.13(b)(3)):

This plan amendment is consistent with Forest Service NEPA procedures. An environmental assessment was prepared and the forest plan amendment along with project activities will be authorized with the signing of the final Decision Notice. There are no significant effects as described in Mud Creek Project EA and the Finding of No Significant Impact (FONSI).

Objection Opportunity (§ 219.57(b))

As a plan amendment that only applies to this project, the amendment decision is being made concurrent with the project decision and is subject to the administrative review process of § 218 subpart A and B. Refer to Decision Notice above.

Effective date (§ 219.17(a)(3):

This forest plan amendment will be effective immediately after the decision is signed pursuant to 36 CFR 219.17(a)(3).

Documenting Compliance with the Rule's Applicable Substantive Provisions

The planning rule requires that those substantive rule provisions within 36 CFR 219.8 through 219.11 that are directly related to the amendment are applicable to this amendment. The applicable substantive provisions apply only within the scope and scale of the amendment (36 CFR 219.13(b)(5)).

As explained in the discussion that follows, both the purpose and the effects of the amendment are such that the provisions in § 219.9(a)(2)(i), which requires plan components to maintain or restore the diversity of ecosystems and habitat types throughout the plan area, including (*i*) key characteristics associated with terrestrial and aquatic ecosystem types. I have applied those provisions within the scope and scale of the amendment.

Scope and scale of the amendment

The scope and scale of the amendment are defined by the purpose for the amendment as described in the Purpose and Need section of this document. The scope of the project-specific amendment is limited to desired conditions, standards, and guidelines relative to management of old growth objectives. Similarly, the scale of the project-specific amendments is limited to the project area for Mud Creek Vegetation Project. Accordingly, the amendments do not impact other resource areas or other areas of the West Fork Ranger District.

Rule provisions that are directly related to the amendment

Based on the NEPA analysis in the EA (Mud Creek Project EA, Appendix D) and as summarized here, I have determined that the amendment will not have substantially adverse effects on any resource or use and will not substantially lessen protections for species (EA). Furthermore, the planning rule at 36 CFR 219.13(b)(5)(ii)(B) states that where I have made a Finding of No Significant Impact, there is a rebuttable presumption that the amendment will not have substantial adverse effects. No evidence has been presented to rebut that presumption.

Purpose of the Coarse Woody Debris Amendment (§ 219.13(b)(1))

There is a need to amend coarse woody debris plan standards in Management Areas 1, 2, 3a, 3b, and 3c (ibid. pp. III-6, III-12, III-13, III-19, III-28, III-33) to resolve the contradictory direction within the existing standards and ensure the amount of coarse woody debris to be left on the ground aligns with the current scientific information regarding soil health and fuel loading. According to the 1987 Bitterroot Land and Resource Management Plan (Forest Plan), proposed management activities in the Mud Creek Project area are located within Management Areas (MAs) 1, 2, 3a, 5 and 8a. The Mud Creek Decision Notice will apply a modified standard to the following Forest Plan Management direction for the duration of this project, as described below, in order to implement the Proposed Action Alternative while still maintaining consistency with forest plan goals and desired conditions for all resources:

MA 1, 2, and 3a: (USDA Forest Service 1987, pp. III-6, f (4); III-12, f (3); and III-19, f (4))

- Site preparation methods will assure the retention of modest levels of organic matter, including woody materials 8 inches or less in diameter, to provide nutrient and ectomycorrhizal levels necessary for maintaining growth rates; while still providing an adequate mineral base for seed germination and reduction of grass competition. On dry and harsh sites, at least 10 to 15 tons per acre of residual debris is needed (Harvey, et al 1981a & 1981b; Harvey, 1982).

MA 2 (USDA Forest Service 1987, pp. III-13, j (2))

- Natural and activity fuels will be treated to reduce slash depth below 1 ½ feet to provide for big-game movement. About 25 tons/acre of down trees larger than 6-inch diameter will be left for nongame habitat if available.

Purpose: The proposed project specific amendment will modify the plan standards to achieve Forest Plan and project goals and objectives while applying the best available scientific information to the Mud Creek project's coarse woody debris design. The purpose of the coarse woody debris amendment is to resolve the contradictory direction within the existing standards and ensure the amount of coarse woody debris to be left on the ground aligns with the historical ranges identified for the Fire Groups present within the project area. The proposed, ecologically-based standard would replace, for this project, the management area standards in the 1987 Forest Plan (USDA Forest Service 1987, pp. III-6, f(4); III-12, f.(3); III-19, f(4)), and pp. III-13, j (2)). Fire Groups are described in detail within the Fire and Fuels specialist report (PF-FIRE-001).

The new project-specific coarse woody debris standard to be applied for the Mud Creek project would read:

"To maintain soil productivity and wildlife habitat, coarse woody debris (material greater than 3 inches in diameter) will be left at or above the minimum levels identified in the following table. Within harvest units, coarse woody debris will be evenly distributed on each acre. At least minimum levels will also be retained after non-commercial and prescribed fire treatments.

