

Soldier-Butler Project

Final Decision Notice

**Ninemile Ranger District, Lolo National Forest,
Huson, Montana**



For More Information Contact:

Project Leader Tami Paulsen Telephone: (406-329-3731)

Ninemile District Ranger Eric Tomasik

Ninemile Ranger District
20325 Remount Road
Huson, MT 59846

Telephone: 406-626-5201

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer and lender.

Table of Contents

| | | |
|-------------------|--|-------------------|
| <u>1.0</u> | <u>Decision</u> | <u>1</u> |
| <u>2.0</u> | <u>Changes in Environmental Assessment</u> | <u>2</u> |
| <u>3.0</u> | <u>Rationale for the Decision</u> | <u>2</u> |
| <u>4.0</u> | <u>Public Involvement</u> | <u>7</u> |
| <u>5.0</u> | <u>Finding of No Significant Impact</u> | <u>8</u> |
| <u>6.0</u> | <u>Consistency with Legal Requirements</u> | <u>13</u> |
| | <u>Appendix A: Map of the Selected Action.....</u> | <u>19</u> |
| | <u>Appendix B: Selected Action Treatment Details.....</u> | <u>21</u> |
| | <u>Appendix C: Resource Protection Measures and Monitoring.....</u> | <u>26</u> |
| | <u>Appendix D: Response to EA Comments</u> | <u>44</u> |
| | <u>Appendix E - Forest Plan Amendment Documentation.....</u> | <u>104</u> |
| | <u>Appendix F: Terms and Conditions.....</u> | <u>107</u> |

This page intentionally left blank

1.0 Decision

This notice documents the decision to implement the Selected Action, which is a blend of activities presented in the Soldier-Butler Project Environmental Assessment (EA). I am authorizing treatment on approximately 9,975 acres including fuel reduction and forest health treatments, road activities, watershed improvements, measures to address grizzly bear security, and a site-specific Forest Plan amendment changing a Management Area (MA) designation in Kennedy Creek (EA p. 14). Details are summarized in Table 1.

The decision will not implement some of the activities described in the EA, including approximately 129 acres of harvest in Unit 21 and 67 acres of non-commercial treatment in Unit 92. Resource Protection Measures (RPMs) were adjusted for big game security in response to comments submitted by the public and Montana Fish, Wildlife, and Parks. These changes along with findings from the effects analysis have eliminated the need to include a Forest Plan amendment for standards regarding: (1) thermal cover for big game species in winter range; and, (2) requiring generally restricting some activities to summer and fall months as originally anticipated. The *Rationale for My Decision* includes an explanation for not moving forward with these activities.

Authorized Activities

The Soldier-Butler Project EA is incorporated by reference in this Decision Notice (DN). The approved treatments are summarized in Table 1. Additional details can be found in the EA (pages 14, and 18-31), and Appendices A – C and F of this DN.

Table 1. Summary of Authorized Actions

| Activity | Amount |
|---|--------|
| <i>Proposed Vegetation Treatments (acres)</i> | |
| Thinning Treatments and Prescribed Fire | 4,152 |
| Larch and Ponderosa Pine Regeneration and Prescribed Fire | 114 |
| Ecosystem Maintenance Burning Preceded by Understory Slashing or Thinning | 1,000 |
| Ecosystem Maintenance Burning Preceded by Understory Slashing or Thinning and Harvest | 1,271 |
| Ecosystem Maintenance Burning | 1,447 |
| Young Stand Thinning and Prescribed Fire | 836 |
| Non-commercial Thinning and Handpiling and Burning | 446 |
| Aspen Restoration | ≤100 |
| Restoration of Acquired Lands | 609 |
| Total proposed treatments (acres) | 9,975 |
| <i>Other Proposed Vegetation Treatments (acres)</i> | |
| Site preparation and tree planting | 100 |
| Noxious weed treatments (ground-based, aerial, and biological control) | 2,220 |
| <i>Yarding Systems (acres)</i> | |
| Skyline yarding | 1,233 |
| Ground-based yarding | 4,277 |

| Activity | Amount |
|--|----------|
| Estimated timber harvest volume (mmbf) | 17.5 |
| <i>Proposed Road and Trail Treatments (miles)</i> | |
| Add to official road system | |
| As is (current state – no additional treatment or use will occur) | 6 |
| Store | 29 |
| Total | 35 |
| Construct permanent system road | |
| Needed for Soldier-Butler implementation and long-term management/fire access | 5.6 |
| Needed for future management of acquired land | 1.4 |
| Restoration access (e.g., road decommissioning, weed treatment) | (0.92) |
| Joining existing undetermined roads (6 segments of 100-700 ft.) | (0.42) |
| Total | 7 |
| Decommission | |
| Decommission Unneeded Road | 100 |
| Reconstruct Existing Undetermined Road ¹ for Timber Sale | 4 |
| Total | 104 |
| Store Existing System Road | 15 |
| Construct Temporary Road | 9.4 |
| BMP/maintenance (Haul Routes) | 51 |
| Aquatic Offset (to be implemented with the project – needed to offset effects of project) | 1 Offset |
| Aquatic Offset (to be implemented funding-dependent – not needed to offset effects of project) | 1 Offset |
| <i>Site-specific Forest Plan Amendments</i> | |
| Change Management Area (MA) designation for about 76 acres in the Kennedy Creek drainage from MA 4 (active mineral extraction and processing operations) to MA 18 (winter range for deer, elk and bighorn sheep). Assign MA designations of 14 (riparian with grazing) and 18 (winter range) to approximately 96 acres that were not allocated an MA in the 1986 Lolo Forest Plan. | |

2.0 Changes in Environmental Assessment

The Soldier-Butler Fire and Fuels Specialist Report was originally written when Missoula County was still referencing the 2005 Missoula County Community Wildfire Protection Plan (CWPP). This information was included in the EA when it was released in March 2019. In 2018, Missoula County updated their CWPP. While this update was not included in the September 2017 Specialist’s Report or March 2019 EA, these changes were made in November 2019 (see updated EA and Fire and Fuels Specialists’ Report at <https://www.fs.usda.gov/project/?project=50777>).

3.0 Rationale for the Decision

My decision is based on information summarized in the Soldier-Butler Project EA, supporting documentation in the Project File, and consideration of issues, public comments, and current relevant science. This decision is consistent with the Lolo Forest Plan, laws, regulations, and agency policy outlined in Forest Service manuals and handbooks, and considers potential cumulative effects. I believe the Selected Action provides for the best balance of management activities to address the purpose and need, while also being responsive to public input, issues, and potential resource effects identified through the analysis. It adopts all practical means to avoid or minimize environmental harm from the Selected Action.

¹ Undetermined roads are existing road templates that are not part of the NFSR.

The alternatives I had to choose from included:

- Alternative A: No Action
- Alternative B: Modified Proposed Action
- Alternative C: Alternative with No Permanent Road Construction

Meeting the Purpose and Need

The purpose and need is listed below (Soldier-Butler EA pp. 2-5):

1. Decrease high intensity wildfire potential and enhance firefighter efficiency and safety
 - Maintain and provide for ingress and egress for public and firefighter safety
2. Maintain and enhance the resilience and resistance of forested vegetation communities to stressors (e.g., drought, wildfire, climate change, altered fire regimes, and insects and disease)
3. Manage for variability across the landscape (e.g., age class diversity, species diversity, within stand)

The Selected Action meets the purpose and need in the following ways.

1. Decrease high intensity wildfire potential and enhance firefighter efficiency and safety
 - Maintain and provide for ingress and egress for public and firefighter safety

The Selected Action will decrease the potential for high intensity wildfire, enhance firefighter and public safety, and better provide for ingress and egress. The approximately 9,975 acres of treatments will increase ecosystem function and resilience by maximizing the retention of large fire-tolerant tree species, re-introducing fire to reduce surface fuel loads, and decreasing the probability of crown fire. Ladder and surface fuels will be reduced by thinning and prescribed burning. These treatments have proven to meet the objectives for the longest period of time on the Lolo NF, where approximately 7,000 acres are accomplished annually.

The best science indicates a three part objective to creating fire resilient stands with fuel treatments: reducing surface fuels, reducing ladder fuels, and reducing crown density (Agee and Skinner, 2005). The Selected Action meets these objectives on a greater scale within the WUI, reducing crown fire potential and increasing resiliency and ecosystem function. This occurs in key locations with a high density of high value assets that are currently at risk to negative impacts from wildfire. The Selected Action meets the objectives for effective fuel treatment by:

- Reducing surface and ladder fuels and increasing crown base heights
- Reducing and maintaining lower tree densities for a longer period of time; decreasing canopy bulk density and potential crown fire initiation
- Retaining fire-tolerant species (ponderosa pine and western larch)
- Reintroducing fire to reduce fuel loads, stimulate understory species, and maintain desired fuel beds

Overstory trees would be thinned to reduce stand density, create structural diversity, favor ponderosa pine and western larch, and increase vigor and resilience to insects, disease, and fire. The removal of small diameter trees (generally trees 7" dbh or less) focuses on retaining the largest and healthiest ponderosa pine and western larch in all age classes. Prescribed fire will further reduce crown fire potential and modify fire behavior, improving stand resilience and decreasing future tree mortality.

The Selected Action will reduce hazardous fuels in mid-aged mixed conifer stands within the WUI.

This will reduce the potential for crown fire. Public and firefighter safety are improved by reducing ladder fuels and surface fuel loading through hand thinning or slashing and hand piling and burning. Prescribed fire decreases the intensity of subsequent wildfires by reducing fuel loads, especially of the finer elements in the more aerated fuel layers that govern fire spread (Rothermel 1972), and by disrupting the horizontal and vertical continuity of the fuel complex.

About 3 miles of permanent road (P18179) will be constructed to allow access to Pine and Marion Creeks. This will facilitate ingress and egress for public and firefighter safety, improve firefighting efficiency adjacent to private land, and provide for mechanical and prescribed burning treatments.

2. Maintain and enhance the resilience and resistance of forested vegetation communities to stressors (e.g., drought, wildfire, climate change, altered fire regimes, and insects and disease)
3. Manage for variability across the landscape (e.g., age class diversity, species diversity, within stand)

Properly functioning systems can accommodate processes including fire, insects, disease, and climate change and provide a sustainable flow of ecosystem services, whether or not they are within the historical range of variation. Gillette and others (2014) concluded that, “Managing for biologically diverse and resilient forests is our best and only long-term, sustainable response to a multitude of stressors – insects and disease outbreaks, fires that are unprecedented in severity, and drought – that are likely to increase in frequency as climate changes. In the case of bark beetles and other stressors, this calling for greater, science-based use of silvicultural treatments that, paradoxically, require some tree mortality for the greater resilience of the entire forest.”

The Selected Action will increase resilience to disturbances in the long-term by favoring shade-intolerant species, reduces stand density across the landscape to increase resilience to fire and pathogens, and addresses shifts in species composition, age class, and structural diversity that have occurred at the landscape level in both the interface zone and project area. The treatments will: reduce density via stand thinning; use prescribed fire to modify fire behavior (as measured by the projected reduction of uncharacteristically severe wildfire effects for the forest type); and maximize the retention of large, fire-tolerant trees, to restore and promote fire-resilient stands.

The Selected Action is designed to reduce stand density to minimize drought effects, reduce the impact of large wildfire events, and reduce the potential for increased insect and disease outbreaks. It will provide a wide variety of species and age class diversity, while managing for processes that facilitate changing climate adaption across the analysis area, with a specific focus on critical areas within the interface zone (Joyce et al., 2008; Millar et al., 2007). It achieves the following restoration and resilience strategies for warm, dry forests adapted to frequent low to mixed fire regimes (Churchill et al., 2013; Allen et al., 2002; Chmura et al., 2011; Covington et al., 1997; Franklin and Johnson, 2012; Peterson et al., 2011; Spies et al., 2010; Stephens et al., 2010):

- Reduce surface and ladder fuels; increase crown base heights
- Reduce and maintain lower tree densities; decrease crown bulk density
- Increase composition of fire and drought-tolerant species (ponderosa pine and western larch)
- Increase mean diameter and individual tree vigor by retaining large trees with healthy crowns
- Conserve existing species and genetic diversity
- Restore horizontal spatial heterogeneity of forest structure, including openings where early-seral species can establish
- Reintroduce fire to reduce fuel loads, stimulate understory species, and maintain desired fuel beds

- Reduce/maintain appropriate levels of pathogens, insects, and other disturbances in order to create decadence, mortality, and interactions with fire that lead to regeneration of new tree cohorts and diverse understories
- Necessitate monitoring key processes including mortality, regeneration, growth, fuel accumulation and new species colonization to inform management

The action alternatives analyzed in the EA differed substantially in how much progress would be made towards the Purpose and Need and desired outcomes of the Forest Plan. I believe the Selected Action best meets the project objectives with minimal environmental effects.

Consideration of Public Comments

Public input and the diverse range of comments were carefully considered. Staff addressed issues raised during scoping by developing alternatives to the Proposed Action, refining the project design, identifying additional RPMs, and conducting analysis of potential environmental effects. Comments received on the Soldier-Butler EA (March 2019) were reviewed and addressed. Literature provided in public comment is addressed in the Project File. Please see Appendix D of this DN for the detailed responses to these comments.

Public comments regarding impacts to wildlife, specifically big game and grizzly bears weighed heavily in my decision. Treatments in Units 21 and 92 were reduced, and Units 1, 2, 3, 9, and 94 were added to RPM WILD-10 to retain hiding cover in units adjacent to open public motorized access routes. RPM WILD-15b was added and precludes logging and road building between December 15 and May 1 in the area east of Kennedy Creek. These changes address big game security in response to comments submitted by the public and Montana Fish, Wildlife, and Parks. Formal consultation of the effects on grizzly bears has been completed with the U.S. Fish and Wildlife Service. The Biological Opinion issued by the Service is located in the Project File and the Terms and Conditions can be found in Appendix F of this DN.

Comments regarding road construction, road treatments, and travel management factored into this decision. The permanent amount of open public motorized access would not be affected. Approximately two miles of FS Road 5507 will be temporarily closed to offset affects to grizzly bear security during logging and road maintenance and building. The Soldier-Butler road management decisions fall into three main categories: 1) changes from a decision to decommission under Frenchtown Face; 2) recommendations for undetermined routes; and, 3) identification of road needs on recently acquired land.

1. Changes from a decision to decommission under the Frenchtown Face project

Concerns were expressed about proposals for decommissioning in the area that overlaps with the Frenchtown Face project (analysis completed in 2007). This Decision re-addresses some of the decisions from the Frenchtown Face project (EA p. 2) in order to: a) account for pre-existing private rights to some of the roads; b) use some of the roads in the WUI for firefighting efficacy and to provide ingress and egress for public and firefighter safety; and, c) use during implementation of the Soldier-Butler project. The Frenchtown Face Decision is honored where possible by gating or storing roads (see EA and DN Appendices B and D).

Per CFR 212.54 Revision of Designations, the Soldier-Butler project is revising road decisions from a past NEPA Decision (Frenchtown Face) to meet changing conditions and the purpose and need of the current project. These changes considered and addressed the effects and impacts to resources. For example, a NFS road (NFSR) that the Frenchtown Face Decision had decommissioned was instead put into a Storage Closure Level. This keeps it on NFSR inventory for future land management, but still removes addressed wildlife and sediment impacts by stopping

public and administrative traffic. These revisions are on roads where Decommissioning had not already been physically implemented. For a road listing with rationale, see Appendix B.

2. Determine which undetermined routes need to be designated as system routes for future management, and which are not needed and can be decommissioned. These routes involve no new construction or ground disturbance associated with Soldier-Butler project.

Roads pre-dating the National Environmental Policy Act (NEPA) exist on NFS lands (i.e., roads that were constructed prior to the 1970s when NEPA was enacted). Many of these also pre-date technology to efficiently map and track them. The Lolo NF maps all known routes on the landscape. When mapped they are given a designation of System of Undetermined (“Non-System”). This is also the case for preexisting routes on recently acquired land. They are analyzed for effects and included as part of the Travel Analysis Process (TAP) for individual projects. The TAP results in recommendations to add those roads identified as being needed for long-term land management to the NFSR (i.e., identifying the minimum road system needed on the landscape). Recommendations to Decommission and Closure Levels are made for those not needed long term. This Decision identifies some routes as “Add to Official Road System - As is or Stored”. Examples include:

- An open road leading to private land that crossed State land which came to the NFS in a land exchange. The TAP recommendation is to add the road to the NFSR to provide private access to an inholding; it is also needed for the Soldier-Butler project as well as long-term management.
- Burned Area Emergency Recovery (BAER) efforts in the northwest area of the project (Soldier, Camp, Big Blue and Pine Creeks) physically treated some roads to a Storage (3-S)/Decommissioned (3-D) equivalent level. BAER work does not involve the NEPA environmental analysis process or make travel management changes like Adding to NFSR or Decommissioning. The Soldier-Butler analysis TAP assessed those roads for land management needs (with public involvement). They require no further physical treatment and can be Added to the Official System (NFSR) as is, with a closure level of 3-SN or Decommissioned as a 3-DN level.

3. Road needs on recently acquired land

Section 1 (Unit 200) was acquired from a private timber company in 2010. It was assessed for access needs and current logging systems capabilities, resulting in decommissioning roads, adding some to the NFSR, and recommending new permanent road construction. Closure levels for these routes are assigned based on physical needs on the ground and resource effects.

This decision authorizes this work and analyzes the effects, but that work is not needed to be implemented in conjunction with other project activities.

The new road construction will provide legal access into the newly acquired section. This construction of less than 1 mile of road facilitates implementation of 10.3 miles of road decommissioning.

Decommissioning some of the roads reduces sediment to McCormick Creek from a stream crossing, switch backed roads, and roads parallel to the creek.

Implementation would reduce the road density in this section from 12 to 1.3 miles per

square mile. The remaining roads are ridge top and at least 1,500 feet from the stream.

Concerns were expressed about the need and effectiveness of realigning a portion of the Butler Creek Road. Hydrologists and fisheries biologists found that this would benefit fisheries, water quality, and spawning gravel by: substantially reducing sediment delivery to Butler Creek from road dust and during rain and snowmelt; increased vegetation growing along the creek blocking sunlight and reducing water temperature; and by trees growing in the area eventually falling into the creek, providing stream structure and fish habitat.

The negative effects of the decommissioning producing sediment and impairing vegetation will be short term. The area will begin to revegetate and soils will stabilize within a year and will continue to improve thereafter. This finding is supported by sediment modeling that estimates the road in its current location delivers 0.6 tons/year of sediment to Butler Creek. This will be reduced to 0.1 tons/year after realignment, which is commensurate with the 0.5 tons/year of sediment estimated to result from the Pine Creek road crossing. The long-term benefits of sediment reduction, large wood recruitment, and stream shading would effectively be permanent. The long-term nature of these cumulative stream benefits are expected to out-weigh and outlast any adverse effects of isolated downstream land use impairments.

From an engineering/transportation system standpoint, the realignment will reduce the impact of the stream on the road, and maintenance repairs needed from the stream eroding the bank (which is also the edge of road). It will provide more opportunities to construct drainage features to shed water off the road. Keeping water off the road helps to maintain the surface and prevent rutting or wash boarding.

4.0 Public Involvement

Scoping

The proposal was listed in the Schedule of Proposed Actions on December 16, 2016. It was provided to the public and other agencies for comment during scoping from December 16, 2016 to January 17, 2017. Additional public involvement included a public meeting prior to scoping to introduce the upcoming proposal (May 17, 2016), and another during scoping to share information and answer questions (January 12, 2017).

Additional information was shared on January 26, 2017 regarding new U.S. Department of Agriculture regulations pertaining to Forest Plan amendments.

In response to scoping, 30 individual comment letters were received. Some of those who commented support the project, and several expressed specific concerns and desires about the project.

Issues identified from public comments are addressed in the EA on pages 11-12 and in the resource sections in Chapter 3.

Environmental Assessment

On March 14, 2019, the Soldier-Butler Project EA was made available to individuals and organizations that had previously commented on or expressed interest in the project. The EA and individual specialists' reports were posted on the Lolo NF website. The 30-day comment period on the EA began with publication of a legal notice in the *Missoulian* newspaper on March 14, 2019.

The Forest Service held a public meeting on March 28, 2019 to answer questions about the project and encourage public comment. About 15 people attended.

At the close of the 30-day comment period, 20 individual comment letters were received. The Agency's response to comments is contained in Appendix D of this DN. The literature provided in public comment is addressed in the Project File.

5.0 Finding of No Significant Impact

After considering the environmental effects described in the Soldier-Butler Project EA and resource reports, I have determined that the Selected Action will not have a significant effect on the quality of the human environment based on the context and intensity of its impacts (40 CFR 1508.27). Therefore, an environmental impact statement will not be prepared.

I base my findings on the following:

1. Impacts that may be both beneficial and adverse.

The finding of no significant effect on the quality of the human environment considered the potentially adverse and beneficial effects of the Selected Action.

No Effects

The EA and Specialists' Reports considered all the resource values that could be adversely affected by implementation of the project. Initial project design and RPMs effectively eliminated or reduced to negligible most of the potential impacts. Therefore, implementation of the Selected Action will result in no meaningful effect to the following:

Hydrology and Fisheries (Fisheries Report, pages 10-15): There will be negligible effects to Pool Frequency, Water Temperature, Large Woody Debris, Width/Depth Ratio, Physical Barriers, and Chemical Contaminants, as INFISH RHCA buffers would protect stream channels and riparian areas from most activities. BMPs for stream protection will prevent any measurable effects from the very limited activities within riparian areas.

Forested Vegetation (Forested Vegetation Report, page 42): The project will have no effect on old growth as no known old growth stands as defined by the Forest Plan (1986) and/or Green et al. (1992, errata 2011) are included for treatment.

Forest Carbon (Carbon Cycling and Storage Report, pages 3-4): There will be no discernable impact on atmospheric concentrations of greenhouse gases or global warming.

Botany (Sensitive Plants Report, pages 4 and 22): There will be no effects to known federally-listed plants as none were observed in the project area. RPMs address any new occurrences of sensitive plants (EA pp. 45-46, RPM BOT-1). Two species of Region 1 sensitive plants are known to occur in the project area: whitebark pine and Clustered Lady's Slipper. The Selected Action will "not likely impact individuals or habitat, or result in a trend towards federal listing or reduced viability for the populations or species" for species known to exist or those with potential habitat.

Soil (Soil Report, pages 10, 19-25, 29): The Selected Action will have no effect on soil productivity. RPMs have been included to protect soil resources, limit the disturbance footprint, and retain treatment units at or below the 15 percent Detrimental Soil Disturbance guideline. Landscapes with sensitive soils have been identified and protected. In addition, large wood levels have been considered following guidance provided in the Lolo NF Coarse Wood Guide (2006) and Graham et al. (1994).

Recreation (Recreation Report, page 6): Road decommissioning may have limited direct effects on non-motorized recreation. It will have no direct or indirect impacts to motorized recreation or access because the roads to be decommissioned are not currently open to motorized use under Lolo NF Travel Management.

Heritage (Heritage Report, page 6): There will be no effect to cultural resources or historic

properties. RPM included in EA pages 40-41 will protect known and potentially newly discovered sites.

Wildlife (Wildlife Report, pages 8-9, 73, 88-89, 134): The project will have no impact on bighorn sheep, northern bog lemming, Townsend's big-eared bat, peregrine falcon, common loon, harlequin duck, Coeur d'Alene salamander, and northern leopard frog. It will have no effect on yellow-billed cuckoo.

The Selected Action will have no effects on existing lynx foraging habitat (winter forage or mature multi-storied). It will have minimal effects on general lynx habitat, and will maintain good connectivity within and between adjacent LAUs outside the project.

The project's effects to grizzly bear denning habitat and food habituation will be discountable to non-existent.

While potential wolverine denning habitat will be treated in some of the prescribed burning units, the effects will be outside of the denning season, and will not substantially impact the suitability of the area for denning in the future. Activities will also not affect connectivity for wolverines.

Beneficial Effects

Hydrology and Fisheries (Fisheries Report, pages 10-12 and Hydrology Report, pages 23-24): Replacing the undersized Josephine culvert will benefit aquatic species as the stream crossing will no longer be a barrier to movement.

While there will be short term and minor increases in sediment delivery during implementation, the aquatic and watershed offsets will result in long-term reduction in sedimentation.

Road density and location will improve through the decommissioning and the road re-route.

Forest Vegetation (Forested Vegetation Report, page 60): The vegetation treatments will increase resilience to disturbances in the long-term as it favors shade-intolerant species, reduces stand density across the landscape to increase resilience to fire and pathogens, and addresses shifts in species composition, age class, and structural diversity that have occurred at the landscape level in both the interface zone and project area. They will reduce stand density to minimize drought effects, reduce the impact of large wildfire events, manage the potential for increased insect and disease outbreaks, and ensure a wide variety of species and age class diversity, while managing for processes to facilitate adaptation in the face of a changing climate across the analysis area with specific focus on critical areas within the interface zone.

Fire and Fuels (Fire and Fuels Report, pages 32-33): The Selected Action will create fire resilient stands, improve firefighter safety with ingress and egress, decrease the potential for high intensity wildfire, improve future firefighting efficiency, and reduce threats to private property. It will re-introduce fire to reduce surface fuel loads, decrease the probability of crown fire initiation within the treated stands, and reduce horizontal fuels (i.e., ladder fuels). It is designed to reduce hazardous fuels in mid-aged mixed conifer stands within the WUI to reduce crown fire initiation and improve public and firefighter safety by reducing ladder fuels and surface fuel loading through hand thinning or slashing and hand piling and burning.

Botany (Sensitive Plants Report, page 22): Whitebark pine will likely benefit from implementing the Selected Action especially in Units 101, 102, and 103 due to restoration activities and full implementation of RMPs (BOT-3 and BOT-4).

Wildlife (e.g., Wildlife Report, page 96): Treatments are designed to emulate, to the greatest extent possible, natural disturbances and effectively reintroduce fire to the landscape. The result would be a forest that is more resilient to fire and insects/disease, and that will have improvements in forage of native grasses and shrubs in the treatment units. Disturbance will decline as over 100 miles of roads

are decommissioned and stored.

Recreation (Recreation Report, page 7): The 7 miles of new permanent road will not be open to public motorized access, but will be open to other public use, and could have a positive effect on non-motorized recreation as hikers, hunters, mountain bikers and recreationists engaging in non-motorized pursuits use the road prism to recreate or access other areas.

Potential Adverse Effects

Hydrology and Fisheries (Fisheries Report, pages 17 and Hydrology Report, page 24): Increased haul on riparian roads and roads with stream crossings will increase sedimentation into streams during project implementation. This will cause localized increases in turbidity for short durations but not permanently. There will be no permanent degradation of water quality from these activities. The short-term increases in sediment resulting from the project's activities will be offset by long-term benefits from the Josephine culvert upgrade and Butler Creek road realignment. Direct effects of the proposed activities to aquatic species are limited to the instream work during construction of the stream crossing on Pine Creek and culvert upgrade on Josephine Creek. Although protection measures such as temporarily routing water around construction sites and conducting fish rescue will be implemented, it is likely there will be some mortality to aquatic species during construction. However, these lethal effects will be isolated to these two construction sites during instream work such that the overall number of individuals affected will not threaten species viability.

Noxious Weeds (Noxious Weed Report, pages 23-24): The ground-disturbing activities included the project will result in low to moderate impacts to noxious weed establishment and expansion in the short term. RPMs to prevent, treat, and monitor noxious weeds will help reduce this risk.

Recreation (Recreation Report, pages 6-8): Although the area receives relatively low visitor use, road and trail closures during project implementation may temporarily interrupt recreation. Prescribed burning impacts could increase burned vegetation and snags which would increase downfall and brush blocking the trail or dispersed sites. Direct impacts include an increase in noise and activity which negatively affects recreationists seeking solitude or engaging in wildlife viewing, birding, or other activities. Motorized equipment and additional activity may disrupt the movement of big game during operations, possibly disrupting and impacting the hunting experience.

Wildlife (Wildlife Report, pages 8-9, 73, 81-96, and Amended Biological Assessment): The project "may affect, not likely to adversely affect" (NLAA) Canada lynx. The overall adverse effects of the treatments on lynx will be minimal.

The project "may affect, is likely to adversely affect" (LAA) grizzly bears. Direct effects will occur in the form of reduction in cover, disturbance, and short-term displacement. Because no permanent changes to public motorized use would occur, these effects will be limited to the timeframe for project implementation.

The project "May Impact Individuals or Habitat" for wolverine, black-backed and pileated woodpeckers, boreal toad, fisher, flammulated owl, grey wolf, northern goshawk, bald eagle, and elk but will not affect the viability of these species.

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

It is my determination that this project will provide long-term benefits to public health and safety by incorporating the RPMs for air quality and recreation (DN Appendix C), and because the action will decrease high intensity wildfire potential, enhance firefighter efficiency and safety, and maintain and provide ingress and egress for public and firefighter safety.

The Selected Action also contains design features to protect public health and safety during project implementation (see DN Appendix C).

The limited herbicide treatment to prevent weeds on constructed temporary roads will comply with label directions and be consistent with mitigation measures outlined in the Lolo NF Integrated Weed Management Environmental Impact Statement and Record of Decision (USDA 2007) (see DN Appendix C).

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

I considered the characteristics of the geographic area. The project area does not contain any parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas.

The project area does contain wetlands and riparian areas, which will be protected through the application of RPMs (DN Appendix C), BMPs, and adherence to Forest Plan requirements.

Field surveys were completed on 6,937 acres within the project boundary between September 2015 and July 2019. Thirty-nine previously recorded cultural resources exist within proposed project boundary, with 10 of those existing on private land. Thirteen cultural resources are within proposed project units and most of these have RPMs assigned. One new historic cultural resource was identified during fieldwork, and is within a proposed unit. If cultural resources are identified during project implementation, they will be protected as directed by the Forest Service archaeologist (EA, page 40). Therefore, the project will have No Effect on Historic Properties as per CFR 800.5 (b) as per Section 106 of the National Historic Preservation Act, and is consistent with the Lolo Forest Plan direction.

Based on this information, I conclude that the Selected Action will have no effects on unique resources.

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

As used in the Council on Environmental Quality's guidelines for implementing NEPA, the term "controversial" refers to whether substantial dispute exists as to the size, nature or effect of the major federal action, rather than the existence of opposition to a use. A limited and focused proposed action was developed based on purpose and need for action, resource concerns, and public input. Specific design features and RPMs (Appendix C) will minimize effects on resources.

The effects analysis was conducted using the best available scientific literature (see EA, Literature Cited, pp. A-1 to A-30 and Project File, Section M), and the interdisciplinary team reviewed literature cited in public comments on the project (Project File, Section F).

Based on the limited context of the Selected Action, review of the public comments received to date, the scientific literature, and the analysis documented in the EA and Project File, I do not find any highly controversial effects to the human environment.

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

Based on my review of public comments, scientific literature, the analysis documented in the EA and Project File and experience with many past similar projects, I conclude that there are no uncertain or unique characteristics in the project area which have not been previously encountered or that will constitute an unknown risk to the human environment.

A technical analysis (EA and Project File) that discloses potential environmental impacts (which is supportable with use of accepted techniques, reliable data, and professional judgment) has been completed, and I believe that the impacts of implementing the Selected Action are within the

limits that avoid thresholds of concern.

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

The Soldier-Butler Project is a site-specific project that does not set precedence for future actions or represent a decision in principle about future considerations. Any proposed future project must be evaluated on its own merits and effects. The Selected Action is consistent with the Lolo Forest Plan and the capabilities of the land.

7. Whether the action is related to other actions with individual insignificant but cumulative significant impacts

Connected, cumulative, and similar actions have been considered and included in the scope of the analysis. The analysis accounts for past, present, and reasonably foreseeable future actions (EA, Appendix D). As appropriate, the effect of other ongoing similar projects in the Northern Region has been thoroughly assessed. Based on my review of the analysis and disclosure of effects in the EA, resource reports, Biological Assessments and Evaluations, and other analyses in the Project File, I conclude that the Selected Action will not result in significant adverse cumulative impacts (EA, Chapter 3).

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

Cultural resource inventories and consultation with the State Historic Preservation Office and local Tribes have been completed and analysis has determined that there will be no adverse effects to known sites (Heritage Report, page 7). Field surveys were completed between September 2015 and July 2019. A total of 6,937 acres were surveyed within the project boundary. Thirty-nine previously recorded cultural resources exist within proposed project boundary, with 10 of those existing on private land. Thirteen cultural resources are within proposed project units and most of these have RPMs assigned. One new historic cultural resource was identified during fieldwork, and is within a treatment unit. If additional cultural resources are identified during project implementation, they will be protected as directed by the Forest Service archaeologist (EA, page 40). Therefore, the project will have No Effect on Historic Properties as per CFR 800.5 (b) as per Section 106 of the National Historic Preservation Act, and is consistent with the Lolo Forest Plan direction.

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 of 1973

There are three federally-listed threatened wildlife species (grizzly bear, Canada lynx, and Yellow-billed cuckoo) and one proposed species (wolverine) that may be present on the Lolo National Forest. Effects to these species, except the cuckoo which has no habitat present in the project area, have been analyzed. Also there are no federally-listed plants in the project area. Bull trout are federally-listed but they have not been detected in project area streams, and there is no critical bull trout habitat in the project area.

Grizzly Bear – The project is consistent with the Northern Continental Divide Ecosystem Grizzly Bear Conservation Strategy (2018) and Lolo Forest Plan Amendment #44 (2018). The project's effects to grizzly bear denning habitat and food habituation will be discountable to non-existent. Project direct effects will occur in the form of reduction in cover, disturbance, and short-term

Appendix B: Selected Action Treatment Details

Table 2. Selected Action – Vegetation Treatment Summary (see maps)

| Unit | Silvicultural Prescription | Fuels Treatment | Acres | Logging System ¹ |
|--|----------------------------|-----------------|-------|-----------------------------|
| Thinning Treatments and Prescribed Fire | | | | |
| 1 | IC | UB/HPB | 249 | T/SL |
| 2 | IC/GS | UB | 120 | T/SL |
| 3 | STS/GS | MP/UB/HPB | 292 | T/SL |
| 4 | IC | MP/UB/JPB | 304 | T/SL |
| 5 | IC | MP/UB/JPB | 91 | T/SL |
| 6 | IC | MP/HPB/JPB | 59 | T |
| 7 | IC | MP/HPB/JPB | 47 | T |
| 8 | STS/GS | MP/HPB/JPB | 130 | T/SL |
| 9 | IC/GS or STS/GS | JPB | 236 | T |
| 10 | STS/GS | UB | 165 | T |
| 11 | IC/GS | UB | 144 | T |
| 12 | STS/GS | UB | 67 | T |
| 13 | STS/GS | UB | 75 | T |
| 14 | IC | UB | 94 | T/SL |
| 15 | IC | UB | 69 | T/SL |
| 16 | IC or STS | UB | 23 | T/SL |
| 17 | IC | UB | 120 | T/SL |
| 18 | IC | UB | 41 | T |
| 19 | IC/SANIT | HPB | 18 | T |
| 20 | IC | MP/HPB/JPB | 172 | T |
| 22 | IC | HPB/JPB | 44 | T |
| 24 | IC/GS | MP/HPB/JPB | 250 | T/SL |
| 25 | IC/GS | MP/HPB/JPB | 83 | T |
| 26 | IC/GS or STS/GS | MP/HPB/JPB | 161 | T |
| 31 | IC | MP/JPB | 60 | T |
| 32 | IC | MP/JPB | 134 | T |
| 33 | IC/GS | HPB/JPB | 201 | T/SL |
| 36 | LIB/SANIT | JPB or UB | 156 | SL |
| 37 | IC or STS/GS | UB | 169 | T/SL |
| 38 | STS | UB | 286 | T/SL |
| 40 | IC | UB | 60 | T |
| 43 | IC | HPB/JPB | 32 | T |
| Subtotal | | | 4,152 | |
| Larch and Ponderosa Pine Regeneration with Prescribed Fire | | | | |
| 34 | SWSC | UB | 54 | T/SL |
| 35 | IC/GS or STS/GS OR SWSC | JPB or UB | 60 | T/SL |
| Subtotal | | | 114 | |
| Ecosystem Maintenance Burning Preceded by Understory Slashing/Thinning and Harvest | | | | |
| 50 | IC | UB | 86 | T |

| Unit | Silvicultural Prescription | Fuels Treatment | Acres | Logging System¹ |
|---|-----------------------------------|------------------------|--------------|-----------------------------------|
| 54 | LIB/SANIT | UB | 112 | T/SL |
| 56 | LIB/IC | UB | 434 | T/SL |
| 58 | CT/STT | UB | 126 | T |
| 59 | LIB/SANIT | JPB/UB | 486 | T/SL |
| 88 | CT | UB | 27 | T |
| Subtotal | | | 1,271 | |
| Ecosystem Maintenance Burning Preceded by Understory Slashing/Thinning | | | | |
| 61 | STT/EMB | UB | 61 | N/A |
| 62 | STT/EMB | UB | 73 | N/A |
| 63 | STT/EMB | UB | 196 | N/A |
| 65 | STT/EMB | UB | 41 | N/A |
| 67 | STT/EMB | UB | 113 | N/A |
| 70 | STT/EMB/REST | JPB/UB | 447 | N/A |
| 71 | STT/EMB | UB | 20 | N/A |
| 74 | STT/EMB | UB | 49 | N/A |
| Subtotal | | | 1,000 | |
| Young Stand Thinning and Prescribed Fire | | | | |
| 80 | YST | L&S/UB | 456 | N/A |
| 81 | YST | L&S/UB | 93 | N/A |
| 82 | YST | L&S/UB | 94 | N/A |
| 84 | YST | L&S/UB | 10 | N/A |
| 85 | YST | L&S/UB | 42 | N/A |
| 86 | YST | L&S/UB | 38 | N/A |
| 87 | YST | L&S/UB | 9 | N/A |
| 89 | YST | L&S/UB | 94 | N/A |
| Subtotal | | | 836 | |
| Non-commercial Thinning and Hand Piling and Burning | | | | |
| 90 | STT | HPB/UB | 50 | N/A |
| 91 | STT | MP/HPB/UB | 59 | N/A |
| 93 | STT | HPB/UB | 323 | N/A |
| 94 | STT | HPB/UB | 14 | N/A |
| Subtotal | | | 446 | |
| Aspen Restoration | | | | |
| | Slash/JPB/Fence | JPB/HPB | | N/A |
| Subtotal | | | 100 | |
| Ecosystem Maintenance Burning | | | | |
| 101 | EMB | UB/BB | 80 | N/A |
| 102 | EMB | UB/BB | 1,164 | N/A |
| 103 | EMB | UB/BB | 203 | N/A |
| Subtotal | | | 1,447 | |
| Restoration | | | | |
| 200 | SST | HPB/JPB/UB | 609 | N/A |
| Subtotal | | | 609 | |
| Grand Total | | | 9,975 | |

¹ Some units would require multiple yarding systems; they are listed in order of prevalence with in the units: SL = Skyline; T = Tractor.

Soldier-Butler Final Decision Notice

There is a potential that some skyline units could be logged using a tracked line machine which is a tracked excavator that has been adapted for logging practices to include winches and cables and a longer boom with pulleys that serve as a skyline tower; such as an excaliner. Excaline machines may be walked (propelled by their own power) to remote locations to reduce the need for road construction. Yarding capabilities (length of reach) of an excaline machine are typically less than that of a skyline machine.

Road Management Details

Table 3. Summary of Road Management for Frenchtown Face (FTF) Overlap Area

| Rationale for Decisions in FTF Overlap | Road Number | Miles | Subtotals | Grand Total |
|---|--------------------|--------------|------------------|--------------------|
| Needed for future management (e.g., vegetation treatments, firefighter access, non-motorized recreation, etc.) a) Roads mapped in FTF analysis | | | | |
| | 16236 | 1.71 | | |
| | 16238 | 4.51 | | |
| | 16394 | 0.68 | | |
| | 16438 | 2.17 | | |
| | 16510 | 2.22 | | |
| | 16514 | 0.22 | | |
| | 16710 | 0.89 | | |
| | 17430 | 1.09 | | |
| | 18024 | 0.16 | | |
| | 34003-G | 0.57 | | |
| | 34029 | 2.04 | | |
| | 34238 | 0.46 | | |
| | 5506 | 1.97 | | |
| | 5507 | 2.55 | | |
| Subtotal | | | 21.22 | |
| b) Roads not mapped by FTF but mapped since and are behind those roads (e.g., a road, which was mapped by FTF, has unmapped roads leading off of it. If the mapped road is decommissioned, the previously unmapped roads would also need to be decommissioned or there would be segments of road left on the landscape that are “hanging” in space (“hangers”) and are no longer accessible). | 34003-H | 0.1 | | |
| | 34010-A | 0.5 | | |
| | 34029-A | 0.5 | | |
| | 34029-F | 0.5 | | |
| | 34367 | 0.2 | | |
| | 34367-A | 0.1 | | |
| 34369 | 0.7 | | | |
| Subtotal | | | 2.6 | |
| Needed because they have unaccounted for pre-existing road rights | 16230 | 1.07 | | |
| | 387 | 0.92 | | |
| Subtotal | | | 1.99 | |
| Needed for Soldier-Butler project implementation access (e.g., timber haul, prescribed burning, etc.) | 16232 | 0.87 | | |
| | 16237 | 1.56 | | |
| | 16394 | 1.39 | | |
| | 16517 | 1.86 | | |
| | 16692 | 2.52 | | |
| | 16711 | 0.81 | | |
| | 18012 | 1.38 | | |
| | 34010 | 0.75 | | |
| Subtotal | | | 11.14 | |
| Grand Total | | | | 36.85 |

EA Appendix E – Transportation Analysis Report provides a summary listing of all roads by their existing (current) condition and treatments included in Alternatives B and C. This information is also included in more detail in the Transportation Report. The access and travel management is defined by road in this information.

Appendix C: Resource Protection Measures and Monitoring

The following Resource Protection Measures are objective-based. This means that the desired condition or the condition to be avoided is identified first. Ways the objective can be met are identified and described in the table. Another method, determined to be equally or more effective in meeting the mitigation objective by a resource specialist and approved by a Line Officer, may also be used.