Fire Group	CWD Ranges (tons/acre)
0	0-5
2	5-10
4	5-10
5	10-20
6	10-20
7	8-24
8	8-24
9	8-24
10	8-24
11	20-30

Wood larger than 15 inches in diameter will not be intentionally ignited during hand lighting. It is understood that once the fire is lit by hand crews, the fire may burn into large CWD and combust various pieces."

Compliance with the Rule's Procedural provisions

As explained below, this amendment complies with the procedural provisions of the 2012 Planning Rule (36 CFR Part 219.13(b)). The effects of the plan amendment are documented in the

Final Mud Creek EA pursuant to FS NEPA regulations at § 220. As an amendment that applies to only this project, it is not considered a significant change to the plan for purposes of the NFMA.

Using the best scientific information to inform the planning process (§ 219.3):

The purpose of the 1987 Forest Plan Record of Decision (USDA Forest Service 1987b) coarse woody debris requirements was to maintain soil productivity, fire protection and provide for nongame habitat. Since the Forest Plan was signed, additional science is available regarding the amount of coarse woody debris that would be expected in different habitat type groups (Fisher & Bradley, 1987; Graham et al. 1994; Brown et al. 2000), which provides more refined guidelines for meeting the Forest Plan goals and objectives. The current management area direction for coarse woody debris retention does not recognize the differences in historic range of variation of coarse woody debris among forest types, as shown in current best available scientific information. The amounts prescribed in the Forest Plan are sometimes contradictory to each other (i.e. 10 to 15 tons/acre in one standard and 25 tons/acre in another; sometimes referring to the same piece of ground). Also, to reduce fire intensity (and protect soil productivity, big game movement), heavy amounts of coarse woody debris should not be left in treated stands in the Mud Creek project area.

Providing Opportunities for Public Participation (§ 219.4) and Providing Public Notice (§ 219.16) (§ 219.13(b)(2))

During project scoping in September 2019 the Forest did not indicate the need to amend the Bitterroot Forest Plan standards for coarse woody debris. After further consideration, the Forest has determined it will need to conduct a project-specific Forest Plan amendment for coarse woody debris standards as well. A news release was submitted February 8, 2021 as an early announcement of the opportunity to comment once the draft environmental assessment was released for comment on March 24, 2021. The public had a 30-day period to provide comment on the CWD amendment as part of the Mud Creek Project draft EA. This forest plan amendment is described in Appendix D of the EA.

Comments specific to the proposed amendment that were received were considered by the responsible official (Decision Notice Appendix B- Consideration of Comments).

Format for plan components (§ 219.13 (b)(4); § 219.7 (e)):

Because the amendment is limited to where existing plan direction applies, the Forest Plan formatting will not be changed (§ 219.13 (b)(4)).

The Plan Amendment Process (§ 219.13(b)(3)):

This site-specific plan amendment is consistent with Forest Service NEPA procedures. An environmental assessment was prepared and the forest plan amendment along with project activities will be authorized with the signing of the final Decision Notice. There are no significant effects as described in Mud Creek Project EA and the Finding of No Significant Impact (FONSI).

Objection Opportunity (§ 219.57(b))

As a plan amendment that only applies to this project, the amendment decision is being made concurrent with the project decision and is subject to the administrative review process of § 218 subpart A and B. Refer to Draft Decision Notice above.

Effective date (§ 219.17(a)(3):

This forest plan amendment will be effective immediately after the decision is signed pursuant to 36 CFR 219.17(a)(3).

Documenting Compliance with the Rule's Applicable Substantive Provisions

The planning rule requires that those substantive rule provisions within 36 CFR 219.8 through 219.11 that are directly related to the amendment are applicable to this amendment. The applicable substantive provisions apply only within the scope and scale of the amendment (36 CFR 219.13(b)(5)).

As explained in the discussion that follows, both the purpose and the effects of the amendment are such that the provisions in § 219.8 (a)(1)(iv) and (v), *which requires plan components to maintain or restore ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account: (iv) System drivers, including wildland fire and (v) Wildland fire and opportunities to restore fire adapted ecosystems,* is directly related to the amendment. I have applied those provisions within the scope and scale of the amendment.

Scope and scale of the amendment

The scope and scale of the amendment are defined by the purpose for the amendment as described in the Purpose and Need section of this document. The scope of the project-specific amendment is limited to activities that create or remove coarse woody debris to meet the desired conditions and coarse woody debris ranges for each representative fire group. Similarly, the scale of the project specific amendment is limited to the project area for Mud Creek Project. Accordingly, the amendment does not impact other resource areas or other areas of the West Fork Ranger District.

Rule provisions that are directly related to the amendment.

Based on the NEPA analysis in the EA (Mud Creek Project EA, Appendix D) and as summarized here, I have determined that the amendment will not have substantially adverse effects on any resource or use and will not substantially lessen protections for species (EA). Furthermore, the planning rule at 36 CFR 219.13(b)(5)(ii)(B) states that where I have made a Finding of No Significant Impact, there is a rebuttable presumption that the amendment will not have substantial adverse effects. No evidence has been presented to rebut that presumption.