Table C-1: Selected Action Resource Protection Measures

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|----------------------------|--|---|-------------------------------|------------------------------------|------------------|
| Forested Vegetation | | | | | |
| VEG-1 | To protect large trees | Where deemed necessary by a Silviculturist, measures will be taken to protect at-risk and/or large diameter (i.e., 21”+ dbh) trees from excessive crown and bole scorch to the extent feasible to avoid unintentional mortality. | All | Other | S |
| VEG-2 | “ | Silvicultural prescriptions will favor the retention of the largest, healthiest dominant/codominant trees to the degree possible to meet unit objectives. To ensure this, a Certified Silviculturist will prepare or review site-specific prescriptions and marking guides. Site-specific silvicultural prescriptions and/or marking guides may include terms such as “thin from below” or specify an upper diameter limit of trees eligible for harvest to meet this objective. This will retain large, healthy trees to the degree the practice is consistent with the objective of maintaining or restoring a given stand. | All | Other | S |
| VEG-3 | “ | Avoid removal of large diameter ponderosa pine and western larch (>24” dbh) to the extent possible when locating landings, skid trails, and skyline corridors. Within MA21, retain all trees >20” dbh to the greatest extent possible. | Units 1-59 Units 24 and 26 | Sale, Other | S, P |
| VEG-4 | To protect reforestation investments and promote landscape age class diversity | Areas of acceptable regeneration that meet stand stocking and species preference objectives would be protected from prescribed burning fire effects to the extent practical. | All units | Other | S |
| VEG-5 | To protect from <i>Annosus</i> root disease | Treat any susceptible ponderosa pine stumps, greater than 12” dbh with borate product (e.g., Cellu-treat) within 24 hours to reduce the potential risk of <i>Annosus</i> root disease spread. <i>Annosus</i> root disease | Units 1-59 with | Sale, Other | S/P |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|-----------------------|---|---|---------------------------------------|------------------------------------|------------------|
| | | has not been confirmed within the analysis area but its presence is suspected. | ponderosa pine | | |
| VEG-6 | To ensure tree stock adaptability | In regeneration units where tree planting is planned, seed sources locally adapted to the site would be planted in protected areas with appropriate shade. | All units with tree planting | Service, Other | S/P |
| VEG-7 | To protect from bark beetles | Where deemed necessary by a Silviculturist, slash piles that contain ponderosa slash would be burned in a timely fashion or baited with traps to reduce the likelihood of <i>Ips</i> population buildup. | Hand piling units with ponderosa pine | Other | S/P |
| VEG-8 | To protect from bark beetles | Verbenone or MCH may be applied within the analysis area to repel mountain pine or Douglas-fir bark beetles from individual trees or small areas. | Project area | Other | S/P |
| VEG-9 | To reduce and protect regeneration from disease | Incidental girdling may occur to reduce dwarf mistletoe infection, protect regeneration, and create snags. | Project area | Service, Other | S/P |
| VEG-10 | To protect old growth | All proposed units were or will be carefully evaluated and/or field surveyed as necessary to determine their old growth status prior to project implementation (see Project File). Any unit that meets the criteria in Green and others (1992, errata 2011) would be dropped or would still meet it following treatment in the Soldier-Butler project. | Old growth | Other | S/P |
| Fire and Fuels | | | | | |
| FF-1 | To ensure objectives are met | All non-commercial thinning, slashing, girdling, fuel break, fire line construction, duff mound removal, residual tree protection, and hand-piling will adhere to direction from a signed silviculture prescription. | All units | Service, Other | S |
| FF-2 | “ | All prescribed burn plan documents will adhere to policy stated within the Forest Service Manual 5140-Hazardous Fuels and Prescribed Fire, the Interagency Prescribed Fire Planning and Implementation Procedures Guide, the Prescribed Fire Complexity Rating Guide, and Chapters 5 and 17 in the Interagency for Fire and Fire Aviation Operations Guide. | All units | Other | S |
| FF-3 | “ | All prescribed burn plans will contain a signed silviculture prescription, which the burn plan is written from, an annual Risk Assessment, annual Department of Environmental Quality Montana | All units | Other | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|--------------------|---|--|------------------------------|------------------------------------|------------------|
| | | Air Quality Major Open Burning Permit, and in Missoula County an annual Missoula County Outdoor Burning Permit. | | | |
| FF-4 | “ | All prescribed burn plans will have been completed and signed by a fully qualified Type 1 or 2 Prescribed Fire Burn Boss. A technical review and review of the burn will be completed and signed by a technical reviewer, Fire Management Officer, and annually by the appropriate Line Officer. In the case of aerial ignition prescribed burns, the Forest Aviation Officer will review the Project Aviation Safety Plan. | All units | Other | S |
| FF-5 | “ | If feasible, temporary roads will remain open until landing pile burning has been completed; obliteration can occur after landing pile burning. | 16517/P16517, P34010, P16232 | Sale, Service | P |
| FF-6 | For public health and safety | Residents within immediate proximity to the burn area would be notified by mail, email, message or phone prior to implementation. Signs may be posted as needed along roads warning of potential visibility impairment from smoke. A news release may be distributed to media outlets through the Lolo NF Public Affairs Officer. | Project area | Other | S |
| Air Quality | | | | | |
| AIR-1 | To reduce impacts from smoke to air quality | Best Available Control Technology: As per the Forest Service open burning permit with the State of Montana, Best Available Control Technology would be used to limit impacts from burning operations. This includes submitting and obtaining burn approval from the MT/ID Airshed Group prior to ignition, and burning only during times of at least good ventilation. | All units | Other | S |
| AIR-2 | “ | During prescribed burning activities the use of the following 6 Basic Smoke Management Practices (BSMPs) will be considered: Evaluate smoke dispersion conditions to minimize smoke impacts; Monitor the effects of the fire on air quality; Record keeping of BSMPs, fire activity, and smoke behavior; Communication and public notification; Consider the use of emission reduction techniques (ERTs); Share the air-shed/air basin to minimize exposure to the public. | All units | Other | S |
| AIR-3 | “ | Larger burn blocks may be burned over multiple days in order to reduce the short-term smoke impacts. If close to the Missoula Impact Zone, small burn blocks may be burned in one operational shift | All units | Other | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|-------------------|--|--|-----------------|------------------------------------|------------------|
| | | within or to reduce short-term smoke impacts. For pile burning, short-term impacts may be lessened by reducing the number of piles burned. | | | |
| AIR-4 | “ | All prescribed burns would be monitored visually. If any prescribed burn appears to be generating an unacceptable level of smoke, measures may be taken to cease further ignition as is reasonably implementable. The Montana DEQ smoke monitor, located in Frenchtown will also be used to monitor smoke. | All units | Other | S |
| AIR-5 | “ | If a prescribed burn appears to be generating nuisance smoke for days after ignition is complete, those areas may be extinguished. | All units | Other | S |
| Recreation | | | | | |
| REC-1 | To protect recreation opportunities and allow access | <p>If possible, during project implementation:</p> <ul style="list-style-type: none"> • Allow access to dispersed sites along Soldier Creek northeast of Ninemile Road (#412) • Avoid using the dispersed site as a landing during the summer and fall seasons (May – October). • Avoid blocking the access route with heavy equipment or parking heavy equipment in the dispersed site overnight during that time period. • Avoid locating slash piles in the Soldier Creek dispersed camping area. | Unit 20 | Sale | P |
| REC-2 | “ | After burning, remove snags that could impact the dispersed camping sites along Soldier Creek. | Unit 20 | Other | P |
| REC-3 | “ | If feasible, do not completely block roads open to the public with heavy equipment, landings, log decks, etc. If road closures are needed, coordinate with District Recreation staff if possible. | All units | Sale | S |
| REC-4 | To protect big game rifle hunting opportunities | When it is necessary to operate behind locked gates during hunting season, place signs on the gates to alert hunters of the activities. | Project area | Sale, Service, Other | S |
| REC-5 | To protect trail infrastructure | After burning, remove downfall across trail according to standard trail specifications, replace trail structures and remove snags that may affect the McCormick Creek Trail (#708). | Units 102, 103 | Other | P |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|------------|--|--|--|--|------------------------|
| REC-6 | “ | After treatment, remove slash, downfall and restore tread according to standard trail specifications on Josephine Trail (#155). | Units 13, 17, 86, 84 | Sale, Other | P |
| REC-7 | To protect recreation opportunities and trail infrastructure | If possible, avoid using trailheads as landings, sites for log decks or for parking heavy equipment. Keep trailheads open and clear for public use if safe and feasible. | Josephine TH, Unit 69; McCormick TH, near EMB 103 & road storage; Kennedy Creek TH, decommissioning part of Road #5507 | Sale, Other | P |
| REC-8 | To protect winter recreation opportunities | During the winter season, keep open and clear the winter sledding site just northeast of the junction of Ninemile Road (#412) and Foothills Road (#5498) if possible. | Unit 70 | Sale, Service, Other | P |
| REC-9 | To protect natural resources | Where feasible in areas where treatment will result in more openings and may lead to increased unauthorized OHV use, work with the Recreation Staff, Silviculturist, and Fuels Staff to provide a visual and physical barrier to deter unauthorized use. | Along Ninemile Rd. (#412) Units 20, 7, 4. Along the uphill side of Rd. #5503, Unit 70. Along Butler Loop Rd. (#456), Units 10, 94, 22, 64 & 90; McCormick Area: Along Rd. #18135, Units 66, 69 | Sale, Service | P |
| REC-10 | To protect recreation and hunting access | Where appropriate, on roads slated to be decommissioned, leave a foot path of approximately 18” to allow non-motorized access for | Soldier Creek: 341031-A, 34031-B, | Service | P |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|---------------------------|---|---|--|------------------------------------|------------------|
| | | recreationists, hunters, anglers, etc. This doesn't include temporary roads. | 34031-C, 34305, 34305-A; Camp Creek: 34305-B, 34361-C Pine Creek: 60774, 34011; Josephine Creek: 34010-B; McCormick Creek: 34137-B, 34137, 44030; Butler Creek: 18002, 34004, 34002-A; Kennedy Creek Rd. #5507 | | |
| Cultural Resources | | | | | |
| CULT-1 | To protect and allow recording of new cultural resources identified | If previously unrecorded cultural resources, either prehistoric or historic, are identified during project implementation, work is to stop until the East Zone Archaeologist is notified. | Project area | Sale, Service, Other | S |
| CULT-2 | To protect prehistoric sites during mechanical thinning operations | Provide 50' buffer from mechanical equipment around lithic quarry/scatter sites | Units 25, 26 | Other | S |
| CULT-3 | To protect previously unrecorded prehistoric | If new sites are found (likely rock cairns in talus), use buffer of ~50 feet during burning operations. | Units 102, 103 | Other | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² | | | | | | | | | | | | | | | |
|---|--|--|-----------------------------|------------------------------------|------------------|---|---------------------|-----|---|---|-----|---|--|-----|---|---|-----|-----------|----------------------|---|
| | sites along the Flathead Reservation Divide | | | | | | | | | | | | | | | | | | | |
| CULT-4 | To protect historic mining cabins and associated features from mechanical activity and vegetation encroachment | Hand thin vegetation within 50' of historic mining cabins, ditches and tailings piles. Goal is to abate encroachment while avoiding mechanical damage. | Units 3, 11, 24, 26, 61, 82 | Service, Other | S | | | | | | | | | | | | | | | |
| CULT-5 | To protect historic mining cabins and associated wooden features from prescribed fire activity | Avoid fire within 50' of all cabins, dams and other wooden structures. | Units 3, 11, 24, 26, 61, 82 | Service, Other | S | | | | | | | | | | | | | | | |
| Aquatics (Hydrology and Fisheries) | | | | | | | | | | | | | | | | | | | | |
| AQ-1 | To protect watershed resources | <p>Apply INFISH Riparian Habitat Conservation Area (RHCA) buffers as follows:</p> <table border="1"> <thead> <tr> <th>Cate-gory</th> <th>Description</th> <th>Width (ft.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Fish-bearing stream</td> <td>300</td> </tr> <tr> <td>2</td> <td>Permanently flowing non-fish bearing stream</td> <td>150</td> </tr> <tr> <td>3</td> <td>Waterbodies and wetlands greater than 1 acre</td> <td>150</td> </tr> <tr> <td>4</td> <td>Priority intermittent streams, wetlands less than 1 acre, landslide-prone areas</td> <td>100</td> </tr> </tbody> </table> <p>Exception: Handwork can be approved by Fisheries Biologist or Hydrologist for trees within 50 feet of streams on a site-specific basis. Site characteristics must be such that handwork up to 50 feet of the stream does not compromise INFISH Riparian Management Objectives.</p> | Cate-gory | Description | Width (ft.) | 1 | Fish-bearing stream | 300 | 2 | Permanently flowing non-fish bearing stream | 150 | 3 | Waterbodies and wetlands greater than 1 acre | 150 | 4 | Priority intermittent streams, wetlands less than 1 acre, landslide-prone areas | 100 | All units | Sale, Service, Other | S |
| Cate-gory | Description | Width (ft.) | | | | | | | | | | | | | | | | | | |
| 1 | Fish-bearing stream | 300 | | | | | | | | | | | | | | | | | | |
| 2 | Permanently flowing non-fish bearing stream | 150 | | | | | | | | | | | | | | | | | | |
| 3 | Waterbodies and wetlands greater than 1 acre | 150 | | | | | | | | | | | | | | | | | | |
| 4 | Priority intermittent streams, wetlands less than 1 acre, landslide-prone areas | 100 | | | | | | | | | | | | | | | | | | |
| AQ-2 | “ | Boundaries of wetlands and RHCAs (riparian habitat conservation areas) would be designated prior to activities to exclude ground-based equipment and other activities. | Commercial units | Other | S | | | | | | | | | | | | | | | |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|------------|--|--|------------------------|--|------------------------|
| AQ-3 | “ | During project layout, field personnel would identify any additional wet areas and/or stream channels, and notify appropriate water and/or fisheries specialists and botanist regarding any special management requirements needed. | All units | Other | S |
| AQ-4 | To prevent inadvertent contamination of aquatic ecosystems | <ul style="list-style-type: none"> • Refueling or equipment maintenance activities are prohibited in RHCAs • Ensure all equipment is properly maintained (i.e., no fluid leaks) • Prohibit storage of fuel or other hazardous materials in RHCAs | All units | Sale, Service, Other | S |
| AQ-5 | To maintain stream shading, woody debris, and buffer capacity around streams to protect water temperature and fish habitat | <ul style="list-style-type: none"> • Restrict cutting in RHCAs to danger trees • Danger trees in RHCAs may only be cut with hand equipment • Allow felled danger trees to remain on the ground or in the stream within RHCAs • Prevent landing construction in RHCAs unless approved by Fisheries Biologist or Hydrologist • Prohibit haul during wet conditions | All units | Sale, Service, Other | S |
| AQ-6 | To minimize disturbance of riparian areas to foster natural processes that affect aquatic ecosystems | <ul style="list-style-type: none"> • Follow mitigation measures outlined within the Programmatic Biological Assessment for Prescribed Fire (USDA-FS and USDI-BLM 2001), which includes specific measures regarding storage and handling of toxic materials/fuels and drafting water from streams • Burning to maintain or restore structure and composition of native plant communities, or to reduce hazardous conditions is allowed in RHCAs • Prohibit aerial or hand ignition in RHCAs; allow fire to creep from outside RHCA • Suppression methods will generally consist of hand tools rather than heavy equipment • Machine piles are restricted in RHCAs; hand piles may be up to 100 feet from streams | All units | Sale, Service, Other | S |
| AQ-7 | To reduce sediment production and delivery to streams to protect fish spawning habitat | New stream crossings will be designed to meet Q100 flow conditions and aquatic organism passage requirements (INFISH Decision Notice and FONSI: Appendix A, Standards and Guidelines RF-4). | Project area | Sale, Service | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|------------|---|--|------------------------|--|------------------------|
| AQ-8 | To protect watershed resources by reducing potential sedimentation from roads or harvest activities | Montana Best Management Practices (BMPs) for Forestry would be met on commercial haul routes, including provisions of the Streamside Management Zone Law. | Commercial Units | Sale | S |
| AQ-9 | “ | Ground-disturbing activities (e.g. BMP treatments, new road construction) will occur during dry weather periods, in consultation with hydrologist or fisheries biologist. | Project area | Sale, Service, Other | S |
| AQ-10 | “ | Prior to hauling commercial product on any given road segment, BMPs and associated soil and water conservation practices designed to control surface drainage from roads would be in place. BMPs would be inspected in accordance with monitoring requirements, which are typically at the end of each operating season, to assure their ability to protect water quality during spring snowmelt runoff season, and would be maintained to ensure functionality. BMPs may include adequate road surface and ditch drainage, functioning ditches, adequate spacing of drain dips or ditch relief culverts, leadouts or drainage structures before stream crossings, road shaping to shed water off the surface and not into streams, rock check dams in ditches, and graveling of areas where drainage treatments may not be fully effective due to stream proximity. | Project area | Sale, Service, Other | S |
| AQ-11 | “ | BMPs implemented to mitigate the effects of hauling would be functional at the close of product removal activities. | Project area | Sale, Service | S |
| AQ-12 | “ | A slash filter windrow would be applied to stream crossings on haul routes and selected areas where the road is within 300 feet of any streams before haul occurs. Slash filter windrows would also be placed on relief culvert outlets that are within 300 feet of a waterway. Stream crossings and areas within 300 feet of streams that do not need slash filter windrows due to an adequate amount of existing sediment buffering material will be approved by a project Hydrologist or Fish Biologist. | Project area | Sale | S |
| AQ-13 | “ | Erosion control measures (such as straw bales, wattles, silt fences, hydro mulching, seeding with approved mix, and water barring) would use only certified weed-free products and would be used where necessary and remain in place before and during ground-disturbing activities. | Project area | Sale, Service | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|---------------|---|--|-----------------|------------------------------------|------------------|
| | | To ensure effectiveness, erosion control measures would remain in place and functional until disturbed sites (such as roads, culverts, landings, and burn piles) were stabilized, typically for at least one growing season after ground-disturbing activities. Inspection and maintenance would occur following high rainfall events and prior to fall and spring runoff to ensure effectiveness. | | | |
| AQ-14 | “ | Short-term BMP actions and will be implemented on an as needed basis and include silt fences, straw bales, or other temporary but effective measures to reduce sediment from reaching streams. | Project area | Other | S |
| AQ-15 | To protect water resources during snowplowing | <p>Snow removal shall be done in a manner to preserve and protect aquatic resources in accordance with C5.316 - A.3, B.3, and B.6.</p> <ul style="list-style-type: none"> • Snow berms would not be left on the road or shoulder on haul routes unless drainage holes were opened and maintained. Drainage holes would be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills. • Sidecast material will not include dirt and gravel. • Ditches and culverts will be made functional during operations. | Project area | Sale | S |
| AQ-16 | To protect water resources | All required permits would be obtained for any activity that would disturb stream channels and/or wetlands. | Project area | Other | S |
| AQ-17 | To ensure successful implementation of stream crossing removals or replacements | The Fisheries Biologist and/or Hydrologist will be notified prior to conducting the removals/replacements. | Project area | Sale, Other | S |
| AQ-18 | To protect INFISH RMOs within aspen treatment areas | Consult Fisheries Biologist or Hydrologist if aspen treatment areas fall within the RHCA. | Project area | Other | P |
| Botany | | | | | |
| BOT-1 | To protect TES species | If new occurrences of federally-listed or Region 1 sensitive plants are detected within the project area, the East Zone Botanist would be contacted so protective measures may be revised or newly prescribed. This could include dropping units from activities, modifying unit boundaries, additional buffers or activity timing restrictions. | Project area | Sale, Other | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|----------------------|--|---|---|--|------------------------|
| BOT-2 | “ | Any changes (e.g. temporary road location) to the Selected Alternative that may occur during layout would be reviewed by a qualified Forest Service botanist, and rare/sensitive plant surveys would be conducted as necessary prior to project implementation. | Project area | Other | S |
| BOT-3 | To protect and restore of whitebark pine | Review Burn plans with East Zone Botanist, Silviculturist and FMO to ensure prescription objectives and plant conservation measures are incorporated prior to ignition (FSM 2400, FSH 2470, Section 2478.3; consult with Silviculturist). Limit unit boundaries to ridge preventing burning north of ridges. | Units 101, 102, 103 | Other | S |
| BOT-4 | “ | Retain cone-producing trees as much as possible, as well as saplings with little or no blister rust impacts. | Units 101, 102, 103 | Other | S |
| BOT-5 | To promote revegetation with native plant species, protect water resources, and to reduce or eliminate introduction or spread of noxious weeds | Revegetation on disturbed or treated sites would include native plant species as recommended by the Region 1 native species policy (Lolo Native Seed Mix C & D or new mix approved by Botanist) (USDA Forest Service 2008; FSM 2070). “This policy emphasizes the use of locally adapted native plant seed, whenever possible. Seeding would be used as a reclamation tool only where resource damage would occur without it. Otherwise, sites would be allowed to re-vegetate naturally from the localized adjacent seed source. | Project area (e.g., disturbed sites such as temporary roads, landings, road decommissioning, heavily-weed infested sites) | Sale, Other | S |
| Noxious Weeds | | | | | |
| NW-1 | To reduce or eliminate the introduction or spread of noxious weeds | Prior to project implementation and following completion conduct ground-based noxious weed herbicide treatments along planned NFS haul roads. | Haul Routes | Sale | S |
| NW-2 | “ | Include in all contracts the standard Contract Provisions: C/CT6.351 (or equivalent) – Washing Equipment: This clause requires the purchaser to clean all off-road equipment before moving into project area so that weed seeds are not spread. | Project Area | Sale | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|-------------|--|---|--|------------------------------------|------------------|
| NW-3 | To reduce or eliminate the introduction or spread of noxious weeds and impacts of herbicide treatment and to prevent inadvertent contamination of aquatic ecosystems | Weed treatments will tier to Lolo National Forest Integrated Weed Management Plan (USDA Forest Service 2007), including approved herbicides, treatment strategies, and mitigation measures. Implement mitigation measures 1 through 48 (starting on page 28 of Lolo National Forest Integrated Weed Management EIS [2007]). See Project File or 2007 IWM EIS for a complete list of mitigation measures. | Project Area | Sale, Service, Other | S |
| NW-4 | To reduce or eliminate the introduction or spread of noxious weeds | To the extent practical, noxious weed herbicide treatments will occur on landings. | Landings | Other, Service | S |
| Soil | | | | | |
| SOIL-1 | To prevent damage to sensitive water features | <ul style="list-style-type: none"> If seasonally moist areas are present at time of harvest, provide a 50-foot no equipment buffer around wet area. Provide a 50-foot no equipment buffer from the centerline of ephemeral draws as identified by the Soil Scientist. | Unit 6 (water feature) Units 1, 3, 4, 7, 10 (ephemeral draws) | Sale, Other | P |
| SOIL-2 | To maintain soil productivity and reduce erosion | Skid roads: <i>By purchaser agreement, in lieu of waterbars</i> , slash of mixed sizes (at least 50% <6 inches diameter) would be placed over skid roads to prevent erosion in units. Slash would cover approximately 65–70% of the road or trail to a depth of approximately 2–3 inches where available (approximately 10-15 t/a). | All ground-based units | Sale | P |
| SOIL-3 | To maintain soil productivity and reduce detrimental soil disturbance | During Summer Operating Conditions: <ul style="list-style-type: none"> Ground-based harvest would only occur on dry soils. Soil moisture would be evaluated at the bottom of the root tight layer (5-12 cm below soil surface). Refer to Table B1 in Soil File 4 (Lolo NF Ground-Based Harvest Guidelines) for dry soil, field assessment information. Existing skid trails and landings would be reused to the extent possible in order to limit new soil disturbance. | All ground-based units | Sale | S, P |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|----------------|---|--|--|------------------------------------|------------------|
| SOIL-4 | To reduce detrimental soil disturbance | All ground-based harvest would be limited to slopes averaging 35% or less in accordance with the Lolo National Forest Plan. Operations may occur on slopes up to 40% that are less than 100 feet in length as approved by the Timber Sale Administrator. | All ground-based units | Sale | S |
| SOIL-5 | To maintain soil productivity and reduce detrimental soil disturbance | During Winter Operating Conditions: <ul style="list-style-type: none"> Limit all operations to periods when ground is frozen or depth of snow is sufficient to protect soil surface. Depth of snow necessary to protect soil surface would be determined by the Timber Sale Administrator and would require a minimum of 12 inches depth. | Winter operations in ground based units | Sale | S |
| SOIL-6 | To maintain soil productivity, reduce detrimental soil disturbance, and prevent erosion and to reduce sediment production and delivery to streams to protect fish spawning habitat. | Level of temporary road and excalene trail decommissioning would depend on existing condition of the site prior to road or trail construction and would be decommissioned following site-appropriate combinations of the following: <ul style="list-style-type: none"> By purchaser agreement, top soil and slash would be stored along the temporary road to the greatest extent possible and pulled back over the road surface during decommissioning. Installed culverts would be removed The temporary road surface would have site preparation to a depth of at least 6 inches. Site preparation may include recontouring, de-compaction, and/or scarification. For guidelines re: revegetation on disturbed or treated sites see BOT-5. By purchaser agreement, in lieu of waterbars, slash of mixed sizes (at least 50% <6 inches diameter) would be placed over temporary roads and excalene trails to prevent erosion in units. Slash would cover approximately 65–70% of the road or trail to a depth of approximately 2–3 inches where available (approximately 10-15 t/a). | All temporary roads | Sale, Service, Other | S |
| Scenery | | | | | |
| VQ-1 | To blend units into the surrounding landscape and avoid creating unnatural appearing lines, shapes and forms. | <ul style="list-style-type: none"> Created openings and treatment units should not be symmetrical in shape Straight lines and right angles should be avoided (an exception would be along the boundary with private property). | All units in areas of partial retention- | Sale, Other | |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|-----------------|--|---|---|------------------------------------|------------------|
| | | <ul style="list-style-type: none"> • Treatments should follow natural topographic breaks and changes in vegetation. • Where practical, edges will be shaped or feathered to avoid a shadowing effect in the cut unit. • Where the unit is adjacent to denser forest, the percent of thinning within the transition zone will be progressively reduced toward the outside edge of the unit. In addition, vary the width of the transition zone. • Where the unit interfaces with an opening, the percent of thinning within the transition zone will be progressively increased toward the outside edge of the unit greater until it is similar to the adjacent area. In addition, vary the width of the transition zone. • Treatment boundaries should extend up and over ridgelines to avoid the “Mohawk” look. This is especially important along ridgelines silhouetted against the sky. • Single trees or groups may be left to visually connect with a unit’s edges. | portions of units: Units 4, 7, 10, 20, 32, 80, 70 | | |
| VQ-2 | To minimize the visual effects of additional linear openings. | <ul style="list-style-type: none"> • Where feasible, new access roads and skid trails that meet a primary travel route should intersect at a right angle and, where feasible, curve after the junction to minimize the length of route seen from the primary travel route. • Where feasible, locate and orient roads to minimize cut and fill. • Where feasible, retain screening trees one tree-height below roads and landings when viewed from below. • Cut and fill banks will be sloped to accommodate natural revegetation. They will be revegetated (seeded) with native species where possible. | In areas of partial retention- portions of units: 4, 7, 10, 20, 32, 80, 70 | Sale, Other | |
| VQ-3 | To minimize visual effects caused by stumps, slash and other debris. | <ul style="list-style-type: none"> • Stumps should be cut at a height of no greater than 12”. | In all units. | Sale | |
| Wildlife | | | | | |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|------------|--|---|------------------------|--|------------------------|
| WILD-1 | To protect dead and downed wood resources important to numerous wildlife species | <p>Follow Lolo NF Guidance for Snags and Coarse Woody Debris (Lolo NF 1997 and 2006).</p> <p>Retain the largest available dead trees (favoring hard PP and WL snags, and large cedar snags, where they exist) within treatment units to the extent practical given safety concerns and harvest logistics.</p> <p>In units where it is impractical to retain enough large snags to meet guidelines and FP standards, plan to create new snags from large live trees (preference given to PP and WL, and to western red cedar in sites where it exists). Fire-hardened snags are most valuable to wildlife. Snags can be created by fire (consider piling material under select trees to increase burn intensity). Otherwise, girdling can be used to create snags.</p> | All | Sale, Service, Other | S |
| WILD-2 | To protect vegetative characteristics around northern goshawk nest sites | Buffer any known active nest, or any nest that was active within the past 5 years, by 40 acres (744 feet, or 11 chain radius from nest). No vegetation treatment (tree cutting or active ignition) to occur within this buffer. | Units 4 | Sale, Other | P |
| WILD-3 | “ | Retain at least 60% of the 420-acre Post-Fledgling Areas (PFAs) in mature forest with closed canopy (≥40% canopy cover) by retaining patches at least 5 acres in size that will have at least 40% canopy cover. | Units 4, 94 | Sale, Other | P |
| WILD-4 | To avoid disturbance during goshawk nesting and post-fledgling times | No potentially habitat-altering or disturbing activities (i.e. new road construction or reconstruction, timber harvest, thinning, or burning) within the 420-acre post-fledgling area in the nesting season (April 15 -August 15) to protect nesting goshawks until fledglings are capable of sustained flight. Haul, road maintenance and reconstruction (that does not substantially affect vegetation) are appropriate on open public routes during the nesting season. | Units 4, 94 | Sale, Service, Other | P |
| WILD-5 | “ | If any additional goshawks are detected within the project area during layout or implementation, contact the wildlife biologist. If a nest is suspected, conduct thorough surveys of the area to locate the nest, and apply the RPMs above for nest and PFA protection. | All | Sale | S |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others ¹ | S/P ² |
|---------|---|--|--|------------------------------------|------------------|
| WILD-7 | To protect important microsites for elk and big game species | If elk wallows, licks, or springs or seeps frequented by elk are identified during layout, work with the wildlife biologist to determine appropriate measures to protect the feature, as per Forest Plan direction. | Project area | Sale | S |
| WILD-8 | To minimize disturbance to grizzly bears | Newly constructed permanent roads that will not be open to the public will be gated immediately upon construction. | Project area | Sale | P |
| WILD-9 | “ | Require all contractors and force account crews working in the project area to follow the Lolo NF Food Storage Order. | All | Sale, Service | S |
| WILD-10 | To minimize the potential for wildlife mortality or displacement associated with open motorized roads (applies to grizzly bear, elk, and other species) | Retain, to the extent feasible, adequate hiding cover for wildlife in treatment units that are adjacent to or intersected by open public motorized routes where topography allows for long sight distances into the unit. Work with wildlife biologist to identify the best method for each specific site. Methods could include: <ul style="list-style-type: none"> Retain multiple clumps of vegetation within the unit that can provide visual screening for wildlife within sight-distances of open roads. Clumps should be roughly 1/10 acre in size and occur every 200-300 yards throughout the unit. Retain patches of mature trees ~1/10 acre with bole densities or boughs dense enough to provide cover for a large animal. | Rd 5507: Units 36, 38 Rd 2178: 63, 91, 74, 54 Rd 456: Units 10, 94 Rd 4213: Units 56, 59 Rd 890: Unit 59 Rd 412: Units 4, 7, 20 Rd 5498: Unit 32 Rd 60753: Units 1, 3 Rd 392: Unit 2 Rd 456: Unit 9 | Sale, Other | P |
| WILD-12 | To minimize disturbance to flammulated owls during nesting season | Avoid vegetation removal (including using large machinery as well as chainsaws) during the nesting season (May 1 thru Aug 1) in units where flammulated owls have been detected. Burning may occur in May, if necessary, but will not occur June 1 thru Aug 1. | Alt B: Units 36, 81, 89, 50, 61 and 67; | Sale, Service | P |

| RPM | Resource Objective | Description of Resource Protection Measure | Units Locations | Sale, Service, Others¹ | S/P² |
|------------|--|---|---|--|------------------------|
| | | | Alt C: Units 36, 81, 89, 60, 61 and 67 | | |
| WILD-13 | To minimize disturbance to gray wolves during sensitive denning times | If den site or rendezvous site is located in or near units treatment units in the project area, work with the district wildlife biologist to develop strategies to minimize disturbance to the pack during sensitive pup-rearing season (spring-early summer) | Project area | Sale, Service, Other | S |
| WILD-14 | To protect Townsend's big-eared bats | If any mine adits or caves are located during project activities, consult the wildlife biologist for any potential mitigations needed to avoid disturbance to bats. | Project area | Sale, Service, Other | P |
| WILD-15b | To minimize disturbance to big game on winter range | No logging, log hauling, or road building will occur December 15 – May 1. | All units and roads east of Kennedy Creek | Sale | P |
| WILD-16 | To protect small isolated patches of snowshoe hare habitat within units within the LAU | No ignition should occur within remnant pockets of mature live trees. | Units 101, 102, 103 | Service, Other | P |

¹ Timber sale or other contract (Service contract); Other such as FS force account crew, silvicultural prescription, or treatment unit layout

² S = standard operating procedure, meaning it is something the Seeley Lake Ranger District routinely does; P = project-specific, meaning this is a resource protection measure developed by the ID Team or Region specifically for this project

Monitoring

During and after project execution, implementation and effectiveness monitoring will be conducted to: (1) determine whether the original objectives of the activities are met; (2) determine the need for additional action; and (3) educate and assist in the design of future projects.

Monitoring of salvage activities conducted under contract will occur during and immediately following contract implementation. All preparation and subsequent project-associated operations will be monitored by Forest Service representatives to ensure compliance with specifications.

Forest Plan Monitoring and BMP Audits

The Forest conducts post-project implementation monitoring per guidance in the Forest Plan. Typically, a project with the scope and breadth of Soldier-Butler would have several elements and treatments evaluated per Forest Plan Monitoring guidance.

Another form of monitoring that could occur on portions of the Soldier-Butler project is the State BMP audit. This audit is conducted by an interagency team of personnel well-versed in BMP implementation and effectiveness. It would typically focus on timber harvest and associated transportation system elements and implementation. Typically about 10 larger projects on NFS lands in the State are evaluated each year.

Soldier-Butler Project-Specific Monitoring

This section provides a summary of project-specific monitoring. Additional information and more specific monitoring details are contained in individual specialists' reports which are available in the Project File and at fs.usda.gov/goto/lolo/projects.

Noxious Weeds

Monitoring is a critical element of integrated weed management on the Ninemile RD. The project area is highly-visited by staff, cooperators, permittees, and the public. Incidental monitoring for new invaders would occur well into the future.

Treatments would be monitored for efficacy and re-treatment needs should noxious weed treatment occur.

Monitoring of seed germination and establishment to discourage noxious weed propagation would occur on decommissioned roads, landings, burn piles, and other disturbance areas that are seeded as part of this project.

Sensitive Plants (Whitebark Pine)

Monitor site for stand conditions (mortality, insect and disease) noting any existing regeneration; install permanent photo points to track stand conditions prior to restoration or burning (Units 101, 102, and 103).

Monitor for natural regeneration every 5 years after full implementation to determine if there is natural regeneration. If not then implement the monitoring requirement below.

Include follow-up planting of rust-resistant whitebark pine if no regeneration occurs in created openings (five acres or larger) above 6,000 feet if monitoring efforts determine the need (Units 101, 102, and 103).

Appendix D: Response to EA Comments

Comment Content Analysis and Agency Response Process

Content analysis is a method for analyzing public comment. The intention of the content analysis process is to represent the public’s viewpoints and concerns as fairly as possible, and to present those concerns in such a way as to assist the ID Team in effectively responding to them. The ID Team reviewed the public comment statements and considered the substance of the concerns, evaluated whether they triggered a change in the environmental analysis, and drafted responses. The ID Team provided any recommendations for adjustments to the EA analysis or documentation to the Team Leader for review, consideration, and action by the Responsible Official. The ID Team provided responses to nine letters that contained public comments. No public comment on the EA generated the need for reanalysis of the alternatives.

In response to the comments on the EA, the ID Team has made factual and clarifying corrections in the document, and/or explained why changes are not warranted. Minimal response (basically acknowledgement) has been made to concerns stating a position or an opinion. However, these positions and opinions have been compiled by the ID Team for consideration by the Responsible Official. Some specific suggestions for management of the project area may be adopted by the Responsible Official, other specific concerns are beyond the authority of the Forest Service and beyond the scope of the EA or determined to be impractical. None of the comments necessitated reanalysis of alternative.

Responses to comments on the EA are primarily referenced to where the information is located in the individual specialist reports. The information in these reports was used to develop the EA which is intended to be a concise summary (EA p. 1). The EA was posted on March 14, 2019 on <http://www.fs.usda.gov/main/lolo/landmanagement/projects> with the full specialists’ reports to provide reviewers access to all of the information at one location. In the following comments, the numbers in parentheses following the comment denote the comment ID # and the comment within the letter (i.e., (1, 3) denotes comment ID #1 Mark and Becky Colip and the comment identified as #3 in their letter).

Soldier-Butler EA Comments Received – Comment Period 3/14/2019 – 4/15/2019

| Commenter ID# | Commenter Name/Org. | Date |
|---------------|---|-----------|
| 1 | Mark and Becky Colip | 3/26/2019 |
| 2 | James Gouaux and Elizabeth Oleson | 3/31/2019 |
| 3 | Mark and Becky Colip | 4/01/2019 |
| 4 | Scott Kuehn, Pyramid Mountain Lumber | 4/08/2019 |
| 5 | Tom Partin, American Forest Resource Council | 4/09/2019 |
| 6 | Bob and Judy Derlatka | 4/10/2019 |
| 7 | Mike Oliver | 4/10/2019 |
| 8 | Pat Sweeney, Ninemile Wildlife Workgroup | 4/11/2019 |
| 9 | Nick Jose, Sun Mountain Lumber | 4/11/2019 |
| 10 | Mike Bader, Flathead, Lolo-Bitterroot Task Force | 4/13/2015 |
| 11 | Nick Clarke, Yellowstone to Yukon Conservation Initiative | 4/13/2019 |
| 12 | Sharon Sweeney | 4/14/2019 |
| 13 | Jake and Danielle Bolster | 4/15/2019 |
| 14 | Michele Dieterich | 4/15/2019 |
| 15 | Jeff Juel, Alliance for the Wild Rockies | 4/15/2019 |
| 16 | Mineral County Commissioners | 4/15/2019 |
| 17 | Claudia Narcisco | 4/15/2019 |
| 18 | Emily Park, Mineral County Resource Coalition | 4/15/2019 |

| | | |
|----|---|-----------|
| 19 | William Peck, Idaho Forest Group | 4/15/2019 |
| 20 | Sharon Rose, MT Fish, Wildlife, and Parks | 4/15/2019 |

Topics Covered:

[Forested Vegetation](#)

[Old Growth](#)

[Implementation \(timber sales and other contracts\)](#)

[Fire and Fuels](#)

[Sensitive Plants](#)

[Noxious Weeds](#)

[Soils](#)

[Wildlife \(General\)](#)

[Canada lynx](#)

[Grizzly Bear](#)

[Wolverine](#)

[Black-backed Woodpecker](#)

[Boreal toad](#)

[Fisher](#)

[Northern Goshawk](#)

[Pileated Woodpecker](#)

[Big Game/Elk](#)

[Pine Marten](#)

[Snags and Down Wood](#)

[Fisheries/Hydrology](#)

[Recreation](#)

[Transportation System](#)

[Inventoried Roadless Areas](#)

[Economics](#)

[Climate Change](#)

[General Support for Alternative B](#)

[Alternative Modification Suggestions](#)

[NEPA Process](#)

[Scientific Integrity](#)

[Monitoring](#)

Forested Vegetation

“AFRC believes the Forest should conduct heavy thinnings in stands adjacent to the WUI leaving 40 sq. ft. of basal area in these areas. Under burnings could follow further reducing the fuels loading.” (5, 3)

FS Response: Thank you for your comment.

“The EA and supporting documents are largely predicated on the desirability of mimicking presettlement stand conditions... These historic conditions may serve as a guide, yet numerous authors have cautioned that pre-settlement conditions cannot be replicated through restoration... Non-mechanical thinning and burning may be appropriate in certain areas, but will only be effective in aiding structural protection if the treatments are immediately adjacent to residential areas and only if the structures themselves are made less flammable (Reinhardt, et al. 2008).” (10, 5)

FS Response: The project does not seek to replicate historic conditions. While we agree that historic or pre-settlement conditions are useful in guiding vegetation restoration treatment design, recreating those conditions is not the objective of the project. These concepts are addressed in the Forested Vegetation Report pp. 7-8, 28-29, 31-33.

Aiding structural protection on private land is not the purpose and need of the project. Please refer to Chapter 1 of the EA for a full discussion on the purpose and need. The Fire and Fuels Report has additional relevant information.

“We are concerned that thinning down to system roads, and skid trails that remain visible or are apparent from the road will “invite” additional unauthorized ATV use up into these newly thinned hillsides...Some of this can be prevented by writing Silvicultural prescriptions, and burn plans, to leave a thick barrier along the road—perhaps 150 feet deep—to help discourage ATV access. Trees and other vegetation can (and should) be left around the gates so that people can’t drive around the closure devices. Skid trails and/or temporary roads that come to open roads should be thoroughly blocked. Winter logging (over snow) can also be used to reduce ground disturbance and thus help camouflage skid trails/temp roads.” (12, 3)

FS Response: Thank you for your comment. Site-specific resource protection measures (RPMs) to reduce the likelihood of unauthorized ATV use post-treatment are included in the project. Please refer to RPM REC-9 that was included to address these concerns (EA pp. 38-39). This suggestion could detract substantially from meeting the purpose and need around firefighting effectiveness, firefighter efficiency and safety, and maintaining and providing ingress and egress for public and firefighter safety.

“The Lolo National Forest has a Lands System Inventory that discusses soil and vegetation patterns across the landscape along with sensitivity and response of landtypes. The silvicultural section intermittently takes advantage of landform features in its descriptions of vegetation type. The soil report used this resource to present a clear connection with landscape properties and response. The LSI could have been more consistently used in assessing how forest conditions are controlled by landscape form, properties, and slope position so the reader can better understand how conditions on each site deviate from the potential vegetation. As a result, the structural variability across the landscape is not adequately reflected in the EA.” (17, 4)

FS Response: Please refer to the Forested Vegetation Report pp. 8-30 for a full discussion of the forested vegetation structural variability and data sources used. The Project File also contains more detailed biophysical setting information of areas proposed for treatment (Items K5-4, K5-15, and K5-21).

“The EA states, ‘Past Forest Service Timber Sales... These treatments combined with the effects of Alternative B serve to enhance growth, quality, and vigor and reduce the levels of mistletoe and fuel loading within the landscape.’ Please cite the sources of data supporting this assertion.” (15, 4)

FS Response: This statement is from the cumulative effects discussion in the Forested Vegetation Report and EA. It is referring to the combined effect of the project with that of past intermediate harvest activities that have occurred within the project area. The source of the past harvest data is the FACTS database and historical records on file at the Ninemile Ranger Station as discussed in Forested Vegetation Report pp. 10, 23-25, and 67. The paragraph is discussing past intermediate treatments including commercial thinning, improvement cutting, sanitation and salvage. These are all technical terms to describe specific types of silvicultural treatments within professional forestry. They are commonly used basic terms. The reader is referenced to The Dictionary of Forestry, Helms 1984; the Lolo Forest Plan (1986); as well as Forest Service manual and handbook direction to understand these basic terms, their definitions, and objectives. The Soldier-Butler project employs standard terms used in the field of forestry and was not intended to explain basic forestry when disclosing past silvicultural treatments and their objectives. Please refer to Forested Vegetation Report pp. 30-65 for a full

discussion on the direct and indirect effects of Alternative B and citations within the text. A list of literature citation and references may be found at Forested Vegetation Report pp. 78-89.

“The EA states, ‘Past timber harvest has also altered species composition and structure in some areas so that they no longer resemble native ecosystems.’ Please specify which areas you are talking about, and the sources of data that support this ‘no longer resemble’ statement.” (15, 5)

FS Response: This was included as an introductory statement in the EA. Please reference the full Forested Vegetation Report for a discussion about intensive past harvest activities and how they relate to the existing condition in the project area (pp. 11-12, 63). For example, the project proposes restoration treatments on publicly acquired industrial timberlands that have been severely altered by past management. Please see Forested Vegetation Report p. 63 ‘restoration of acquired lands’ and Project File K5-21, K5-19 and K5-5 (photos in KMZ file).

“The Soldier-Butler EA states, ‘This action responds to the goals and objectives outlined in the Lolo Forest Plan, and helps move the project area towards desired conditions described in that plan.’ However this makes little sense, because ‘desired conditions’ are hardly mentioned in the Forest Plan. The Forest Plan has no definition. The FS has not performed the requisite NEPA process to adopt certain desired conditions as the driver for project Purpose and Need.” (15, 61)

FS Response: For clarification, the Lolo Forest Plan (1986) defines a goal as a “concise statement that describes a *desired condition* to be achieved. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed” (VII-14).

“The EA mentions ‘sites that were historically very open to moderately open with ponderosa pine or ponderosa pine and Douglas-fir communities and an average fire frequency of 5 to 50 years.’ Please cite the data sources gathered in the project area to support this description of ‘historic’ conditions.” (15, 62)

FS Response: The citation, Fisher and Bradley 1987, is included in the text (Forested Vegetation Report pp. 15, 82). The reader is referenced to that document to gain understanding of, “Fire Ecology of western Montana Forest Habitat Types”. A map depicting habitat types within the project area is located on Forested Vegetation Report p. 14.

“Since before the huge fires on the Lolo NF in recent years the resilience of the Forest to fire is being directly called into question by the Soldier-Butler EA’s assertion, and since the resilience of the unburned portion of the Soldier-Butler project area continues to be called into question, the FS is obligated to cite post-fire data supporting your contention that resilience is not what it should be.

The EA fails to disclose an objective, measurable definition of ‘resilience.’” (15, 63)

FS Response: Resilience is defined and discussed at length in the Forested Vegetation Report pp. 7-10 and 31-38. The Soldier-Butler project area was not affected by the fires of 2017; please see Forested Vegetation Report pp. 41-42 for more information.

“The EA fails to disclose or acknowledge the scientific information that indicates severe fires burning over large acreages are normal for the Forest, and that fire intensity and severity are dependent much more upon weather than fuels. It’s common knowledge by now. If the purpose for a project is built upon false information about ecological functioning, then the predicted effects of the project are not credible. The EA does not comply with NEPA’s requirements for scientific integrity.” (15, 64)

FS Response: EA p. 3 acknowledges that “extreme weather conditions” can negate fuel treatment efforts to mitigate fire spread or severity. The Fire and Fuels Report discusses fire history on the Lolo NF and within the project area (pp. 25-27) and provides analysis of treatment effectiveness under various weather and fuel conditions (pp. 37-40). The Forested Vegetation Report acknowledges that natural disturbances (such as wildfire) are not disruptions in forests but rather the “norm” (p. 13).

“The FS’s strategy to strive towards desired conditions focuses on achieving static conditions, instead of fostering the natural dynamic characteristics of ecosystems. An abundance of scientific evidence indicates the EA’s static desired conditions must be rejected in favor of desired future dynamics to align with best available science.” (15, 65)

FS Response: The Forested Vegetation Report discusses these concepts at length (pp. 7-9, 12-13, 18, 28-37, 43-46, and 50-64).

“The Soldier-Butler EA provides no explicit plan disclosing the details on how a restored landscape would be sustained. In other words, how often treatments will occur, how extensive they need to be, which kinds of treatments will be necessary, how many miles of roads will be needed (both permanent and temporary), etc. This means we cannot know how many acres at any given time will be suffering reduced productivity because of soil damage or infested by noxious weeds, or how many acres of wildlife will be subject to diversity impacts due to snag losses due to logger safety or firewood cutting. Also missing is an economic analysis in the EA, which would disclose how much managing for this regime will cost on a continuing basis—and therefore how likely such a plan could actually be implemented in order to achieve or maintain the “restored” (under the FS definition) vegetation conditions.” (15, 66)

FS Response: The Soldier-Butler EA is a site-specific project analysis, the expected implementation timeframe for which is 8 to 10 years (EA p. 13 and Appendix C). The Fire and Fuels Report and Forest Vegetation Report displays long-term effectiveness of the proposed treatments to year 2050. The Forested Vegetation Report discusses how FVS and FFE were used to model future conditions and analyze the effects of the project and their effects (pp. 10-11, 33-38). FVS projected stand conditions to 2050 are contained in the Project File (K5-9, K5-10, K5-11, K5-12, K5-13, K5-14). Please refer to Chapter 2 of the EA for a description of the treatments proposed by alternative. Other unknown future actions in the area are not part of the Soldier-Butler project and analysis. The effect of the project on each affected resource is summarized in the EA; for a more in-depth analysis (e.g., direct, indirect, and cumulative effects) please refer to the individual resource specialists’ reports (i.e., soils, weeds, economics, etc.). Please refer to Appendix C for an example project implementation schedule.

“The Soldier-Butler EA assumes that if natural fire regimes were operating here practically all the low and mid-elevation forests would be in open conditions with widely spaced mature and old trees—mostly ponderosa pine with a few Douglas-fir. The FS fails to acknowledge good science, such as that mixed-severity and even low-severity fire regimes result in much more variable stand conditions across the landscape through time. Assumptions that drier forests did not experience stand-replacing fires, that fire regimes were frequent and nonlethal, that these stands were open and dominated by large well-spaced trees, and that fuel amounts determine fire severity (the false thinning hypothesis that fails to recognize climate as the overwhelming main driver of fire intensity) are not supported by science.” (15, 67)

FS Response: This statement is false and counter to the Soldier-Butler EA and Project File. We agree that ecosystems possess inherent variability. Please refer to the Forested Vegetation Report pp. 4, 7-8, 11-23, 28-30, 31-33, 43-46, and 50-65.

“The Soldier-Butler EA claims project actions would improve resilience with this project, but this is not the absence of natural disturbances such as wildland fire or insects, etc. Rather, it is the opposite (DellaSala and Hanson, 2015, Chapter 1, pp. 12-13). What the FS is promoting here is the human control of the forest ecosystem through mechanical means in order to maintain unnatural stasis by eliminating, suppressing or altering natural disturbances such as wildland fire and insect or disease effects, to maximize the commercial potential of natural resources. In other words, tree farming.” (15, 68)

FS Response: The statement is false; please see responses to (15, 63), (15, 65), and (15, 67) above.

“...the Soldier-Butler EA provides absolutely no operational definition of resilience that would allow anybody to actually measure the resilience of anything as they now stand, or measure their change in resilience following project activities....mostly what we ‘learn’ about resilience from the FS and Soldier-Butler EA is it only happens when the forest is ‘managed’ (i.e., mostly logged or prescribe burned), and the more the forest is logged and burned, the more resilient it becomes. Also we “learn” that nothing that happens naturally, without management, will increase resilience. In other words, from the FS’s perspective, resilience can only be manufactured, engineered, or imposed by management. The term ‘resilience’ as used by the EA is invalid, rendering much of the analyses confusing and misleading.” (15, 69)

FS Response: The statement is false; please see responses to (15, 63), (15, 65), and (15, 67) above.

“The EA proposes ‘creating small openings (i.e., group selection)’ and ‘Thinning would be applied using an average residual target basal area (BA) ranging from 20 to 80 square feet per acre in order to accomplish resource objectives. This would equate to removing approximately 30 to 80% of the existing crown cover’ and ‘60 – 80% of the canopy would be removed...’ The EA does not explain how many acres would resemble clearcuts, and fails to take a ‘hard look’ at the effects of such intensive logging.” (15, 71)

FS Response: About 114 acres (11.2% of treated area) are proposed for even age regeneration harvest as a step in restoration of this area, and this is because of extensive root disease. Additional information can be found in the Forested Vegetation Report pp. 61-62.

“The Soldier-Butler EA’s strong bias against wildland fire completely ignores the uniqueness and biological diversity found in early post-fire forests, as explained by news reporters and the scientists, FS experts, and other people...” (15, 86)

FS Response: The Forest Service has widely acknowledged that post-fire forests provide unique biological diversity as was evidenced. The Forest Service does not salvage the vast majority of burned areas. For example, by the 2018 post-fire salvage efforts (e.g., Rice Ridge which resulted in leaving about 95% of the NFS land within the fire perimeter to natural processes). The articles provided by the commenter have been responded to previously and do not directly challenge the findings of the analysis for this project.

Old Growth

“AFRC encourages the Forest to treat stands in old-growth units. These stands are currently susceptible to wildfire and the fuel loadings need to be reduced. Thinning these stands will enhance growth and protect them from insects, disease and wildfire and ensure their survivability into the future.” (5, 6)

FS Response: Thank you for your comment.

“The EA fails to comply with NEPA if it fails to disclose the presence of old growth in the project area, hindering public review of consistency with Forest Plan direction and best available science.” (15, 27)

FS Response: Old growth was not raised as an issue during scoping and therefore was not included in the EA. It is addressed in Forested Vegetation Report pp. 39-46, 76-77, and Project File Items K5-6, K5-15, K5-21.

“The Lolo NF’s May 2008 ‘EFFECTS OF SILVICULTURAL TREATMENTS ON OLD GROWTH CHARACTERISTICS AND ASSOCIATED WILDLIFE HABITAT - Preliminary Findings of the Lolo National Forest’s 2006-2010 Old Growth Monitoring’ states, ‘The Lolo has retained over 8% of its land base as old growth, thus meeting its 1986 Forest Plan allocation objectives.’ Since that document is over 10 years old now, and since there have been major fires (e.g. Lolo Peak, Sheep Gap, Sunrise, Rice Ridge, Liberty) and other disturbances since then, what assurance is there that the Forest still has at least 8% old growth? What is your up-to-date source (or sources) of data?” (15, 28)

FS Response: Please see Forested Vegetation Report pp. 39-46, 76-77, and Project File Items K5-6, K5-15, K5-21.

“Which scientific documents or scientific ‘literature’ was the Forest Plan EIS interpreting to arrive at this 8% Forest Plan allocation objectives figure? Has the Lolo NF since investigated more updated scientific information to determine if a higher percentage would be more consistent with best scientific information?” (15, 29)

FS Response: The Solder-Butler project is a site-specific project tiered to the Lolo Forest Plan. As such, it is not intended to analyze or address the information contained within the Forest Plan. Please see Forested Vegetation Report pp. 39-46, 76-77, and Project File Item K5-6, K5-15, K5-216 for old growth information in the project.

“Is the Lolo NF using its Forest Plan definition of old growth (1986) or is it using the Green et al., 1992 definitions? Please disclose the total acreage on the Lolo FS that meets each old-growth criteria.

Please disclose how much of the project area MA 21 and forestwide MA 21 acreage meets either old-growth criteria. Please disclose how much old growth meeting either of those criteria falls within each of those ‘71 drainages’ across the Forest. (Same questions for MA 11, since the Forest Plans includes the goal to “‘Provide for old-growth dependent wildlife species’ in MA 11.)” (15, 30)

FS Response: Please see Forested Vegetation Report pp. pp. 39-46, 76-77, and Project File Items K5-6, K5-15, K5-21.

“If the FS utilizes FIA data for determining compliance with its 8% old-growth policy, please disclose how old that data is. How many FIA plots fall within Soldier-Butler MA 21, and how many of those are classified as old growth? How many FIA plots fall within MA 21 across the Forest as a whole, and how many of those are classified as old growth? (Same questions for MA 11, since the Forest Plans includes the goal to ‘Provide for old-growth dependent wildlife species’ in MA 11.)” (15, 31)

FS Response: This information is provided in the Forested Vegetation Report pp. 39-46, 76-77 and Project File Item K5-6.

“The Soldier-Butler EA also does not properly analyze and disclose the natural historic range vs. current conditions regarding patch size, edge effect, and amount of interior forest old growth in the Lolo NF.” (15, 32)

FS Response: Old growth is addressed in Forested Vegetation Report pp. 39-46, 76-77, and Project File Items K5-6, K5-15, K5-21.

“The FS provides no assurance its old-growth ‘encouragement’ management scheme will accelerate forest conditions toward old growth at some unspecified time in the future.” (15, 33)

FS Response: Old growth is addressed in Forested Vegetation Report pp. 39-46, 76-77, and Project File Items K5-6, K5-15, K5-21.

“Forest Plan standard 27 states, ‘For plant and animal species that are not threatened or endangered, but where viability is a concern (i.e., sensitive species), manage to maintain population viability.’ Neither the EA nor the Forest Plan explicitly state how population viability is to be maintained for the Sensitive species. Please cite the Lolo NF’s official policy direction on viability of Sensitive species, so we may be able to determine if management in the Soldier- Butler project area is consistent with your policy.” (WL-10-16)

FS Response: See response to comment (WL 15-22) and Wildlife Report p. 10.

“Is there a lower limit on the size of old-growth stands as criteria for inclusion on the Lolo NF’s old-growth inventory, which apparently is the basis for your claim of compliance with the 8% strategy? In other documents (USDA Forest Service 1987a) the FS considers smaller patches of old growth to be of lesser value for old-growth associated wildlife:

A unit of 1000 acres would probably meet the needs of all old growth related species (Munther, et al., 1978) but does not represent a realistic size unit in conjunction with most other forest management activities. On the other hand, units of 50-100 acres are the smallest acceptable size in view of the nesting needs of pileated woodpeckers, a primary cavity excavator and an old growth related species (McClelland, 1979). However, managing for a minimum size of 50 acres will preclude the existence of species which have larger territory requirements. In fact, Munther, et al. (1978), report that units of 80 acres will meet the needs of only about 79 percent of the old growth dependent species (see Figure 1). Therefore, while units of a minimum of 50 acres may be acceptable in some circumstances, 50 acres should be the exception rather than the rule. Efforts should be made to provide old growth habitat in blocks of 100 acres or larger...Isolated blocks of old growth which are less than 50 acres and surrounded by young stands contribute very little to the long-term maintenance of most old growth dependent species.” (WL-15-17)

FS Response: Old growth is addressed in Forested Vegetation Report pp. 39-46, 76-77 and Project File Items K5-6, K5-15, K5-21. In regard to the right patch size for wildlife, the comment and references to Munther and McClelland illustrate that there is not a definitive minimum. The McClelland work shows that 50 acres can be suitable for pileated woodpeckers. Because this species is a primary cavity excavator, they provide habitat for other old growth associated species. See Wildlife Report pp. 17 – 24 (pileated) and 24 – 34 (goshawk).

“The Forest Plan states, ‘As monitoring technology becomes available for the goshawk and pileated woodpecker, population trends will be monitored. In the interim, habitat parameters including old-growth acres and condition, and snag densities will be monitored as an indicator of population trend.’ The Lolo NF’s ‘Preliminary Findings of the Lolo National Forest’s 2006- 2010 Old Growth Monitoring’ and other scientific information indicates that monitoring technology for the goshawk and pileated woodpecker is well-established, however the Lolo NF has not monitored population trends. The FS is in violation of its own Forest Plan.” (WL-15-18)

FS Response: See Wildlife Report pp. 17 – 24 (pileated) and 24 – 34 (goshawk). Based on Forest and Regional level surveys and other information sources, there is no indication that either of these species is in decline nor that habitat for these species is lacking at the Forest or Regional scale.

“The Lolo NF has conducted no research or monitoring comparing pre- and post-logging old growth occupancy by or abundance of the wildlife species with strong biological association with habitat components found in old growth. Biologically speaking, the FS refuses to check in with the real experts to see if logging and old-growth habitat are biologically compatible.” (WL-15-19)

FS Response: The Lolo NF has done this type of monitoring – see “Goshawk, Flammulated Owl and Pileated Woodpecker Habitat and Occurrence within Old Growth Treatments, Wildfire Burned Old Growth and Untreated Stands” in the Project File.

Implementation (timber sales, funding, and contracts)

“We are also strongly in favor of replacing the culvert on Forest Service Road 890 at the top of Josephine Creek. On page 31 (pdf page 36) of the Environmental Analysis, this project is described with the caveat ‘This work would not be accomplished using funds generated by the project but would be implemented when adequate funding was secured.’ We hope adequate funding can be secured as soon as possible.” (2, 3)

FS Response: Thank you for your comment.

“Though removal of non-saw material may be needed to meet project objectives, it should be made optional removal to the purchaser; non-saw almost never pays its way to the chip plant.” (4, 2)

FS Response: Thank you for your comment, it will be considered during implementation.

“AFRC suggests the Forest try using DXP for silvicultural work in this project. The species and prescriptions seem to lend themselves to this kind of timber marking regime and would keep pre-operational marking costs lower.” (5, 8)

FS Response: Thank you for your comment, it will be considered during implementation.

“The Forest is planning to do a lot of prescribed fire in the project area for fuels reduction. AFRC recommends that the Forest insert programmatic language in the EA allowing for the salvage of fire burned material should the prescribed fire get too hot and crown out in green trees or if the fire should burn outside planned perimeter boundaries.” (5, 9)

FS Response: While prescribed fires are carefully planned, we cannot accurately predict where or if a fire may burn outside its expected perimeter. Prescribed fires can sometimes result in killing green trees that were not intended to be burned; however, we cannot accurately anticipate which trees or how many could be burned prior to the prescribed burn. Therefore including programmatic language would not be appropriate as we would not have analyzed the effects of that action taking place on the landscape.

“Sun Mountain would like to see slopes up to 45% considered for tractor logging. This would increase treated acres, sale volume and potential sale value. The money generated will be used to fund future projects and restoration activities on the forest.” (9, 2)

FS Response: The Lolo National Forest Plan limits tractor yarding to slopes less than 35 percent (Lolo Forest Plan, p. G-1). Also see response to comment (5, 7) below.

We request that you consider offering this project as a stewardship. (16, 3) (18, 1) (19, 1)

FS Response: Thank you for your comment; it will be considered during implementation

Fire and Fuels

“...the treatments differ in intensity but all are designed and should result in maintaining and enhancing the resilience and resistance of forested vegetation to a variety of stressors. They will all reduce vegetation density and fuel load. That alone should reduce the risk of fire to the private lands much of them already recently treated as you illustrated during the public meeting. We would like to know why alternative C would not adequately protect the private properties. Perhaps some minor modifications to alternative C near private lands could better protect them from fire, or perhaps the proposed treatments would be adequate as most of the private lands are downslope and

against the prevailing winds.” (8, 6)

FS Response: The Fire and Fuels Report, p. 41, states for the long-term efficacy of the project, the proposed treatments under Alternative B would have the most positive change in fuels and canopy conditions which would create conditions less susceptible to crown fire initiation and a safer ingress/egress environment for firefighter and public safety. The FVS modeling on pp. 39-40 displays the long-term efficacy between alternatives.

Alternative B includes treatments designed to retain large, healthy trees consistent with the objective of maintaining or restoring healthy fire-resilient stands. Ponderosa pine and western larch are key fire-resilient species that would be featured in the treatments. The treatments would reduce the horizontal and vertical fuels with thinning and prescribed fire creating safer stand conditions for firefighter and public ingress and egress onto forested lands. Alternative C is designed to achieve these same objectives; however, would not accomplish this effectively on as many acres (Fire and Fuels Report, p. 34). The FVS modeling on pp. 39-40 displays these differences.

Alternative C would achieve some of the objectives across the landscape; however, it would be less effective in both longevity and resiliency. Alternative C addresses to a lesser extent reducing the potential for high intensity fire, crown fire initiation, or the canopy bulk density in the most at-risk stands in the project area, in the Community Protection Zone, rendering it less effective at reducing the percent mortality to an acceptable level and meeting the purpose and need of the project (Fire and Fuels Report p. 40).

Alternative B is the alternative best designed to create fire-resilient stands, improve firefighter safety with ingress and egress, and decrease the potential for high intensity wildfire. The best science indicates a three-part objective for creating fire-resilient stands with fuel treatments: reducing surface fuels, reducing ladder fuels, and reducing crown density (Agee and Skinner, 2005). By meeting these objectives on a greater scale within the WUI the crown fire potential is reduced and resiliency and ecosystem function increase (Fire and Fuels Report p. 32).

Detailed information of the differences of Alternatives B and C are contained within the Forested Vegetation Report pp. 31-37 and 49-64. The differences between Alternatives B and C were modeled with Alternative C foregoing treatment (or effective treatment) to display resilience/resistance to fire, or other stressors adjacent to private land. For example, under Alternative B, modeled fire occurrence adjacent to private land (e.g., Units 25 and 26) resulted in live residual forested conditions with 13% stand mortality whereas Alternatives C and A would result in 100% stand mortality and would not meet the purpose and need of the project immediately adjacent to private land (Project File Items K5-9, K5-13). See also K5-10, K5-11, K5-12, K5-13, and K5-14.

“The EA stretches the definition of Wildland-Urban Interface. The primary definition is an area within 0.5 miles of residential areas within the intermix zone. Common sense and reality dictate that occasional isolated residences in a very low-density setting cannot each be buffered to a 1.5 mile radius. Otherwise, much of the western U.S. would be classified as WUI, which is an unreasonable stretch of the primary definitions and intent. A previous collaborative project on Lolo National Forest land in the Rattlesnake drainage (Sawmill Gulch) relied on a much more realistic zone of 0.34 miles (Lolo National Forest 2004).” (10, 4)

FS Response: The Soldier-Butler Fire and Fuels Report was initially written when Missoula County was still referencing the 2005 Missoula County Community Wildfire Protection Plan (CWPP). In 2018, Missoula County updated their CWPP.

The 2018 Missoula County CWPP defines the concept of WUI as:

Any area where the combination of human development and vegetation have a potential to result in negative impacts from wildfire on the community (2018 Missoula County CWPP, p. 12). Please refer to the Project File (Item K3-2) which provides the updated verbiage for the 2018 Missoula County CWPP.

As discussed in the Fire and Fuels Report on pp. 6-7, Soldier-Butler is within the area assessed in the Missoula County Community Wildfire Protection Plan (CWPP). Figure 1, on p. 7 of the Fire and Fuels Report, identifies these fuels reduction priorities within Missoula County and highlights the Soldier-Butler project area (Ninemile Area) as one of these priority locations. The Fire and Fuels Report further defines the Lolo NF Community Wildfire Protection Zone, WUI, on pp. 10-12 with Figure 2 showing this boundary within the Soldier-Butler project area.

“Some of the major goals of the proposed project are thinning and burning of understory vegetation to promote fire safety, aid in future suppression and help prevent large catastrophic fire events. This strategy has been shown to be self-defeating by numerous researchers...Moreover, Reinhardt, et al. (2008) and others (Ecological Research Institute) discuss the geographical and environmental limits of effective thinning and burning strategies...Relatively small areas can easily be overwhelmed by large fires in extreme environmental conditions.” (10, 6)

FS Response: The Fire and Fuels Report cites Peterson on p. 30, “Studies indicate the most appropriate fuel treatment strategy for reducing hazardous fuels includes forest thinning (removing ladder fuels and decreasing tree crown density) followed by prescribed burning, piling and burning of fuels, or other mechanical treatments (Peterson, 2005)”. Rothermel is also cited in the Fire and Fuels Report on p. 33, “Prescribed fire decreases the intensity of a subsequent wildfire primarily by reducing fuel loads, especially of the finer elements in the more aerated fuel layers that govern fire spread (Rothermel 1972), but also by disrupting the horizontal and vertical continuity of the fuel complex”.

The following literature, found on p. 34 of the Fire and Fuels Report, provides citations regarding stand level thinning and burning treatments that can alter fire behavior resulting in stand conditions that may not become overwhelmed by large fire. Using harvesting and thinning/slashing in conjunction with prescribed fire would change the overall severity and intensity of a future wildland fire. Conclusions of Graham and others state, “Thinning and other thinning-like stand treatments can substantially influence subsequent fire behavior at the stand level by either increasing or decreasing fire intensity and associated severity of effects. Depending on intensity, thinning from below and possibly free thinning can most effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire-adapted species. Such intermediate treatments can reduce the severity and intensity of wildfires for a given set of physical and weather variables.” They go on to say, “The best success in modifying fire behavior through the use of thinnings throughout the West is when applied in conjunction with prescribed fire” (Graham et. al. 1999). Weatherspoon states that “heavily thinning an overstocked stand from below and using whole-tree removal (or chipping and spreading the limbs and tops), followed by a prescribed understory burn to reduce natural fuels, will almost certainly reduce the wildfire hazard of the stand” (Weatherspoon p. 1174). By opening the stand through thinning more sunlight is able to penetrate the canopy and more wind is present at the forest floor, allowing forest fuels to dry out (Weatherspoon p. 1173) at the same time more open stand conditions “increase the growth of forbs and shrubs, which retain moisture until later in the season, reducing fire behavior” (Agee 2005, Brown et. al. 2004). Hurteau and other also suggest that thinning could also produce a net cooling effect by reflecting more sunlight off the forest floor, and not absorbing it into the darker over-story vegetation (Hurteau 2008).

The Fire and Fuels Report also cites the following regarding wildfire impacts on treated areas, “Finney et al. (2005) observed reductions in wildfire severity in portions of the Rodeo and Chediski wildfires on the lee side of areas previously treated with prescribed fire. These positive effects can be expected to be more frequent as the portion of the landscape that has been treated increases (Reinhardt, et al., 2008)”.

“The effects of fire are not as detrimental as the Action Alternatives...the understanding of wildland fire has advanced well beyond the WUI. It is imperative that the forest service stays up with the best available science of wildland fire. The Soldier-Butler project as a whole falls short.” (17, 5)

FS Response: The Fire and Fuels Report cites the following on p. 36 regarding the effects of fire without treatment, “Research literature indicates that while the impacts of thinning and burning can be predicted, and may have some negative environmental impacts, these impacts need to be evaluated against the option of “no action” (Agee and Skinner 2005). “No action” is not a risk-free option, as dry climates regularly predispose forests to burn in a typical dry summer (Heyerdahl et al., 2001; Skinner, 2002; Swetnam and Baisan, 2003). Agee and Skinner state that the impacts of “no action” in dry forest ecosystems must incorporate the probability of stand-replacing, intense fire (severe) where stand density has increased and dead fuel accumulated in excess of historical levels (Agee and Skinner 2005)”.

“Construction of new roads could be more detrimental to the landscape, water quality and wildlife over the long term than a natural wild land fire. Human caused fires are commonly started along roads, aggravating the fire threat rather than alleviating it.” (17, 6)

FS Response: The Fire and Fuels Report states (p. 26), that 112 fires have occurred within the Soldier-Butler project area from 1980-2018. Twenty-two of these fires were human starts with a majority of them originating on private property not along open roads. In both alternatives there would be a net decrease of miles of road open to the public (Soldier-Butler Transportation Planning Report, pp. 20-21). As a result of this, fire threat along roads is considered to be less.

“The FS makes claims that buildup of fuels caused by fire suppression suggests that if a fire occurs it could be uncharacteristically severe in size and intensity. Given that many areas of the Forest have burned in recent years, please provide documentation where those recent fires burned ‘uncharacteristically.’” (15, 54)

FS Response: Many recent fires on the Lolo NF have created mixed to high severity results such as Lolo Peak, Lolo Creek, Sunrise, and West Fork Fish Creek. Portions of these fires would have typically received more frequent fire, but have not due to suppression, and have seen an increase in vertical and horizontal fuel loadings which has led to “uncharacteristic” results for a fire regime that historically experienced more frequent low intensity fire. There are other forests that have long dry seasons each year and have easily combusted forest floors, such as ponderosa pine, mixed conifer, and drier Douglas-fir forests (Skinner, 2002), where the types of fires occurring today are very uncharacteristic of the historic fires. While some intense fire activity did occur in such forests, it was not the modal type of fire severity that exists today in such forests. There is broad consensus that active management of some type is needed in such forests (Allen et al., 2002; McKelvey et al., 1996), and that such treatment will be needed as a continued maintenance activity (Fire and Fuels Report, p. 36).

Without periodic fire or other disturbances, these drier ecosystems are prone to developing dense and layered tree cover of shade-tolerant Douglas-fir (Habeck, 1994, 1990 and Arno 1991). This forest stand dynamic and vegetation accumulation results in higher intensity and larger size wildfires that commonly race into the crowns of the taller trees (rather than burning along the ground) killing all of the trees within the burned area (Fire and Fuels Report, p. 17).

“The Lolo NF has never adequately analyzed and disclosed the forestwide impacts of its current policy of all-out fire suppression, and nothing in the Soldier-Butler EA indicates the management of wildland fire in the project area will be any different following project implementation.” (15, 55)

FS Response: The Fire and Fuels Report identifies federal and local fire management policy on the Lolo National Forest. Pp. 5-6 of the Fire and Fuels Report outline regulatory frameworks and policies addressing

Federal Wildland Fire Policy (1995). Pp. 7-10 define the goals and objectives within the Lolo National Forest Plan; pp. 10-12 define the Lolo NF Strategic Fire Management Zones, and pp. 12-13 outline fire management direction within the Lolo National Forest Fire Management System. All of these define how fire management will be implemented in the future.

“The EA fails to disclose that the most effective way to prevent structure damage is to manage the fuels in the immediate vicinity of those structures.” (15, 56)

FS Response: EA p. 3 acknowledges, “Wildfire mitigation focused on structures and their immediate surrounding may be the most effective at reducing structure ignitions (Cohen, 1999, 2000, and 2002; Scott, 2003).“ In addition, the Fire and Fuels Report discusses effective ways to prevent structure damage on pp. 35-36, “Reducing the fuel loadings, fuel continuity, and the availability of ladder fuels (on both NFS and private lands) would keep fire confined to the ground, reduce fire intensity, reduce firebrands and afford a high probability of control through the use of engines, hand crews and air tactical resources. To reduce the threat of ignition from firebrands, fuels need to be reduced both near and at some distance from the structure. Cohen indicates that thinning vegetation within 40 meters of structures reduces the likelihood of structure ignition from intense flame fronts, and that it is ultimately the homeowner’s responsibility to reduce the ignitability of their homes (Cohen 1999); however, “Firebrands that result in ignitions can originate from wildland fires that are a distance of 1 kilometer or more (Cohen 1999) and a structure may ignite directly from firebrands that have come from an intense wildland fire at over ½ mile away” (Cohen 2003).”

“The EA simply does not disclose how the vegetation patterns that have resulted from past logging and other management actions would influence future fire behavior...The vast majority of acres burn under weather conditions that make control impossible, and that result in fires burning through treated areas as well as untreated. The EA also doesn’t recognize the temporal gradients in vegetative recovery following treatments, which are the natural processes acting to regrow the components of natural vegetation the FS calls ‘fuel.’” (15, 57)

FS Response: Reducing basal area (BA) reduces crown bulk density which directly affects Crown Fire Index (CFI) and % mortality. The more BA is reduced, the longer the treatment is effective. Surface fuel treatments reduce flame length which reduces intensity. “The best success in modifying fire behavior through the use of thinnings throughout the West is when applied in conjunction with prescribed fire” (Graham et. al. 1999).” (Fire and Fuels Report p. 34). Timeframes for effectiveness of treatments, displaying temporal change, were taken from FVS outputs and are located in Table 5 on p. 40 of the Fire and Fuels Report.

Fire and Fuels Report p. 14 states, “The Forest Vegetation Simulator (FVS), an individual-tree, distance-independent growth and yield model, was used in this analysis to summarize current stand conditions, model future conditions and stand dynamics, and model proposed treatments and their effects. In addition, FVS was used in conjunction with the Fire and Fuels Extension (FFE) to analyze the effects of no action and the proposed treatments on fire behavior and fuel loading. The Fire and Fuels Extension to the Forest Vegetation Simulator (FFE-FVS) is used to model crown fire initiation during project-level planning efforts under severe and moderate environmental conditions. The temporal scale used in this effects analysis was from present day to 2050.”

“The EA mentions a ‘Community Protection Zone’ but fails to define it.” (15, 58)

FS Response: The Soldier-Butler Fire and Fuels Report was initially written when Missoula County was still referencing the 2005 Missoula County Community Wildfire Protection Plan (CWPP). In 2018, Missoula County updated their CWPP.

This 2018 Missoula County CWPP defines the concept of WUI as:

Any area where the combination of human development and vegetation have a potential to result in negative impacts from wildfire on the community (2018 Missoula County CWPP, p. 12). Please refer to the Project File (Item K3-2) which provides the updated verbiage for the 2018 Missoula County CWPP.

The Fire and Fuels Report defines the Lolo NF Community Wildfire Protection Zone (WUI) on pp. 10-12. Figure 2 shows this boundary within the Soldier-Butler project area.

“The EA fails to disclose the actions being taken to reduce fuels on private lands adjacent to the Project area, and how those activities (or lack of) will impact the efficacy of the activities proposed for this Project.” (15, 59)

FS Response: EA Appendix D discloses that many small private landowners have taken substantial measures to reduce fuels on their own land and these activities will likely continue (p. D-5). The Frenchtown Rural Fire Department actively pursues fuel reduction treatments within the Home Ignition Zone with private homeowners. Homeowners that participate in this program will receive thinning and chipping treatments within 30-100 feet of their homes. Adjacent National Forest System lands that become treated will complement these efforts taken by homeowners. Cohen indicates that thinning vegetation within 40 meters of structures reduces the likelihood of structure ignition from intense flame fronts, and that it is ultimately the homeowner’s responsibility to reduce the ignitability of their homes (Cohen 1999); however, “Firebrands that result in ignitions can originate from wildland fires that are a distance of 1 kilometer or more (Cohen 1999) and a structure may ignite directly from firebrands that have come from an intense wildland fire at over ½ mile away (Cohen 2003).”(Fire and Fuels Report, pp. 35-36).

“The FS has not conducted a forestwide cumulative effects analysis of FS fire suppression policies. The FS also has not conducted ESA consultation on its forestwide fire management plan.” (15, 60)

FS Response: Table 6 on pp. 41-42 of the Fire and Fuels Report depicts the cumulative effects summary for fire and fuels. The first section of this table describes fire suppression. Treatments within the project area would affect ecosystem function by returning prescribed fire to the landscape since there will be limited opportunities for fire to play its natural role due to values at risk. The treatments would provide for a greater margin of safety during fire suppression operations due to changes in fire behavior attributable to reduced fuel loading and ladder fuels which decreases the probability of a high intensity wildfire. Pp. 5-6 outline regulatory frameworks and policies addressing Federal Wildland Fire Policy (1995). Pp. 7-10 define the goals and objectives within the Lolo National Forest Plan for fire management, and pp. 12-13 outline fire management direction within the Lolo National Forest Fire Management System.

Sensitive Plants

“The EA does not cite any science to support the proposed management actions regarding Whitebark Pine.” (15, 70)

FS Response: Impacts to Whitebark pine are discussed in the Sensitive Plants Report on pp. 21 through 26. Several scientific and technical reports are cited. Authors of these reports are considered experts in their field, especially regarding Whitebark pine. Citations are located on p. 28 of the report and copies of the literature cited are available in the Project File.

Noxious Weeds

“The Soldier-Butler EA does not demonstrate consistency with ‘Amendment 11 to the Lolo NF Plan and the Integrated Weed Management FEIS of 2007.’ (15, 20)

FS Response: Any and all noxious weed treatments will be consistent with both Amendment 11 and the Integrated Weed Management FEIS of 2007.

See Noxious Weeds Report (p. 9) discussion about how the Integrated Weed Management FEIS allows the Lolo NF to treat noxious weeds.

See Noxious Weeds Report (p. 10) regarding which herbicides are approved for use by Amendment 11 and the Integrated Weed Management FEIS.

Amendment 11 states, “all management activities will incorporate noxious weed prevention measures. Noxious weed control projects will be focused where they may have the greatest effect on natural resources, and the greatest benefit to people who are actively trying to control weeds on the land adjacent to the National Forest”. The 2007 Integrated Weed Management FEIS Appendix B also states priority areas for weed management. See Noxious Weeds Report (pp. 13-14) for discussion on the fact that if an action alternative is implemented then noxious weed mitigation/treatments will be implemented as well as priority areas for treatment and types of treatments. These proposed treatments are consistent with direction listed earlier in the response.

See Noxious Weed Report (pg. 14) Resource Protection Measure (RPM) NW-3 for treatment compliance with the Integrated Weed Management FEIS.

“The EA has no accurate numerical estimate of noxious weed infestations in the project area. Is there recent on-the-ground survey data? What is the forest wide trend in noxious weed infestation, in acres or any meaningful metric?” (15, 21)

FS Response: See Noxious Weeds Report (p. 9) for discussion on known weed infestation within the project area. The data reported on p. 9 was collected between 2007 and 2015.

Both infestation and treatment data are recorded in acres. Determining trend data across the Forest is complicated by the acquisition of new lands and the continual introduction of noxious weeds from multiple uses and having a clear understand of the ecosystems noxious weeds have invaded. Additionally, increased mapping efforts have identified more noxious weed infestations. At the time of this writing there is no formal effort to capture trends of noxious weeds infestations across the Forest.

“The EA states, ‘99 acres have been treated by herbicide and/or biological control agents (this does not include past treatments on acquired lands).’ The EA also states, ‘The implementation of the Integrated Weed Management Final EIS (USDA Forest Service 2007) allows the Lolo NF to treat noxious weeds under an adaptive management strategy...’ This implies feedback information is necessary to learn from monitoring of weed treatments.

However, the EA lacks analysis of the effectiveness of the FS’s noxious weed treatment program. Please cite data.” (15, 22)

FS Response: Inventories offer a “point-in-time” measurement of noxious weed infestations that starts as the baseline and is used to compare trends. Monitoring data is conducted systematically over time to collect enough “points-in-time” to determine a trend. Trend data can either support management actions (objective achieved) or determine actions that need to be modified. The temporal scale to determine trends can depend on several variables. Understanding the biology of the species being monitored is one of the main variables. Some noxious weed species have seeds that can remain viable in the seedbank for many decades. The infestation size and density are other variables. While treatments might not be reducing the size (e.g., an entire road length), the density may be reduced to patches along the entire road length (as opposed to a continuous linear infestation). Treatment efficacy is evaluated on a treatment-by-treatment basis and considered successful (or not) on a short-term, less than five years, basis due to reintroduction and seedbank persistence. As cited on pp. 13-14 of the

Noxious Weeds Report, the treatment effects are tiered to the findings in the 2007 Integrated Weed Management FEIS (Appendix B – Adaptive Strategy Procedure).

“The EA does not analyze and disclose adverse ecological impacts of herbicide treatments on native species.” (15, 23)

FS Response: As stated on p. 25 of the Noxious Weeds Report, “The effects on desirable native forbs would be negligible as it would take repeated treatments in the same area to have a negative effect. Most of these forbs are abundant and widespread. Any desirable species that is not abundant and widespread would be noted during botany surveys and measures would be taken to avoid treating these areas.” All treatments are tiered to the 2007 Noxious weed FEIS.

Soils

“AFRC continues to recommend using tractor skidding on slopes over 35% to more efficiently capture the economic value of the timber and to provide more revenues back to the Forest for other resource improvements. New skidding equipment and techniques allow the Forest to capture the timber value on steeper slopes while still protecting other resources such as soil and water.” (5, 7)

FS Response: The Lolo National Forest Plan limits tractor yarding to slopes less than 35 percent (Lolo Forest Plan, p. G-1). Ground-based harvest on slopes greater than 35% often results in increased detrimental soil disturbance, especially in sensitive Glacial Lake Missoula soils like those found in the Soldier-Butler project area.

“The Soldier-Butler EA fails to provide any analysis of the cumulative effects of proposed project activities on soil. No discussion of project consistency with Forest Plan and Regional direction concerning soils is included. The Soldier-Butler EA doesn’t even explain if surveys for soil conditions have been conducted in the project area.” (15, 10)

FS Response: Project cumulative effects analysis is discussed in the “Environmental Consequences” section beginning on p. 16 of the Soils Report. A detailed evaluation of cumulative effects related to Alternatives B and C of the project is provided beginning on p. 26 of the Soils Report. Regulatory Framework for the soils resource is provided on pp. 3-5 of the Soils Report, and compliance with relevant guidance, law, and policy is further discussed on p. 29 of the Report, and in Soil File 4 (Compliance with Soil Direction). Field survey protocol is outlined in Section 4.2 of the Soils Report “Field Survey and Data Collection”, and a summary of existing disturbances found during surveys is listed in Table Soil 2 of the Report. Unit specific field reports are available in Soil File 2, as is a summary spreadsheet of all completed soil surveys (Unit Field Summaries 09/2015 thru 06/2017).

“The EA provides no idea of the degree of reduced soil productivity in the project area—except for an estimate of a limited category (detrimental soil disturbance or ‘DSD’)—but only if a site happens to occur in a unit proposed for logging. This narrow view of the cumulative impacts on soils contradicts NEPA, FS policy, and best available science.” (15, 11)

FS Response: Protocol for determining project effects on the soils resource is discussed in Section 4.0 “Data Sources and Methods” section beginning on p. 5 of the Soils Report. The basis for the use of the Region 1 Soil Quality Standards (2500 R1 Supplement No 2500-99-1) as a proxy for soil productivity is discussed in detail in Soil File 4 (Compliance with Soil Direction).

Region 1 Soil Quality Standards (2500 R1 Supplement No 2500-99-1) defines the geographic area for soil cumulative effects analysis as the “land area affected by management activity” (the vegetation or fuel treatment unit). Since soil productivity is site-specific, it is not assessed on a watershed scale (USDA FS March 2009).

The spatial context for soils effects analysis is discussed in detail on p. 7 of the Soils Report. Erosion effects at a watershed level is addressed in the Hydrology and Fisheries Reports.

Regulatory Framework for the soils resource is provided on pp. 3-5 of the Soils Report, and compliance with relevant guidance, law, and policy is further discussed on p. 29 of the Report and in Soil File 4 (Compliance with Soil Direction).

“One set of cumulative soil impacts ignored by the SQS is associated with permanent, or ‘system’ roads. Although every square foot of road is, of course compacted, this compaction is in no way limited by the application of the SQS. The same goes for existing or ongoing erosion—no amount of soil erosion on these road templates would violate the SQS. Also, the DSD type ‘displacement’ (organic matter layer(s) displaced due to management actions)—practically 100% on permanent/system roads—is not limited in any way by the SQS.

Another cumulative impact the SQS ignore is the existing or prior management-induced DSD on old log landings kept on the land for future use.” (15, 13)

FS Response: Soil effects from constructing and maintaining NFS roads have already occurred and are considered part of the designated Forest transportation system. Existing open and closed NFS roads have been removed from the productive land base are not considered under Region 1 SQS (USDA FS 1999:R1 SQS). Erosion from system and non-system roads is analyzed in the Hydrology and Fisheries Reports.

Jammer roads, skid trails, other non-system road prisms, and landings within units are considered for DSD and are included in the pre-harvest field soil surveys (Soil File 2). Some non-system road prisms would be used to access harvest units. These prisms will be considered temporary roads and are counted as 100% DSD within the individual unit that they access. Following harvest activities, all temporary roads used for project activities would be rehabilitated.

“...SQS ignores existing DSD on areas the FS maintains as part of the ‘suitable’ or productive land base such as timber stands and riparian zones that are not within the boundaries of any current project activity areas.” (15, 14)

FS Response: Region 1 Soil Quality Standards (2500 R1 Supplement No 2500-99-1) defines the geographic area for soil cumulative effects analysis as the “land area affected by management activity” (the vegetation or fuel treatment unit). Since soil productivity is site-specific, it is not assessed on a watershed scale (USDA FS March 2009). The spatial context for soils effects analysis is discussed in detail on p. 7 of the Soils Report.

“The SQS DSD percent limit is based upon the amount of damage that is operationally feasible, instead of limits on actual land and soil productivity losses caused by DSD. The SQS were developed internally by the FS without the use of any public process such as Forest Planning, NEPA, or independent scientific peer review.

DSD is merely a proxy for soil productivity. The FS presents no science to validate the SQS methodology for use as a soil productivity proxy.” (15, 15)

FS Response: Region 1 FSM Soil Supplement 2500-99-1 (Region 1 Soil Quality Standards) is discussed on p/ 4 of the Soils Report. Further discussion regarding the development of R1 SQS is provided in the following documents: Powers 1990, Powers et al. 2002, and Page-Dumroese et al. 2009. Compliance with R1 SQS is summarized on p. 29 of the Soils Report and discussed in detail in Soil File 4 (Compliance with Soil Direction).

Protocol for determining project effects on the soils resource is discussed in Section 4.0 “Data Sources and Methods” section beginning on p. 5 of the Soils Report. The basis of the use of the Region 1 Soil Quality Standards (2500 R1 Supplement No 2500-99-1) as a proxy for soil productivity is discussed in detail in Soil File 4 (Soil Productivity Discussion).

“The FS’s soil proxy—its SQS assumption that up to 15% of an activity area having long-term damage is consistent with NMFA and regulations—is arbitrary. The Soldier-Butler EA does not cite any scientific basis for adopting its numerical limits.” (15, 16)

FS Response: Region 1 FSM Soil Supplement 2500-99-1 (Region 1 Soil Quality Standards) is discussed on p. 4 of the Soils Report. Compliance with R1 SQS is summarized on p. 29 of the Soils Report and discussed in detail in Soil File 4 (Compliance with Soil Direction). Further discussion regarding the development of R1 SQS is provided in the following documents: Powers 1990, Powers et al. 2002, and Page-Dumroese et al. 2009. On the Lolo NF, unit-specific DSD limits are based on quantitative monitoring results and are available in the biannual Lolo National Forest Monitoring Reports (2006-2018). A summary of project specific DSD limits and associated literature is found on p. 22 of the Soils Report.

“The SQS definition of DSD considers only alterations to physical properties, but not chemical or biological properties. This is inconsistent with best available science.

One of these biological properties is represented by naturally occurring organic debris from dead trees. The SQS recognize the importance of limiting the ecological damage that logging causes due to retaining inadequate amounts of large woody debris, but set no quantitative limits on such losses caused by logging and slash burning. And the EA doesn’t disclose or analyze the levels of large woody debris anywhere in the project area following past management activities, consistent with its refusal to examine any effects.” (15, 17)

FS Response: Coarse and fine woody material and organic matter information is gathered during field quality assessments and is discussed on p. 5 of the Soils Report. Assessments with unit-specific down wood levels are found in Soil File 2. Project-specific large (coarse) woody debris is discussed in the Soils Report beginning on p. 14. Assessment and restoration of large woody material in the Soldier-Butler project follows thresholds provided in the Lolo NF Coarse Woody Material Guide (2006) and Graham et al. (1994). After project completion, all harvest and thinned stands would meet the Lolo NF guidelines for woody material.

“There continues to be a lack of adequate regulatory mechanisms for protecting soil productivity on the Lolo NF and Northern Region, as advocated for by Lacy (2001). The FS has no idea how much soil has been permanently impaired either within the Soldier-Butler project area or forestwide. The FS lacks adequate regulatory mechanisms for protecting soil productivity on the Forest.

NEPA requires that the FS specify the effectiveness of its mitigations. (40 C.F.R. 1502.16.) The Soldier-Butler EA doesn’t discuss the effectiveness of its mitigation of DSD. There is no quantitative monitoring data that demonstrates DSD remediation activities have taken a Lolo NF activity area with DSD amounts over the 15% limit to an amount that no longer violates the standard.” (15, 18)

FS Response: Regulatory mechanisms for protecting the soils resource are discussed on pp. 3-5 of the Soils Report. Project-specific detrimental soil disturbance (DSD) was assessed at the unit level and is displayed in Appendix B of the Soils Report and in Soil File 5. Both existing and cumulative DSD was quantified in the Soldier-Butler Project area. DSD resource protection measures (mitigation) and soil rehabilitation measures that contribute to quantifiable reductions in DSD are applied on a unit level and are included in Appendix B of the Soil Report and Soil File 5. Effectiveness of mitigations and soil rehabilitation measures and guiding literature is discussed in the Soil Report beginning on p. 18. Quantitative DSD monitoring results are available in the biannual Lolo National Forest Monitoring Reports (2006-2019).

“If there exists some study that quantifies Lolo NF changes in soil productivity due to past management activities, please cite it in response to these comments.” (15, 19)

FS Response: Quantitative soil monitoring results are available in the biannual Lolo National Forest Monitoring Reports (2006-2019).

Wildlife (General)

“The Ninemile Wildlife Workgroup supports selecting alternative C as the preferred alternative...We do not like alternative B as it reduces habitat variability across the landscape, would require a Forest Plan Amendment that would allow for the amount of cover to drop below 50% in the winter range, and would build an additional 7 miles of new roads that would permanently alter the landscape. Alternative B would have long term negative impacts to wildlife populations and habitat connectivity effectiveness.” (8, 1a)

FS Response: Thank you for your comment. The effects of the alternatives, both short and long term on wildlife and wildlife habitat are disclosed in the EA and Wildlife Report.

“Alternative C is preferred over alternative B because it does not build any new roads and would introduce less disturbance to the planning area that could have long term adverse impacts to native habitats and the effectiveness of the Ninemile demographic connectivity area...These new roads, even without illegal motorized incursions, will enable more people easier access by a variety of non-motorized methods. Even on the roads scheduled to be decommissioned, non-motorized access will be encouraged by leaving an 18-inch tread. The net result will be increased human presence in the planning area and reduced security for both grizzly bears and big game.” (8, 2 and 3)

FS Response: Thank you for your comment. The effects of the alternatives, both short and long term on wildlife (including grizzly bears and big game) and wildlife habitat are disclosed in the EA and Wildlife Report and will be considered in making the decision for the project.

“I am concerned that the new road P-5507 cannot be effectively closed at the Butler Creek end due to topography, and lack of vegetation once U-38 is logged (only in Alt. B). I know this area to be excellent wildlife habitat, and by opening up this stand (as well as U-3) there will be increased ATV traffic; increased number of hunters; perhaps some 4 WD vehicles; and likely a lot more knapweed. All of these things do not bode well for wildlife populations in that area. The Alternative C prescriptions for these stands will help to reduce fuels, but won't open up the stands quite so heavily. If you would be willing to reduce the level of harvest from this new road, so that thermal & hiding cover are maintained, and leave enough vegetation to prevent unauthorized ATV incursions, then perhaps some of this work could be accomplished with a temp road.” (12, 1)

FS Response: Thank you for your comment. Suggestions such as those you have provided will be considered in making the decision for the project.

“...construction of new permanent roads in the project area, especially in the Pine Creek area and between Kennedy and Butler creeks...would compromise important wildlife values and big game security in these areas. We believe commercial treatments would compromise wildlife values by removing too much cover and structural diversity, especially in units 25, 26, and 3. If treatments and road building were to move forward as outlined in Alternative B, FWP recommends a strong commitment to effective closures on those roads.” (20, 5)

FS Response: Thank you for your comment. The effects of the alternatives, both short and long term on wildlife, (including grizzly bears and big game) and wildlife habitat are disclosed in the EA and Wildlife Report. We have added some RPM language specific to the concerns FWP raises in comment.

“The EA does not present an analysis of the quality of habitat in corridors, areas of assumed habitat connectivity, or linkage zones.” (WL-15-15)

FS Response: Please see Wildlife Report p. 18 for discussion of connectivity, linkage zones and the need for corridors or specific areas to facilitate movement. In this immediate area, the significant barriers to linkage and connectivity are primarily private lands and Interstate-90.

Discussions regarding connectivity are also included in individual species analyses in the Wildlife Report (e.g., pp. 55-56 and p. 72 for connectivity discussion and analysis pertaining to lynx; p. 78 and p. 83 for connectivity discussion pertaining to grizzly bears; p. 110 for connectivity/corridor discussion pertaining to fisher; and pp. 133-134 for connectivity/corridor discussion pertaining to wolverine).

“The Ninth Circuit Court of Appeals has ruled that the FS ‘must both describe the quantity and quality of habitat that is necessary to sustain the viability of the species in question and explain its methodology for measuring this habitat.’ (Lands Council v. McNair).” (WL-15-22)

FS Response: See the following pages in the Wildlife Report:

P. 10 for a general discussion on sensitive species and viability.

Pp. 13 – 14 for a discussion on general methodology used in viability analyses.

P. 17, Table 3 for a structural diversity matrix within the analysis area – this is related to habitat conditions for wildlife species.

Pp. 19-20 for pileated woodpecker data sources and analysis discussion.

Pp. 19-20 and 22- 24 for information related to viability determination for pileated woodpecker.

P. 96 for rationale for no black-backed woodpecker surveys within the project area.

Pp. 100-101 for viability discussion and effects determination for black-backed woodpecker.

P. 101 for rationale for no boreal toad surveys within the project area.

Pp. 103 - 104 for viability discussion and effects determination for boreal toad.

Pp. 104 - 106 for fisher data sources and analysis discussion.

Pp. 111 – 112 for viability discussion and effects determination for fisher.

Pp. 112 – 113 for flammulated owl data sources and analysis discussion.

Pp. 119– 120 for viability discussion and effects determination for flammulated owls.

P. 121 for gray wolf data sources and analysis discussion.

Pp. 124 – 125 for viability discussion and effects determination for gray wolf.

P. 125 for Townsend’s big-eared bat data sources and analysis discussion

P. 126 for viability discussion and effects determination for Townsend’s big-eared bat.

Pp. 128 for wolverine data sources and analysis discussion.

Pp. 133 - 134 for viability discussion and effects determination for wolverine.

“The FS fails to set meaningful thresholds and assumes without scientific basis that project- caused habitat losses will not threaten population viability. Of such analyses, Schultz (2010) concludes that ‘the lack of management thresholds allows small portions of habitat to be eliminated incrementally without any signal when the loss of habitat

might constitute a significant cumulative impact.’ In the absence of meaningful thresholds of habitat loss and no monitoring of wildlife populations at the Forest level, projects will continue to degrade habitat across the Lolo NF over time. (See also Schultz 2012.)” (WL-15-23)

FS Response: See response to comment (WL-15-22) above.

“Assuring viability of most wildlife species is forestwide issue. The cumulative effects of carrying out multiple projects simultaneously across a national forest makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992; also see Ruggiero et al., 1994a).” (WL-15-24)

FS Response: See response to comment (WL-15-22) above.

“The Soldier-Butler EA fails to consider and use the best available science and fails to insure population viability in violation of NFMA and additionally, violating NEPA's requirements that the FS demonstrate scientific integrity. See 36 C.F.R. 219.3; 40 C.F.R. 1502.24.” (WL-15-25)

FS Response: See response to comment (WL-15-22) above.

“The Soldier-Butler EA fails to demonstrate consistency with forest plan direction for the bighorn sheep.” (WL-15-40)

FS Response: See Wildlife Report Table 1 pp. 8-9. Bighorn sheep are not present within the project area.

“The Soldier-Butler EA does not disclose the quantity and quality of habitat necessary to sustain the viability of the flammulated owl.” (WL-15-78)

FS Response: See response to comment (WL-15-22) above.

Canada lynx

“Lynx habitat has not been thoroughly analyzed. This area is once again a connectivity area for lynx as they travel from the Northern Continental Divide Ecosystem and the Selway-Bitterroot area.” (14, 5)

FS Response: See Wildlife Report pp.50 – 72 and Appendix A. Regarding connectivity specifically, please see p. 65.

“The analysis of effects on lynx is virtually non-existent. The EA simply assigns lynx habitat to areas above 4100’. This is arbitrary and does not consider the need for linkages to facilitate lynx migrations (Squires, et al. 2013). The Nine Mile area is likely an important linkage for lynx between the NCDE and Selway-Bitterroot areas.” (WL-10-21)

FS Response: See response to comment (14, 5) above.

“The Soldier-Butler EA fails to consider, apply, and incorporate best available science and fails to demonstrate consistency with all Forest Plan/NRLMD direction, in violation of the Endangered Species Act (ESA). The project will result in unauthorized take as defined by Section 9 of the ESA.” (WL-15-26)

FS Response: See Wildlife Report pp. 50 – 72 and Appendix A. In regard to “take”, we are in consultation with USFWS on this project. USFWS is the agency that makes determinations for and quantifications of take.

“The EA does not include an analysis comparing the historic range of lynx habitat components with current conditions.” (WL-15-27)

FS Response: This comment is unclear and we are not sure what is being asked. As such we cannot address this comment.

“The Forest Plan/NRLMD Amendment allows essentially the same level of industrial forest management activities which occurred prior to Canada lynx listing under the ESA.” (WL-15-28)

FS Response: This comment is directed at the NRLMD and is beyond the scope of this project.

“This renders inadequate the agency’s assumption in the Forest Plan/NRLMD that 30% of lynx habitat can be open, and that no specific amount of mature forest needs to be conserved. Kosterman, 2014 demonstrates that Forest Plan/NRLMD standards are not adequate for lynx viability and recovery.” (WL-15-29)

FS Response: This comment is directed at the NRLMD and is largely beyond the scope of this project. Refer to Wildlife Report pp. 50 -51, 53, 65 and 70 where Kosterman and other new science is considered in the project-level lynx analysis.

“Other recent science also undermines the adequacy of the Forest Plan/NRLMD. The FS essentially assumes that persistent effects of vegetation manipulations other than regeneration logging and some “intermediate treatments” are essentially nil. However, Holbrook, et al., 2018 “used univariate analyses and hurdle regression models to evaluate the spatio-temporal factors influencing lynx use of treatments.” Their analyses “indicated...there was a consistent cost in that lynx use was low up to ~10 years after **all silvicultural actions.**” (Emphasis added.) From their conclusions...” (WL-15-30)

FS Response: This comment is directed at the NRLMD and is beyond the scope of this project. Please see Canada Lynx – A Review of Recently Published Papers Relative to Canada Lynx Research in North West Montana, 9/10/2018 in the Project File for further discussion on Holbrook et al., 2018.

“So Holbrook et al., 2018 fully contradict Forest Plan assumptions that clearcuts/regeneration can be considered useful lynx habitat as early as 20 years post-logging.” (WL-15-31)

FS Response: This comment is directed at the NRLMD and is beyond the scope of this project. Please see Canada Lynx – A Review of Recently Published Papers Relative to Canada Lynx Research in North West Montana, 9/10/2018 in the Project File for further discussion on Holbrook et al., 2018.

“And the FS erroneously assumes clearcutting/regeneration logging have basically the same temporal effects as stand-replacing fire as far as lynx re-occupancy. Also conflicting with Forest Plan/NRLMD assumptions is a study by Vanbianchi et al., 2017, who found, ‘Lynx used burned areas as early as 1 year postfire, which is much earlier than the 2–4 decades postfire previously thought for this predator.’” (WL-15-32)

FS Response: This comment is directed at the NRLMD and is beyond the scope of this project.

“Kosterman, 2014, Vanbianchi et al., 2017 and Holbrook, et al., 2018 each demonstrate that the Lynx Amendment standards are not adequate for lynx viability and recovery, as the FS assumes.” (WL-15-33)

FS Response: This comment is directed at the NRLMD and is beyond the scope of this project.

“...connectivity between project area LAUs and adjacent LAUs was not analyzed or disclosed.” (WL-15-34)

FS Response: See response to comment (14, 5) above.

“The allowance of “exemptions” from Forest Plan direction is another issue of scientific controversy...There is nothing in the EA that indicates the situation with the Missoula County CWPP would be any different.” (WL-15-35)

FS Response: See Wildlife Report p. 55; this project does not use the WUI exemption.

“The Soldier-Butler EA fails to analyze and disclose how much lynx habitat is affected by snowmobiles and other recreational activities.” (WL-15-36)

FS Response: See Wildlife Report pp. 56, 65, 70, and 71 and also see Appendix A.

“How the Canada lynx Environmental Baseline was quantified does not appear in the Soldier- Butler EA.” (WL-15-37)

FS Response: See Wildlife Report pp. 51 – 53 and 57-64.

“Connectivity with adjacent LAUs and the habitat quality within them is not discussed in the EA.” (WL-15-38)

FS Response: See response to comment (14, 5) above in regard to connectivity. The analysis area for lynx and lynx cumulative effects is the McCormick Creek LAU - see p. 57 of the Wildlife Report.

“Because the FS does not consider the best available science and for the reasons stated herein, the FS is unable to demonstrate it is managing consistent with NFMA, the Forest Plan and the Endangered Species Act. The inadequacy of cumulative effects analysis violates NEPA.” (WL-15-39)

FS Response: Refer to all of the above responses regarding best science and consistency with NFMA, the Forest Plan, and ESA. Refer to the Wildlife Report pp. 71-72 for a discussion of cumulative effects and the determinations summary for lynx.

Grizzly Bears

““The Ninemile Wildlife Workgroup supports selecting alternative C as the preferred alternative...The amount of human disturbance to grizzly bears would be less in alternative C, as there would be 5.4 miles less of open roads. Another habitat variable that could affect the DCA would be that the additional cover left in alternative C would provide greater security.” (8, 1b)

FS Response: Thank you for this comment. These factors will be considered in the decision-making process.

“The grizzly bear analysis presented in the EA is insufficient, inaccurate and incomplete. The Nine Mile area is a designated Demographic Connectivity Area (Costello, et al. 2016; U.S. Fish & Wildlife Service 2018). It is occupied grizzly bear habitat.” (WL-10-2)

FS Response: Refer to Wildlife Report pp. 8-9, 15-18, 72 – 93. The comment is not specific enough to ascertain where the perceived insufficiencies and inaccuracies occur. The Wildlife Report makes it clear that the project occurs within the Ninemile DCA (p. 73, Fig. 12 p. 74). Regarding occupancy, this situation is in constant flux. Wildlife Report pp. 76-77 discuss the status of grizzly bears within the DCA. Due to grizzly bears’ continuing expansion and associated recent observations/detections the discussion on occurrence may be slightly out of date. These updates will be included in the Final Biological Assessment (BA) and will factor in to the determination for effects to grizzly bears.

“The EA significantly understates the level of grizzly bear activity documented by Montana Fish, Wildlife & Parks. The EA only lists one female with cubs, approximately 2 miles from the project area and well within dispersal distances for female grizzly bears. In fact, numerous grizzly bears have been documented by trapping and radio-collaring, photographs and tracks in reports including the Montana Wildlife Quarterly 2017 and from Region 2 Bear Manager Jamie Jonkel (Figure 2, attached). These include three female grizzly bears, and several other individual bears. Jonkel was quoted in the Missoulian newspaper (2019) that he has personally seen grizzly bears cross the Clark Fork River near the confluence with Nine Mile Creek.” (WL-10-3)

FS Response: We will factor the most recent information into the grizzly bear BA and consultation with USFWS. The Wildlife Report acknowledges that grizzly bear use of the Ninemile DCA has been increasing in recent years. It goes on to say that use of the Soldier-Butler project area is quite possible and that a female with cubs was documented in the Ninemile Valley adjacent to the project area. The report discloses that there is no evidence of regular denning or reproduction within the project area (p. 76). The report also mentions 2 other male grizzly bears observed near the project area (p. 76).

The Forest Service partnered with the Ninemile Wildlife Working group to conduct grizzly monitoring in 2018. This monitoring did not detect any grizzly bears but was successful in documenting black bear use (p. 76). The report summarizes grizzly bear use by saying, “it is reasonable to conclude that at this time grizzlies in the analysis area are in relatively low densities, but use is expected to increase in coming years.”

“In addition to these bears, several grizzly bears have been trapped and photographed in the Rattlesnake Mountains, adjacent to the Nine Mile DCA and which is a route for grizzly bears moving from the NCDE Recovery Area to the Nine Mile DCA.” (WL-10-4)

FS Response: Thank you for this comment. We are in communication with the various agencies involved with grizzly bear management in order to keep abreast with new information. Our analysis considers the fact that grizzly bear use in these areas is increasing. See response to comment (WL-10-3).

“The failure to adequately assess and protect the Nine Mile DCA is a major weakness of the EA. Isolation was one of the factors identified in the 1975 listing rule for grizzly bears. Linkages in the Northern Rockies have been identified, analyzed and ranked by several sources using different methodology (Picton 1986; Walker & Craighead 1997; Bader 2000c.; Peck, et al. 2017).” (WL-10-5)

FS Response: We do not feel there is a failure to assess and protect the Nine Mile DCA. Given the recent signing of the Conservation Strategy (2018) and the associated Forest Plan amendments which are tiered to the Conservation Strategy it is important to be clear on what these recent documents say and their implications. The following help to provide clarity.

From the Conservation Strategy (NCDE Subcommittee. 2018):

The specific Memorandum of Understanding – pp. 6 -7.

Relationship of Conservation Strategy, Forest Plan Amendments and Habitat-based Recovery Criteria – p. 8.

The Executive Summary lists the purposes of the Conservation Strategy and defines the PCA, the Zones outside the PCA and the DCAs (Demographic Connectivity Areas). – p. 14.

The purposes of the Conservation Strategy are stated on p. 22.

On p. 30 it is made clear that, “Human caused mortality is a limiting factor for nearly all grizzly bear populations in the lower 48 states. This Conservation Strategy aims to manage mortality at a level that will sustain a recovered population through habitat protections that minimize mortality risk while emphasizing conflict prevention, conflict response and decisions grounded in scientific data and monitoring.”

Pp. 30 – 32 discuss the respective management zones and the respective objectives within these zones. The Soldier-Butler project occurs within the Nine Mile Demographic Connectivity Area (DCA). This is one of two DCAs within the NCDE Conservation Strategy area. The DCAs are intended to, “support female grizzly bear occupancy and eventual dispersal to the Cabinet Yaak and Bitterroot Recovery areas. **In these DCAs, habitat protections will focus on limiting open motorized routes during the non-denning season and managing current roadless areas as stepping stones to other ecosystems.**” p. 31.

Habitat Management within the DCAs is discussed on pp. 95 – 98. Some key points are:

- Zone 1 and the DCAs will use linear road miles to analyze roads. **This approach is based on work done by Boulanger and Stenhouse (2014) and Lamb et al (2018).** This work is the basis for assessing existing conditions and assuring that objectives for Zone 1 and the DCAs are met.
- By signing the Conservation Strategy, the USFS and BLM have committed to maintaining or establishing limits on motorized access routes that are compatible with a stable to increasing grizzly bear population in the NCDE.
- Habitat management in Zone 1 is focused primarily on managing motorized access. On USFS and BLM lands, **routes open for public motorized use** during the non-denning season will be managed in accordance with land management plans and consistent with the intent of the Conservation Strategy.
- Livestock grazing, hardrock mining, and oil and gas development are also discussed because of the potential risk of grizzly bear mortality associated with these activities. **Note that vegetation management is not included here.**

The USFS specific motorized access objectives within Zone 1 state that, “There will be no net increase in the linear miles or density of roads that are **open for public motorized use** during the non-denning seasons in Zone 1.”

Further on p. 98 it states that, in DCAs, “...habitat protections will focus on **limiting linear miles of open road** and maintaining current IRAs as stepping stones to other ecosystems. **Although current levels of open road miles are relatively high in the DCAs as compared to the PCA, we know from radio-collared bears that conditions have been adequate to support female occupancy, including females with offspring.**

Details specific to the Ninemile DCA are found on p. 99 including exceptions to changes listed. **These exceptions include: administrative use, to reflect changes in land ownership, to comply with other Federal laws if necessary, and to address resource damage or human safety concerns.**

Note: Bold above added for focus on salient points.

“Linkage is a key recovery goal in the Grizzly Bear Recovery Plan. The Recovery Plan also recommends that, until the Service analyzes linkages, ‘land management agencies take precautions not to degrade the potential linkage areas.’ Recovery Plan at pp. 24-26.

Servheen, et al. (2001) wrote, ‘Boyce, et al. (2001) have demonstrated the value of multiple populations with some dispersal between them to the survival of the grizzly bear in the Northern Rockies. For multiple populations to act to minimize the probability of extinction of the entire population of grizzly bears in the Northern Rockies, dispersal between different populations must have some acceptable probability of success. Thus, management of linkage zones to maintain and enhance movement opportunities is a critical part of the successful application of metapopulation theory to grizzly bear conservation.’” (WL-10-6)

FS Response: The LNF recognizes the importance of linkage and agrees that the Conservation Strategy and associated Forest Plan amendments were developed to maintain important linkage areas such as the Nine Mile DCA. The Conservation Strategy is more current than the Recovery Plan See response to comment (WL-10-5) above. Also see the Wildlife Report pp. 72 – 93.

“Thus, grizzly bear survival and eventual recovery is dependent on demographic linkages where male and female bears can successfully live and move.” (WL-10-7)

FS Response: Please refer to responses to comments (WL-10-5) and (WL-10-6) above.

“However, actions and precautions are not included in the EA. Despite these official policies, the proposed action would significantly degrade the ability of this area to function as a Demographic Connectivity Area.” (WL-10-8)

FS Response: Refer to the Conservation Strategy summary in the response to comment (WL-10-5) above. Also see the Wildlife Report pp. 72 – 93 for the complete grizzly bear analysis and effects determinations. In this portion of the report it is made clear that the project-related effects to grizzly bears are greater under Alternative B than under Alternative C. It is also made clear that there would be reductions in the overall road network post project and that during the project no additional roads would be open to public access (p. 80). Please refer to Table 16 (p. 83) for a detailed summary of road-related changes by alternative. Clearly, there would be project-related benefits under both alternatives given the amount of proposed road decommissioning and storage. Alternative C proposes no permanent road construction and includes travel management changes which would reduce public motorized access so this alternative is more favorable to grizzly bears and other wildlife both during and after project completion. Refer to the Cumulative Effects section (pp. 91-92), Compliance with Forest Plan Standards from the Grizzly Amendment (p. 92), and the Determination/Summary Effects on pp. 92 – 93 for rationale related to the determinations and meeting the intent of the Conservation Strategy. Note: In preliminary consultation with USFWS we have agreed to a LAA determination for grizzly bear – this is not consistent with the NLAA determination in the Wildlife Report.

“The 2011 baseline is a rearview mirror approach to grizzly bear recovery. It will not sustain or build upon 25 years of progress. Rather, it takes several steps back. The Four Forest Plan Amendments for Grizzly Bear Habitat Management have so many exemptions, exceptions and interpretations that it cannot be an effective, enforceable plan that can be subjected to rigorous scientific review.” (WL-10-9)

FS Response: This comment is related to the Conservation Strategy and the associated Forest Plan amendments and is, as such, outside the scope of this project. See response to comment (WL-10-5) above for pertinent summaries from the Conservation Strategy.

“Baseline changes that exceed 2011 conditions may be made by ‘conservation partners’ (U.S. Forest Service, Tribes, Montana Dept. of State Lands) without consulting with the U.S. Fish & Wildlife Service. Thus, violations of secure core that depart from 2011 conditions are built into the process. For example, the EA reveals that secure habitat for grizzly bears will be reduced by 20% over an 8-10 year period. It attempts to rationalize this impact by stating grizzly bears will simply move somewhere else because it is a low-density population.” (WL-10-10)

FS Response: The first part of this comment is unclear and, as such, difficult to respond to adequately. Refer to response to comment (WL-10-5) above for a summary of the exemptions to the 2011 Open Road baseline. It should be clear that standards and objectives within the PCA are not the same as those outside the PCA. Likewise, the analysis methods are not the same.

“The road density analysis in the EA is seriously flawed. The Boulanger & Stenhouse (2014) analysis is not applicable to this landscape. Their study area was in the dry prairie foothills of northern Alberta east of the Continental Divide in the Boreal forest region with substantial deciduous forest cover. It is a completely different ecosystem and climate type from the project area west of the Continental Divide, which is a moist conifer forest within the Maritime climate region. The upper limit of their findings translate to an open road density of 2.4mi/mi². Note this is different than total road density, which may include resource roads used for timber hauling and other activity but closed to the public, such as those described in the EA. As the EA reveals, these roads are expected to have the same level of impacts as those of roads open to public use.” (WL-10-11)

FS Response: This comment is directed at the Conservation Strategy and associated Forest Plan Amendments. It is clear from the Conservation Strategy that there are reasons to use/consider Boulanger and Stenhouse (2014). It is also clear that the team working on the Conservation Strategy considered effects from roads open to the

public to be more significant than roads open for administrative use. Finally, it is clear that there is scientific evidence that female grizzly bears with cubs have successfully occupied areas outside of the PCA with road densities higher than the suggested 19-19-68 ruleset for the NCDE recovery area – see response to comment (WL-10-5). For these reasons we do not agree with the comment nor do we concur that the EA reveals roads open for timber haul have the same impacts to grizzly bears as roads open to public use. We are not sure where the commenter found such a statement in the EA.

“These findings are totally inconsistent with decades of research on road effects on grizzly bear habitat use in coniferous forest regions west of the Continental Divide. These studies consistently found grizzly bears generally avoid areas within 500 m of roads more than expected and this zone of avoidance ranges up to 3 km (Mattson, et al. 1987; Kasworm & Manley, 1990; McLellan & Shackleton, 1988; Archibald, et al., 1987; Wakkinen & Kasworm, 1997; Mattson 1993; Craighead, et al. 1995; Mace & Waller 1998; Metzgar 1998; Auditor General of British Columbia 2017). The human population in Boulanger & Stenhouse study area is low density and does not compare with the levels of road use in the densely populated Missoula County area. Reliance on the Boulanger & Stenhouse analysis is arbitrary and capricious given there is data available from the adjacent Flathead National Forest and other areas west of the Continental Divide. Even so, they identified 1.2mi/mi² as a maximum road density to support female occupancy and reproduction.” (WL-10-12)

FS Response: Refer to response to comment (WL-10-11) above. We are unsure how the application for Boulanger and Stenhouse in the analysis could be arbitrary and capricious when it follows direction from the Conservation Strategy – a document prepared by the NCDE Subcommittee.

“At the road densities identified on the map at page 105 (Figure 5b.), a large portion of the project area will effectively become unavailable to grizzly bears as mortality risk to female/cub groups is unsustainable and defeats the purpose of the Nine Mile DCA. The EA estimates a 20% reduction in secure habitat, but that underestimates the actual project effects as that figure is averaged over the entire project area. Actual road densities within the activity area are 1.6-4.3 mi/mi². Based upon the map, it appears that grizzly bear use will be eliminated across at least 20% of the entire project boundary.” (WL-10-13)

FS Response: Refer to Wildlife Report pp. 84 – 85, Figures 14 and 15. The figures are related to this statement from p. 81 of the Wildlife Report:

At the very most, the amount of area that is suitable for a female grizzly with cubs (<1.2 mi/mi²; Boulanger and Stenhouse 2014) would be reduced from 69% of the project area to 46% of the project area, and the amount that would be unsuitable for any grizzly bears (>2.4 mi/mi²; Ibid.) would increase from 12% to 37% of the project area during project implementation. Again, it is unlikely that all roads would be used for haul at the same time, so these numbers are maximums. **(PLEASE NOTE – the above statements of effects do not differentiate between roads open to log haul and roads open to all public uses. Thus, the magnitude of the reported effect is likely greater than what would actually occur. Boulanger and Stenhouse 2014 metrics are based on roads open to all uses including public use.)**

Direct mortality risks associated with public motorized routes would not change with Alternative B, nor would permanent displacement from any areas occur.

As can be seen from the figures, the changes to the road densities and related security are from roads that would be used for timber access and haul. These roads would increase disturbance and displacement to some degree, however, they are closed to public use and would not have the same intensity of disturbance/displacement nor would they result in the increased mortality risk to bears that occurs where roads are open to the public. Furthermore, the above comment is incorrect in stating that grizzly bear use would be eliminated across at least 20% of the entire project area. The maximum amount of habitat lost to

avoidance during the project – based on bears avoiding areas with open road densities above 2.4 mi/mi² – would be 15%, leaving 63% of the area suitable for grizzly bear occupancy.

“The EA contains no discussion of the potential impacts on grizzly bear denning habitat and den site selection even though the project will include winter activity. Linnell, et al. (2002) reported that bears generally select dens 1-2km from human activity such as roads, habitations and industrial activity. Ciarniello, et al. (2005) found grizzly bears avoid roads when selecting den sites. Pigeon, et al. (2014) found den selection dropped by 30% at road density 1mi/mi² (0.6km/km²); reduced by 70% at 2mi/mi² (1.2km/km²) and reduced to zero at 3.2mi/mi² (2km/km²).” (WL-10-14)

FS Response: Refer to Wildlife Report pp. 73, 75 for discussion on road density calculations outside the denning period. Refer to p. 76 regarding evidence of denning within the project area – no known denning sites have been documented. Denning-related effects are mentioned for Alternative C on p. 90. The lynx portion of the Wildlife Report (p. 65) discloses that the project area receives very little snowmobile use, and p. 70 discusses that the project is not expected to contribute to additional winter recreational use, including snowmobiling.

It is a valid point that more discussion could have been provided on denning habitat. Additional information related to grizzly bear denning and project-related effects is presented here.

Grizzly bears are quite variable in their selection of dens structures (Schwartz et al. 2003). Until recently it has been accepted that grizzly bears in the Northern Rockies select den sites at elevations above 6,000 feet and typically use steep slopes on north and east aspects (Mace and Waller, 1997).

Recent information from the Rocky Mountain Front shows that grizzly bears have hibernated out on the plains. Four different adult female grizzly bears have hibernated at elevations as low as 3,580 feet and two of these females gave birth while hibernating in prairie dens (Carney and Madel, personal communication 2018).

According to the Conservation Strategy (p. 24), denning habitat is not considered a limiting factor within the NCDE.

The denning period in the NCDE on the west side of the continental divide is considered Dec. 1 – March 31 but it is widely known that this is variable.

According to the Conservation Strategy (p. 42), snowmobiling may have the potential to disturb grizzly bears in their dens and after emergence from their dens in the spring. This document goes on to state on p. 43 that, “the best available information suggests that current levels of snowmobiling use are not appreciably reducing the survival or recovery of grizzly bears.”

Linnell et al. 2000 are cited in the 2018 Conservation Strategy on pp. 24 and 25. Linnell et al. 2002 are not cited.

Ciarniello et al. 2005 are not cited in the Conservation Strategy.

Pigeon et al. 2016a and 2016b are cited in the GBCS. Pigeon et al. 2014 are not cited.

Given the above summary of the best available science, current understanding of grizzly bear use of the area and considering that there would be limited timber harvest-related activity occurring within the Soldier-Butler project area during the winter, the likelihood of either alternative having substantial impacts on denning grizzly bears is very low.

“Denning habitat is likely to be limited in the Nine Mile DCA. Therefore, any loss of available denning habitat would be a limiting factor on the ability of the area to support residential occupancy by grizzly bears, including females with cubs.” (WL-10-15)

FS Response: Refer to response to comment (WL-10-14). There is no indication that denning habitat is limited in the Nine Mile DCA. Further it is unlikely that the project would result in the loss of available denning habitat. It has been recognized that there could be some limited short-term impacts associated with winter harvest-related activities, but due to the location of these activities (lower elevations) and project-related RPMs, these potential impacts are expected to be minimal. In the long term there would be no lasting impacts to grizzly bears denning habitat at the scale of the project area or DCA.

“At page 96 the EA makes the unsubstantiated claim that ‘human-made barriers to connectivity are also low’ and ‘the need for corridors is minimal.’ The project area currently has more than 400 miles of human-made roads and extensive motorized access and the proposed action would build an additional 16.4 miles of road while also reversing a previous decision to decommission 37 miles of road. Roads and high road densities are known to be barriers to grizzly bear movements”. (WL-10-16)

FS Response: Refer to responses to comments (WL-10-5), (WL-10-8), (WL-10-12), (WL-10-13), and (WL-10-14) above.

The statement quoted from the EA is on p. 74 under the heading “Assessment of Connectivity”. It should be made clear the context/definition of human-made barriers to connectivity – and the preceding paragraph in the EA does this where it states, “Connectivity for wildlife can be discussed at multiple scales, depending on the species of interest. For this discussion, connectivity is discussed as ‘the degree to which the landscape facilitates or impedes movement’.”

In terms of grizzly bears (i.e., the context of this comment) it should be noted that PCA-based road density metrics are not a contemporary surrogate for connectivity as it pertains to grizzly bears. Clearly, and based on other comments and responses, grizzly bears are moving outside of wilderness areas and the PCA and into more heavily-roaded and human-influenced landscapes – areas with much higher levels of road density than the PCA standards require. This is occurring all around the NCDE PCA. Human-caused mortality is certainly an issue in these areas with higher human presence, as stated in the Conservation Strategy. But the mere presence of forest roads, and especially those closed to public, does not appear to be a barrier to grizzly bear movements based on recent science, grizzly bear research/monitoring and empirical evidence.

“There are also cumulative effects the EA did not assess. For example, the Flathead Reservation portion of the Nine Mile DCA is also heavily roaded. By adding to the road network, the proposed action, in concert with the high road density on the Reservation, is detrimental to grizzly bear connectivity in the Nine Mile DCA.” (WL-10-17)

FS Response: Refer to the Wildlife Report pp. 91 – 92 for a discussion on cumulative effects. This discussion discloses that the cumulative effects analysis was conducted at the scale of the project area within the Nine Mile DCA. Also refer to Figure 13 which shows open roads and motorized trails within the DCA.

“The EA makes the erroneous assumption that grizzly bears disturbed by the project will simply move to the next drainage. The Nine Mile DCA is already very heavily impacted by high road densities and motorized activity. It is a relatively small land area that under the best of conditions would not support a large subpopulation of grizzly bears.” (WL-10-18)

FS Response: Please refer to response to comment (WL-10-18) above and specifically to Wildlife Report pp. 87 – 88 and p. 90 where disturbance and displacement is discussed relative to the two action alternatives. It is important to clarify that the same metrics are not being used as within the PCA – and this is by direction in the

GBCS. For example, there is not a standard for security core within the DCA or Zone 1. It is made clear that some project-level disturbance would occur under both action alternatives. What the Wildlife Report suggests/discloses is that there are ample displacement areas within the Nine Mile DCA where open road densities are low and no known vegetation management would be occurring concurrent with the project.

“The project makes irretrievable commitments of resources well beyond the life of the project. The decision to retain 7 miles of newly constructed road for future management activity and the decision to reverse the decommissioning of 37 miles of road leads to a net gain of 44 miles of roads, a permanent loss of grizzly bear habitat. The Soldier-Butler Project will deter grizzly bear occupancy and movement towards the Selway-Bitterroot region, the major purpose of the Nine Mile DCA. The project represents an illegal taking of grizzly bear habitat, in violation of the Endangered Species Act.” (WL-10-19)

FS Response: Refer to responses to comments (10-2), (10-3) and (10-8) above. Also it should be made clear that none of the roads retained as system roads would be open to use by the public.

The commenter misunderstands the “decision to reverse the decommissioning” implying that the roads have already been treated. The roads have not been physically treated; they are in the same physical state as when Frenchtown Face analyzed them. It is not proposed to reconstruct decommissioned roads that were implemented under Frenchtown Face Decision. It is proposed “on paper” and in our roads data inventory (i.e., INFRA database) to retain the routes for future land management needs and remove the intent to decommission them.

The Frenchtown Face Decision was prior to the Lolo NF Grizzly Bear Amendment and Conservation Strategy. The roads were flagged in the inventory to be decommissioned, however because they were not physically treated they were not showing as “closed” unless they met that definition under the Zone 1 DCA baseline calculations. Therefore, any implementation of storage or decommissioning would reduce that baseline. In other words these roads have never “contributed” to habitat, in the commenter’s perspective and are thus not a removal of habitat.

“Whereas Alternative B would result in no changes to publicly open motorized routes, alternative C would permanently reduce 5.2 miles of open roads and would result in a smaller reduction in security for grizzly bears than Alternative B. For these reasons we urge you to support Alternative C, which will support the Ninemile DCA’s ability to foster regional grizzly bear connectivity while meeting the project’s identified Purpose and Need.” (11, 1)

FS Response: Thank you for this comment. Based on the Conservation Strategy and associated Forest Plan Amendment, Alternative B would allow the DCA to meet the goal of regional grizzly bear connectivity as it complies with the GBCS and the Forest Plan amendment - it does not increase roads open to the public.

Alternative C does more to maintain/enhance connectivity by reducing roads open to public motorized use.

“This project is in violation of the ESA. The area is in FWS Demographic connectivity area for grizzly. Over 15 miles of road construction and 3,000 truckloads of logs will adversely affect grizzly bears and grizzly bear habitat. Grizzlies have been cited in the area and the 1975 ESA listing expressly asked for connectivity between isolated sections of the grizzly population of the lower 48 to assure genetic vigor in the grizzly population. This project is in direct violation of this mandate and should be abandoned.” (14, 2)

FS Response: We are currently in consultation with the US Fish and Wildlife Service. We will reach a final determination based upon this consultation.

“Road densities should be monitored with the moving window method and should not violate amendment 19 of the previous Flathead Forest Plan which secures grizzly habitat. Grizzly are highly sensitive to roads especially females. Roads destroy secure habitat for grizzly in violation of the ESA.” (14, 4)

FS Response: Refer to response to comment (WL-10-5) above. The Conservation Strategy directs use of a linear road mile approach within the PCA. The Lolo NF does not have A-19 – this Amendment pertains to the Flathead NF. The project area is within the Nine Mile DCA and not the PCA. As such there is no standard that pertains to secure core. None of the alternatives increase roads open to public motorized use.

“The effects to grizzly bears from the project include potential disturbance or displacement due to human presence, road construction and use, motorized use and other mechanized equipment. The presence of these activities and the presence of roads may lead grizzly bears to avoid otherwise suitable habitat. The project is ‘Likely to Adversely Affect’ the grizzly bear therefore formal consultation with the US Fish and Wildlife Service (FWS) is required.” (WL-15-1)

FS Response: Refer to response to comment 14-2 above.

“The Interagency Grizzly Bear Guidelines (IGBC 1986) document directs the FS to manage for ‘multiple land use benefits’ to the extent that these uses are compatible with grizzly recovery. The EA does not disclose if adverse project or cumulative impacts are consistent with the requirement to prioritize the needs of the grizzly bear for the applicable Management Situation(s).” (WL-15-2)

FS Response: The project follows the NCDE Grizzly Bear Conservation Strategy and the associated Forest Plan Amendment – Wildlife Report pp. 92-93.

“Schwartz et al. (2010) noted that management for grizzly bears requires not only the provision of security area, but control of open road densities between security areas. Otherwise, grizzly bear mortality risks will be high as bears attempt to move across highly roaded landscapes to another security area. There needs to be scientifically-based direction regarding road densities located outside of and between security areas.” (WL-15-3)

FS Response: Our understanding is that this is what the Conservation Strategy and associated Forest Plan Amendments do. See response to comment (WL-10-5) above.

“The Soldier-Butler EA fails to demonstrate that such incidental take is in fact low, admitting that snowmobile effects are expected to increase because of the logging. That Biological Opinion also recognizes:

The Revised Plan’s desired condition for patches which includes a range of larger opening sizes may result in adverse effects if lack of cover leads to under use of foraging habitat or increased risk of human-grizzly bear conflicts causing mortality of a grizzly bear. Openings created by timber harvest, depending on site conditions, may retain features that interrupt the line of sight and provide cover for bears (J. Anderson 03/12/2012 pers. comm.).” (WL-15-4)

FS Response: The Soldier-Butler analysis does not suggest that snowmobile effects are expected to increase. See response to comment (WL-10-14).

“The EA fails to show that the openings to be newly created by the project won’t exceed levels of current incidental take.” (WL-15-5)

FS Response: This is an ambiguous comment that is difficult to interpret. There are no Standards related to opening size in the Forest Plan Amendment for grizzly bears and vegetation management is not an emphasis area of the grizzly effects analysis. As such we do not anticipate the USFWS to focus on openings when assessing incidental take. Consultation with USFWS is in process and not yet complete.

“The FS’s current management strategy allows ‘temporary’ increases in road density as if the habitat would then get reprieve from such ‘temporary’ adverse effects. However, the FS recognizes no genuine limitations on how much, how often and for how long these ‘temporary’ adverse effects will occur or persist.” (WL-15-6)

FS Response: This comment appears to be directed at the Conservation Strategy and associated amendments. As such it is largely outside the scope of this project. At the project level, it is disclosed that temporary increases in open road density (as defined in the NCDE Conservation Strategy) would occur under either action alternative and that these increases would have some impacts to grizzly bears. It should be made clear that the increases in open roads are related to project work. No new roads would be open to the public either during project or post project. It is disclosed in the Wildlife Report that the project-related activities would occur over a period of 10 years (also see EA p. 13 and Appendix C).

“The EA does not demonstrate consistency with the Amendment to the Forest Plan of the Lolo National Forest concerning habitat management direction for the Northern Continental Divide Ecosystem grizzly bear population.” (WL-15-7)

FS Response: Refer to the Wildlife Report pp. 92–93.

“Within these comments, we incorporate AWR’s February 12, 2018 Objection1 to the draft Record of Decision for the Amendments to the Forest Plans of the Lolo, Kootenai, and Helena- Lewis and Clark national forests concerning habitat management direction for the Northern Continental Divide Ecosystem grizzly bear population. *This is necessary because the Soldier- Butler Project would implement the forest plan as amended by those Amendments (hereinafter, “Grizzly Amendments” or “Grizzly Amendment”)* and subsequent to our Objection, the FS did not provide adequate relief to rectify the deficiencies in law, policy and regulation our Objection identified.” (WL-15-8)

FS Response: This comment is directed at the Conservation Strategy and Grizzly Bear Amendments. We have followed guidance provided in these documents. The fact that the commenter does not agree with the best science used in these documents is outside the scope of the Soldier-Butler project.

Please note that AWR’s Objection to the Grizzly Amendments itself incorporated other objections and comments, and so those are likewise incorporated herein. Those include the objections by Swan View Coalition (SVC), Friends of the Wild Swan (FOWS) and Brian Peck... Also as comments on the Soldier-Butler EA, we incorporate the Swan View Coalition and Friends of the Wild Swan February 8, 2019 Sixty-Day Notice of Intent to Sue to Remedy Violations of the Endangered Species Act in the Revised Forest Plan for the Flathead National Forest and in the U.S. Fish and Wildlife Service’s Biological Opinion on the Plan, which are being transmitted via email as a separate attachment along with this letter. That Sixty-Day Notice explains that the FS had adopted Amendment 19 to the Forest Plan of the Flathead National Forest in its recognition of best available science at the time, and that the Grizzly Amendments now fail to incorporate such best available science and therefore offer weaker protection for the Threatened grizzly bear.” (WL-15-9)

FS Response: This comment is not specific to the Soldier-Butler project. The documents that the commenter wishes to incorporate are for other projects on a different National Forest that previously underwent public involvement processes.

“In sum, the Grizzly Amendments remain controversial and contested. We believe the FS has not applied best available science in adopting the Grizzly Amendments and therefore is not in compliance with NEPA, NFMA, and the ESA.” (WL-15-10)

FS Response: Again, this comment is directed at the Conservation Strategy and Grizzly Bear Amendments. We have followed guidance provided in these documents. The fact that the commenter does not agree with the best science used in these documents is outside the scope of the Soldier-Butler project.

“The EA does not include an analysis of season grizzly bear habitat components. It does propose to push grizzly bears around regardless of seasonal habitat needs: ‘Any bears that are in the project area may be disturbed and/or

temporarily displaced into the upper elevations of the project area where open and high-use road densities are low... or shift their use to other parts of the Ninemile DCA.” (WL-15-11)

FS Response: With the Conservation Strategy and associated updated best available scientific information there has been a move away from quantifying seasonal grizzly bear habitat components. For references see the Conservation Strategy pp. 25-29, 39-40, and 93. It is, however, still recognized that spring is an important time for grizzly bears and that minimizing disturbance during the spring period (4/1 – 6/30) should be a goal of land managers (GBCS pp. 80-81).

Existing habitat and cover are discussed on pp. 79-80 of the Wildlife Report and effects to habitat and cover are disclosed on pp. 87-88 and 90. Table 17 on p. 86 disclosed that some activities would occur in the spring season.

Please see the EA and Resource Protection Measure (RPM) WILD-15 which would limit the amount of spring activity in a portion of the project area. There would be other standard operating procedure limitations to spring work associated with soft road conditions and soils that would limit spring road building and logging activity – see RPM SOIL-3. All of these limitations on spring activity would minimize impacts to grizzly bears and other wildlife in the spring season.

“The EA claims that grizzly bears are only recently beginning to expand their range, but fails to explain what’s different all of a sudden. In reality, grizzly bears have been trying to occupy previously suitable habitat for decades; the habitat in the project area is marginal because of the cumulative impacts of management and other human activities. The FS does not want to be accountable for its share of these impacts.” (WL-15-12)

FS Response: This comment is largely beyond the scope of the project. In addition, it is speculative in regard to the existing habitat within the project area. According to the best available science, there is ample habitat within the project area and the Nine Mile DCA to support grizzly bear movement and occupancy. This has been cited from the Wildlife Report in previous comments. The Wildlife Report recognizes some potential impacts from the project and presents an analysis of two action alternatives - which have different levels of effects on this species.

Finally, the prevailing evidence based on grizzly bear observations, monitoring, and research indicates that grizzly bears within the NCDE have been slowly expanding their range for over a decade. This is likely due to population growth and a variety of other factors including: increased human tolerance, reduction of attractants, increased efforts to prevent livestock depredation and associated habituation of bears to livestock, large scale land acquisitions such as the Montana Legacy Project, and increased bear awareness and education. The Forest Service has been a part of several of these decisions/strategies which have facilitated grizzly bear recovery – not to mention a long-term commitment by the Forest Service to reduce road densities and manage closures. The recent best available scientific information does not point to Forest Service roads or vegetation activities as measurable sources of mortality for grizzly bears. It is clear that that majority of grizzly bear mortalities occur when grizzly bears leave public lands. Here they encounter highways, human attractants and high concentrations of livestock, all of which can result in human-related mortality either directly or through management removal.

“The EA fails to take a hard look at cumulative activities in adjacent areas, e.g. the expansion of the footprint of the ski area on national forest lands at Snowbowl. The EA doesn’t explain how grizzly bear populations in the Selway-Bitterroot and Cabinet/Yaak and Selkirk recovery zones could ever recover, given management direction in the NCDE Conservation Strategy for connectivity areas such as the project area maintains conditions highly adverse to bears.” (WL-15-13)

FS Response: Refer to response to comment (WL-10-17) regarding cumulative effects and the cumulative effects analysis area boundary. The second part of the comment is directed at the Conservation Strategy and is beyond the scope of this project.

“The Soldier-Butler Project EA fails to disclose the questionable effectiveness road closures for the purpose of eliminating human access behind closures. We incorporate the Amended Complaint for case CV-18-67-DWM for the purposes of explaining how roads affect wildlife and that ineffective closures on national forest land are all too common.” (WL-15-14)

FS Response: We acknowledge that road closures are not always fully effective. On the Lolo NF, we attempt to locate and construct closures that will remain effective, but all who are intent on breaking any law or regulation cannot be stopped.

“While the EA indicates the area currently provides excellent connectivity, recent and potential future actions can threaten this. The impact of Frenchtown Face on elk security is an example of habitat loss. Another potential cumulative effect can be seen in Figure 8 in the fire fuels report. It shows the northeast facing slopes to the south-west of Ninemile Creek as a high potential for crown fire. This area could easily be the next proposed action. Cumulatively these actions can threaten the permeability currently taken for granted.” (17, 7)

FS Response: Thank you for this comment. This issue will be considered in making the decision for this project and in future projects. Regarding potential future projects, none are known (EA Appendix D).

Wolverine

“Nowhere in the Forest Plan or Soldier-Butler EA can be found a description of the quantity and quality of habitat that is necessary to sustain the viability of the wolverine.” (WL-15-41)

FS Response: Refer to Wildlife Report pp. 127 – 135.

“The Soldier-Butler EA also fails to analyze and disclose cumulative impacts of recreational activities on wolverine.” (WL-15-42)

FS Response: Refer to Wildlife Report pp. 127 – 135.

“Cumulative effects are not adequately analyzed. The FS’s illogical wolverine determination is based in part upon a 2013 memo from the Regional Office (USDA Forest Service 2013c). It appears that FS district level specialists are not allowed to arrive at effects conclusions based upon their own expertise and judgment.” (WL-15-43)

FS Response: Refer to Wildlife Report pp. 127 – 135.

“Since the wolverine is Proposed for listing under the ESA, consultation with the FWS is required.” (WL-15-44)

FS Response: Refer to Wildlife Report pp. 127 – 135.

Black-backed Woodpecker

“The viability of black-backed woodpeckers is threatened by fire suppression and other “forest health” policies which specifically attempt to prevent its habitat from developing. “Insect infestations and recent wildfire provide key nesting and foraging habitats” for the black-backed woodpecker and “populations are eruptive in response to these occurrences” (Wisdom et al. 2000). A basic purpose of the FS’s management strategies is to negate the natural processes that the black-backed woodpecker biologically relies on; the emphasis in reducing the risk of stand loss due to stand density coupled with the increased risk of stand replacement fire events. Viability of a species cannot be assured, if habitat suppression is a forestwide policy.” (WL-15-73)

FS Response: The literature referred to above is dated and does not consider the amount of NFS land that has burned in Region 1 since 2000. Further, there has been more recent monitoring in Region 1 that indicates this species is not reliant on insect infestations and is much more prevalent in and dependent on recently burned forests.

“The significance of project effects (including risk to viability) cannot be determined in the absence of a forestwide cumulative effects analysis of the FS’s fire suppression policies.” (WL-15-74)

FS Response: See response to comment (WL-15-73). Under current conditions in Region 1, recently burned forests are not limiting, regardless of what the FS policy is on fire suppression.

“Also see the agency’s Fire Science Brief, 2009, which states, ‘Hutto found that Black-backed Woodpeckers fared best on sites unharvested before fire and poorest in the heavily harvested sites’, raising a concern about logging for forest restoration that is not addressed in the Soldier- Butler EA: How does pre-fire logging affect the future suitability of these forests to post- disturbance specialists?” (WL-15-75)

FS Response: This statement makes sense given that there would be more burned trees (BBWO foraging habitat) available in unharvested sites post fire than in sites that had been harvested. The Soldier-Butler EA did not address this issue because it has little relevance given the amount of habitat currently available for this species on the Lolo NF and across R1. See Wildlife Report pp. 96 – 98.

“The FS continues to manage against severely burned forests, as evident from the Soldier-Butler EA’s Purpose and Need.” (WL-15-76)

FS Response: See response to comment (WL-15-73). Under current conditions in R1, recently burned forests are not limiting, regardless of what the FS policy is on fire suppression.

“The viability of black-backed woodpeckers is threatened by the FS’s fire suppression and other ‘forest health’ policies, which specifically attempt to prevent its habitat from developing. ‘Insect infestations and recent wildfire provide key nesting and foraging habitats’ for the black-backed woodpecker and “populations are eruptive in response to these occurrences’ (Wisdom et al. 2000). A basic purpose of the Soldier-Butler project is to negate the natural occurrence that the black-backed woodpecker biologically relies on; the emphasis in reducing the risk of stand loss due to stand density coupled with the increased risk of stand replacement fire events. This emphasis also occurs on a large portion of the Lolo NF. Viability of a species cannot be assured, if habitat suppression is a forestwide policy.

The Soldier-Butler EA does not disclose the quantity and quality of habitat necessary to sustain the viability of the black-backed woodpecker.” (WL-15-77)

FS Response: See Wildlife Report p. 96 for rationale for no black-backed woodpecker surveys within the project area.

See Wildlife Report pp. 100-101 for viability discussion and effects determination for black-backed woodpecker.

Boreal Toad

“The FS has no scientifically-based viability strategy for the Western (Boreal) toad, no metrics for describing the quantity and quality of habitat need to assure viability, and no way of quantifying cumulative effects. USDA Forest Service, 2011c:

According to historical records, the western (boreal) toad...was widely distributed and very common in Montana and other western states, but the species may have undergone severe population decreases in the past 25 years (Currim 1996).” (WL-15-48)

FS Response: Refer to the Wildlife Report pp. 101 – 104 for discussion and analysis on western toad. Also see supplemental information (“Info on Western Toad in R1”) in the Project File.

“The FS doesn’t really know why western toad populations have declined so drastically in Montana, except that it is associated with activities such as those approved by the Soldier-Butler EA: ‘Timber harvest, increased vehicle use, road maintenance, and road construction may kill individual adult and juvenile boreal toads using upland habitats.’ (USDA Forest Service, 2011c at 3-304.)” (WL-15-49)

FS Response: See response to comment (WL-15-48).

“The Lolo NF’s Sunrise Fire Salvage EA states, ‘The critical factor in whether toads can exploit open habitats appears to be the presence of adequate retreat sites [refugia] where toads can escape predators and maintain water balance (Guscio et al. (2007).’ The Soldier-Butler EA doesn’t consider this science.” (WL-15-50)

FS Response: See Wildlife Report p. 101 for rationale for no boreal toad surveys within the project area.

See Wildlife Report pp. 103 - 104 for viability discussion and effects determination for boreal toad.

“The Soldier-Butler EA fails to describe the quantity and quality of habitat necessary to sustain the viability of the boreal toad, and has no explanation of FS methodology for measuring this habitat.” (WL-15-51)

FS Response: See Wildlife Report p. 101 for rationale for no boreal toad surveys within the project area.

See Wildlife Report pp. 103 - 104 for viability discussion and effects determination for boreal toad.

Fisher

“The Soldier-Butler EA fails to adequately analyze the cumulative effects on fisher due to trapping or from use of the road and trail networks...The analysis for the fisher, as for most wildlife, doesn’t disclose the direct, indirect or cumulative impacts on important habitat components, such as snags, logs, foraging habitat configuration, connectivity, cover, prey species impacts, etc.” (WL-15-46)

FS Response: Wildlife Report pp. 104 – 105 discuss the current and historic status of fisher in the Nine Mile area. Fisher have been and continue to be very rare in the area and are not considered regular inhabitants of the project area (Wildlife Report p. 107).

The scarcity of fisher in the project area is not surprising because the project area contains minimal habitat for fisher due to paucity of lower elevation cedar and grand fir forests (Wildlife Report p. 108). For this reason it is disclosed that the project area does not likely contribute to sustained fisher presence in the Northern Rockies (Wildlife Report p. 108).

The Wildlife Report discusses trapping related access (p. 108) and considers trapper access in the effects analysis (p. 110). Direct and indirect effects including loss of cover, downed wood and snags are discussed on p. 110 of the report with the caveat that, due to lack of fisher presence in the area, it is unlikely that either action alternative would impact fishers.

Cumulative effects and an effects determination are included in the Wildlife Report on pp. 111-112. The determination for this species is may impact individuals or habitat with the aforementioned caveat that impacts are considered very negligible due to the historic and current absence of fisher from the area which is likely due to a paucity of habitat which is patchily distributed.

“The Soldier-Butler EA doesn’t disclose the FS’s strategy and best available science for insuring viable populations of the fisher, including limiting human access and therefore trapping. The EA cites no scientifically-based analysis on the spatial and structural requirements for fisher survival and successful reproduction. There is no sound,

scientifically-based analysis for the Forest Plan or entire Forest comparing forestwide conditions with habitat metrics required to insure fisher viability. The analyses for other wildlife show these same flaws.” (WL-15-47)

FS Response: See response to comment (WL-15-46) above. Also see Wildlife Report p. 112 and the reference to the 2014 USDA document.

Northern Goshawk

“The Soldier-Butler EA doesn’t disclose the FS’s strategy and best available science for insuring viable populations of the northern goshawk, a species whose habitat is adversely affected by logging and other forest management.” (WL-15-70)

FS Response: The goshawk is no longer a sensitive species in Region 1. It remains a Management Indicator Species (MIS) for natural old growth forest on the Lolo NF (Wildlife Report p. 24). The reason the goshawk is no longer sensitive is that the species is considered “well-distributed and stable at the broadest scale” (63 FR 35183, June 29, 1998). Goshawks have also been shown to be well-distributed and abundant at the R1 scale. From Wildlife Report p. 25, “Based on broad-scale habitat analyses and inventory and monitoring assessments conducted in the Region, breeding goshawks and associated habitats appear widely-distributed and relatively abundant on NFS lands, including the Lolo NF (Samson 2006a, 2006b; (Kowalski, 2006). The 2005 Regional goshawk survey effort documented 40 goshawk detections across a small subset of survey cells in the Region (Kowalski 2006); extrapolating the number of detections to the unsurveyed cells results in an estimate of more than enough goshawk pairs to support a viable population (Samson 2006a).”

As disclosed in the Wildlife Report p. 25, “Not a single known nest site in the Region is isolated from other known nests by more than the goshawks’ estimated dispersal distance (Samson 2006a). The habitat threshold for maintaining a minimum viable population of goshawks across the entire Region is 30,147 total acres of post-fledgling area (PFA) habitat (Samson 2006b). The Lolo NF contains 54,848 acres of PFA habitat, about one and one-half times the amount needed Region-wide (Ibid. errata corrected 2008).”

“There is no indication the FS has sufficiently surveyed for goshawk nest stands in the project area. The FS must utilize goshawk survey methodology consistent with the best available science. For example the recent and comprehensive protocol, ‘Northern Goshawk Inventory and Monitoring Technical Guide’ by Woodbridge and Hargis 2006. Also, USDA Forest Service 2000b.” (WL-15-71)

FS Response: See the Wildlife Report pp. 25 – 30.

“The Forest Plan and FEIS, and the Soldier-Butler EA fail to describe the quantity and quality of habitat necessary to sustain the viability of the northern goshawk.” (WL-15-72)

FS Response: There is no viability analysis for goshawk because they are not a sensitive species. See response to comment (WL-15-70) above.

Pileated Woodpecker

“The Soldier-Butler EA indicates the proposed logging would remove forest habitat components which provides habitat for species needing the kind of habitat features found in mature and old- growth forests, such as the pileated woodpecker.” (WL-15-60)

FS Response: This is a correct statement.

“(S)hort-term viability of pileated woodpeckers across the Region is not an issue, according to the FS’s Samson, 2005. That was fourteen years ago. Why doesn’t the EA disclose Samson’s conclusions for the longer term, for any wildlife species?” (WL-15-61)

FS Response: A viability analysis for pileated woodpecker is not required because they are not a sensitive species. See Wildlife Report pp. 19 – 20 and p. 23 – where viability is addressed.

“The Soldier-Butler EA doesn’t disclose the FS’s strategy and best available science for insuring viable populations of the pileated woodpecker.” (WL-15-62)

FS Response: See response to comment (WL-15-61) above.

“The pileated woodpecker’s strong preference for trees of rather large diameter is not adequately considered in the Forest Plan. The FS provides absolutely no commitments for leaving specific numbers and sizes of largest trees favored by so many wildlife species.” (WL-15-63)

FS Response: Refer to Wildlife Report pp. 19 – 20.

“The Soldier-Butler EA fails to apply the best available science to describe the quantity and quality of habitat that is necessary to sustain the viability of the pileated woodpecker.” (WL-15-69)

FS Response: See response to comment (WL-15-61).

Big Game/Elk

“In terms of the concerns regarding thermal cover for wildlife during the winter by maintaining the overstory in units 8, 3 and 21, we have long observed deer and elk leave our part of the valley and migrate to lower elevations as the snow deepens on the ground. As of today, we have not yet seen a single ungulate track this spring on our property as the snow recedes ... except for the occasional moose tracks during even the deepest snow depths. Adequate thermal cover is more important in lower elevation areas where the deer and elk go when snow at our elevation (3,600 feet) becomes too deep for them. Alternative B should retain sufficient wildlife thermal cover in riparian corridors as well as in untreated areas throughout the project.” (2, 2)

FS Response: Thank you for your comment. It will be considered in making the decision.

“If...Alt B is chosen...consider...Treat Unit 54 as Unit 64. If not, log and haul during the winter in this select area, thereby minimizing the effect of winter range disruption, like the Frenchtown Face project did in 2014 nearby. We have never observed elk in this unit during the winter months when cross country skiing.” (3, 2a)

FS Response: Thank you for your comment. It will be considered in making the decision.

“Alternative C meets the objectives for hazard reduction in the Community Wildfire Protection Zone. Further, I believe that reduction of thermal cover would contribute to stress in deer, elk and moose populations. This reduction in cover would also begin to concentrate these species in smaller areas making them more vulnerable to predation.) (7, 1)

FS Response: Thank you for your comment. It will be considered in making the decision.

“We also request that where possible, you design screening elements in the treatment units that provide hiding cover for large animals so they are not easily seen from roads. This was done successfully in some of the Rennic-Stark units by leaving islands of greater density for the larger leave trees along with some thickets of smaller vegetation that were not treated. These areas would contribute to structural diversity and benefit big game and other wildlife.” (8, 5)

FS Response: Thank you for your comment. It will be considered in making the decision.

“The EA discloses that the project would violate Forest Plan standards for thermal cover for elk. Rather than complying with the standards, the FS simply gets rid of them. The EA does not contain a valid analysis of the effects of road densities, disturbance and loss of cover on elk. The plan to create widely scattered small clumps of

vegetation adjacent to roads is totally inadequate. Going back to the Montana Cooperative Elk-Logging Study, it has been well known that logging and roadbuilding impact elk populations. Moreover, renowned Forest Service biologist Dr. L. Jack Lyon documented the serious impact of road density on elk habitat use, shown in Figure 4. At 1mi/mi², habitat use drops by 20%. At the densities outlined in the EA (Figure 4b) elk use will drop by approximately 40-90%.” (WL-10-20)

FS Response: Refer to the Wildlife Report, specifically:

Regulatory Framework on p. 36

Indicators Used for Analysis on p. 36

Biological Information, which contains more recent science than Lyon, on p. 37

Existing Condition on pp. 41-44

“As so much of the project area lies within MA-18, Winter Range, it would seem that the Soldier-Butler project could manage for a moderate amount of fuels reduction while also doing a better job of managing for winter range benefits. This can be better accomplished by selecting Alternative C, or perhaps an Alternative C, Modified.” (12, 5)

FS Response: Thank you for your comment. It will be considered in making the decision.

“For those units at lower elevations on north-facing slopes adjacent to open roads (especially Units 10, 92, 21, 1, 2, 3, and 9), please consider adjusting the prescription to allow for effective hiding cover for wintering ungulates by leaving heterogeneous patches of understory throughout the treatment units. Also for those same units, please consider spacing the timing of those treatments so they occur in different phases across the timescale of the project. This could help mitigate potential impacts and effects of cover reduction by giving time for recovery/growth in some units before treatments begin in neighboring units.” (20, 4)

FS Response: Thank you for your comment. It will be considered in making the decision.

“The EA does not present an adequate quantitative or qualitative analysis of security and thermal cover. The combined effects of the proposed ‘treatments’ and forest plan amendments is not adequately analyzed and disclosed.” (WL-15-52)

FS Response: Refer to the response to comment (WL-10-20) above.

“The effect of project activities including proposed forest plan amendment would adversely affect the MIS elk. The EA fails to justify the claims of overall net ecological benefit (‘for the sake of accomplishing fuels reduction’) that are alleged by exceeding standards.” (WL-15-53)

FS Response: Refer to Wildlife Report p. 35 for discussion on MIS. The report makes it clear that elk are a challenging species to use as an MIS due to impacts from hunting, disease, highway mortality, private land management, and other factors outside of the Forest’s influence. It is important to note here that the MIS designation was made in 1986 and much has changed in regard to big game populations in western Montana since that time. In many of the hunting districts in MTFWP Region 2, elk are currently at or above management objectives. This is true for Hunting District 201 which overlaps the project area (Wildlife Report p. 36). Pressing and challenging issues at this time in R2 include the increasing use of private lands by elk and how to attract/retain elk on public lands – see Wildlife Report pp. 36 – 37. As stated, on p. 37, the reasons for increased use of public lands is not well understood. One factor not mentioned in the Wildlife Report is increased human tolerance of elk on private lands where year-round food and security is available. It is widely known that once elk habituate to these conditions it is difficult, even with increased hunting pressure, to change these patterns.

Regarding the comment and specific to adverse effects on elk, some additional clarification is required. This clarification is as follows:

Cover/Forage Ratios and Modifications to Habitat

While there is current research that presents a different perspective on cover: forage ratios (Ranglack et al. 2017; Proffitt et al. 2016; and Proffitt et al. 2013) suggests much lower percentages of cover for optimal conditions. The Lolo Forest Plan (1986) Standards for winter range Management Areas (MAs) are:

“Retain as a minimum a 50:50 cover: forage ratio. The majority of cover should be thermal cover, that is, trees greater or equal to 40 feet tall with a crown density greater or equal to 50 percent (Standard #7).”

The other winter range specific Standard (#4) states,

“All logging and road building will generally be restricted to the summer and fall months.”

Wildlife Report p. 35 states, “both of these standards are couched within the overarching Forestwide Standard (#22) which says, “The Forest wildlife biologist will examine and recommend vegetative objectives for managing and protecting all winter range whenever activity is proposed within it.” Clearly, the intent was to allow for some site-specific interpretation and flexibility. In addition, as is made evident by the MA18 Goals from the Lolo NF Plan (1986) there is an emphasis in the Forest plan to: 1) Optimize forage production and cover for deer, elk, and big horn sheep on winter range; and, 2) Considering the needs of big game, maintain healthy stands of timber, and optimize timber growing potential (Wildlife Report p. 35).

Wildlife Report p. 45 explains that under Alternative B the cover: forage ratio (based on VMAP analysis) would drop to 43:57. This analysis did not consider cover provided by smaller trees nor did it take into account untreated areas within proposed units. Given multiple Resource Protection Measures (RPMs) specific to retaining cover in the form of smaller trees (VEG 4, REC-9, AQ-5, AQ-6, SOIL-1, VQ-1, VQ-2, and WILD-10) and the emphasis of several of these RPMS on the retention of cover near open roads, the Forest Plan Standard #7 for big game is being met for both alternatives.

In addition, with the incorporation of the aforementioned RPMs into silvicultural prescriptions, concerns expressed by MTFWP and the public regarding big game and cover are being considered in project design. The project is attempting to minimize short-term impacts to big game due to loss of cover. It should be noted that there are benefits to opening the overstory and reintroducing fire in the form of increased forage production (Wildlife Report pp. 44, 48). This is not to say that both alternatives would have the same effects on big game – Alternative C minimizes potential impacts that could occur due to increased loss of cover better than Alternative B does. As discussed on Wildlife Report p. 44, taking no action could have negative impacts on big game over time related to decreases in forage quality and the potential for higher severity fires in winter range which could remove large amounts of cover and forage. In summary, there are tradeoffs for big game under each of the alternatives. The suggestion in the comment that the action alternatives would be adverse to big game is not accurate in the context of these tradeoffs.

Road Densities

Roads open to public motorized use would not change under Alternative B (Wildlife Report p. 46) and would decrease under Alternative C in Kennedy and Butler Creek areas (Wildlife Report p. 48 and Table 12). On p. 49 it is stated that, “the legacy of road management in the analysis area has shown a slow decrease in open roads over the past several decades, as roads were decommissioned after the 2000 fire and with the Frenchtown Face project...” The report goes on to say under cumulative effects that, “None of the proposed or foreseeable future activities in the area are expected to precipitate major changes in herd management.” In summary, Alternative C results in higher big game security whereas Alternative B maintains that status quo of roads open to public

motorized access. Alternative B does result in more closed roads that can be used for non-motorized access than the existing condition or Alternative C. There are differences between the two action alternatives but neither of the action alternatives warrants a Forest Plan amendment due to proposed road/access management.

Disturbance from Project Activities

We added RPM WILD 15b which restricts winter and spring activities in units south and east of Kennedy Creek and as per discussion with FWP biologist Liz Bradley. This meets the intent of the Forest Plan Standard as these are the areas of important winter range at this time.

“The EA does not provide an analysis of the degree to which project activities will have the effect of displacing elk and other ungulates onto private land, and the indirect effects on values on those private lands.” (WL-15-54)

FS Response: Refer to the Wildlife Report p. 46. NEPA does not require the Forest Service to analyze effects on private lands.

“The EA claims, ‘past experience has shown that it is unlikely that work would be occurring in multiple drainages at the same time further providing dispersal areas.’ Then why doesn’t the EA include this in project design specifications?” (WL-15-55)

FS Response: We have addressed most wildlife related concerns with RPMs focused on retaining cover and limiting activity on important winter range areas. It was not deemed necessary to add additional restrictions.

Pine Marten

“The Forest Plan recognizes that the pine marten is one of the species which ‘represent wildlife dependent on old growth.’” (WL-15-56)

FS Response: This comment is not correct. The pine marten is not an MIS or sensitive species on the Lolo NF, and therefore analysis of effects on this species is not required.

“The Soldier-Butler does not consider best available science for insuring viable populations of the pine marten, a species whose habitat is significantly altered by thinning and other active forest management. (See Moriarty et al., 2016; Bull and Blumton, 1999; Hargis et al., 1999 and Wasserman et al., 2012).” (WL-15-57)

FS Response: See response to comment (WL-15-56).

“The EA fails to conduct an analysis of the historic range of marten habitat on the Forest, thus it also fails to conduct the proper cumulative effects analysis.” (WL-15-58)

FS Response: See response to comment (WL-15-56).

“The Soldier-Butler EA does not disclose the quantity and quality of habitat necessary to sustain the viability of the marten.” (WL-15-59)

FS Response: See response to comment (WL-15-56).

Snags and Downed Wood

“Follow Lolo NF Guidance for Snags and Coarse Woody Debris (Lolo NF 1997 and 2006). What is the scientific basis the FS relied upon for this direction for managing snags and large down wood? Were those standards based the range of historical conditions on the Lolo NF?” (WL-10-64)

FS Response: Refer to the Wildlife Report pp. 16 – 18.

“The Soldier-Butler EA fails to quantify the cumulative snag loss in previously logged areas or subject to other management-caused snag loss such as road accessed firewood cutting.” (WL-15-65)

FS Response: Wildlife Report pp. 17-18, shows through monitoring that existing snag densities far exceed Forest Plan Standards. Lolo Forest Plan Forest-wide Standard #25 (pg. II-14) requires snag management in the portion of the Forest more than 200 feet from system roads. Road-accessed firewood cutting generally takes place less than 150 feet from roads. Therefore snag loss from road accessed firewood cutting would not affect meeting the standard as sufficient snags and dead material will be provided to maintain 80 percent of the population of snag-using species more than 200 feet from system roads.

“The Soldier-Butler EA fails to quantify snag loss would be expected because of safety concerns which vary with different methods of log removal.” (WL-15-66)

FS Response: The Wildlife Report pp. 17-18, shows through monitoring that existing snag densities far exceed Forest Plan Standards. It would be difficult to accurately determine the amount of snag loss due to danger tree removal while implementing a project. Danger tree removal would vary depending on the layout of harvest units which would not be known until the time of implementation.

“The Soldier-Butler EA does not cite any science to support its assumption that the FS management will result in snags and down logs in abundance to continuously support viable populations. No monitoring is cited to support claims of benefits to snag and down log- dependent species’ population numbers or distribution.” (WL-15-67)

FS Response: Refer to Wildlife Report pp. 16 – 18. Silvicultural prescriptions will specify snags and downed wood debris retention requirements consistent with the Forest Plan (Appendix N-3).

“No estimates of snags for the project area state how statistically robust the project area surveys are for making accurate estimates and analyses”. (WL-15-68)

FS Response: Refer to Wildlife Report pp. 16 – 18.

Fisheries/Hydrology

“Alt C is our preference...a) Currently Butler Creek Road is in the best condition of any forest road in the Ninemile Valley and is extensively used for many purposes...Damage to the road would be minimized utilizing treatments of Unit 64 in Alt C, compared to those of Unit 54 in Alt B; b) Post treatment creek sediment is minimized in Alt C (30.9 to 28.4 tons); c) The lower Butler Creek Road realignment offset is not included in Alt C. We believe that it's effectiveness is questionable given downstream irrigation ditch diversion on private property that likely acts like a sediment basin and allows egress of some sediment when it is opened in the dusty summer months. Potential negative impacts on the road would be avoided in Alt C, e.g., expense, increased sediment from disruption of existing road bed, new road bed destabilization with potholes requiring increased future maintenance and traffic inconvenience, and potential damage to buried underground power cable; and d) Potential wildlife disruption would be minimized by less road construction and canopy reduction.” (3, 1)

FS Response: Thank you for your response. Regardless of if whether Alternative B or C is chosen, BMPs and road maintenance would be done on the Butler Creek road that would be commensurate with the amount of haul done on the road. These BMPs would increase drainage and reduce the amount of potholes that could develop. There is also the potential to do dust mitigation with hauling.

Regarding the Butler Creek road realignment, from a fisheries standpoint, realigning Butler Creek Road further from Butler Creek would benefit the stream for three primary reasons. First, sediment delivery to Butler Creek would be greatly reduced during rain events, snowmelt, or via dust which would protect fish spawning gravel. Second, large trees would be able to grow along the decommissioned road that would eventually contribute to

stream structure and fish habitat when they fall into the creek. And third, the multi-story vegetation that would similarly grow along the decommissioned road would block sunlight from hitting the stream to keep water temperatures cold.

Although the act of decommissioning the existing road section would likely contribute additional sediment to Butler Creek and further impair road-side vegetation, these negative effects would be short-term. The decommissioned surface would begin to re-vegetate and soils stabilize within one year after implementation and improve each subsequent year thereafter. This finding is supported by sediment modeling that estimates the road in its current location delivers 0.6 tons/year of sediment to Butler Creek which will be reduced to 0.1 tons/year after realignment (this amount is commensurate with the 0.5 tons/year of sediment that modeling estimates would be delivered to Pine Creek from the new permanent road crossing). The long-term benefits of sediment reduction, large wood recruitment, and stream shading would effectively be permanent (some variation in response to wildfire to be expected). Furthermore, the long-term nature of these cumulative stream benefits are expected to out-weigh and out-last any adverse effects of isolated land use impairments downstream of the realignment section.

From an engineering/transportation system standpoint, the realignment can be beneficial for the road to reduce the impact of the stream on the road. Reducing maintenance repairs needed from the stream eroding the bank which is also the edge of road. Moving the road away from the stream helps provide more opportunities to construct drainage features to shed water off the road. Keeping water off the road helps to maintain the surface and prevent rutting or wash boarding.

“Shorten the proposed 0.6 mile realignment offset to include only the upper 0.3 mile portion. This would separate the road from the creek where they are in closest proximity thereby maximizing the mitigation of sediment caused by dust. Cost savings of less road construction could be applied to road improvements.” (3, 2c)

FS Response: The proposed 0.6 mile road realignment does not have a design in place yet and is therefore a tentative distance. If Alternative B is chosen, the road would be realigned to maximize the benefits to the resource as well as cost effectiveness.

“New road construction leads to increased sediment loads to streams, which degrades water quality and fish habitat...New road construction would certainly create sediment pulses and could increase sediment delivery over the long term degrading water quality and the fishery...it is well known that Forest Service budgets have been declining and that the Forest Service does not have the funding to adequately maintain its current road system resulting in environmental degradation. We should not add to the burden of roads needing maintenance with inadequate budgets.” (8, 4)

FS Response: Throughout the Hydrology Report, it is acknowledged that roads create sediment to stream channels. The amount of sediment delivered increases with the amount of traffic on a road. The proposed new permanent road construction would not be open to public travel, only being used administratively, and therefore have minimal sediment delivered. This has been taken into account in the analysis (see Hydrology Report pp. 23-24). In the same regard, maintenance on stored roads is minimal.

“Nothing in the Soldier-Butler EA’s watershed analysis section specifically addresses the hydrological implications of the cumulative soil damage caused by past management added to timber sale-induced damage in project area watersheds.” (15, 12)

FS Response: The hydrologic implications of soil damage are addressed by the Soil Scientist and done on a unit-by-unit basis. It is beyond the scope of this analysis to analyze soil impacts on a watershed basis. Hydrology Report pp. 16-17 and 24-25 contain the Equivalent Clearcut Area assessment, which addresses the hydrologic impacts of the timber sales in terms of increased runoff from management actions.

“The FS’s management paradigm mainly provides short-term fixes when roads are not fully decommissioned. The preferred alternative focuses on improving the drainage and implementing Best Management Practices on the travel routes to be used for log hauling. The problem with this approach is—implementing Best Management Practices (BMPs) and other drainage improvements are short-lived, and after a few short years the situation reverts back to what it is now—insufficient maintenance funding resulting in chronic watershed damage. This fact is conveniently ignored by the Soldier-Butler EA’s analysis of post-project impacts.” (15, 34)

FS Response: There is no “preferred alternative” for the Soldier-Butler project. The intent of increasing drainage and application of BMPs is to mitigate the effects of increased use on roads during project implementation. These measures have been repeatedly shown to be effective at this. Please refer to BMP effectiveness monitoring reports in the Project File as well as Appendix D of the Hydrology Report.

“How do the road surveys in the project area (GRAIP-Lite) compare to Fly et al., 2011 (the more comprehensive GRAIP inventory methodology of erosion and sediment sources for a project on the Boise National Forest) for thoroughness?” (15, 35)

FS Response: Hydrology Report Appendix B p. 35 describes the differences between the comprehensive GRAIP road inventory and the GRAIP-Lite model used for this project analysis.

“The Soldier-Butler EA does not consider the fact that roads increase the efficiency of water transport during storm or snowmelt events, elevating water yields well above natural, with damaging effects. The EA ignores water yield and peak flows as factors. FS hydrologist Johnson, 1995 discusses many forms of road-related and other cumulative impacts the EA fails to consider.” (15, 45)

FS Response: Hydrology Report pp. 16-17 and 24-25 contain the Equivalent Clearcut Area assessment, which addresses the impacts of roads to water yield and peak flows in the project area.

“The FS relies heavily upon BMP to address the issues associated with logging roads (again, only within a project context). However, comprehensive monitoring of the effectiveness of logging road BMPs in achieving water quality standards does not demonstrate the BMPs are protecting water quality, nor does it undermine the abundant evidence that stormwater infrastructure along logging roads continues to deposit large quantities of sediment into rivers and streams (Endicott, 2008).” (15, 46)

FS Response: As stated in response to comment (15, 34) above, Hydrology Report Appendix D summarizes studies that have shown the effectiveness of BMPs in preventing sediment from forest road surfaces from entering stream channels.

“Please present a quantitative sediment and erosion analyses of the impacts of known problem areas associated with roads in the project area that will not be repaired or mitigated by project BMPs or other project actions.” (15, 50)

FS Response: A qualitative sediment and erosion analysis was done on the project area roads and is contained in Table 9 on p. 16 of the Hydrology Report. All identified problem areas from roads would be addressed with the project.

“The Soldier-Butler EA does not demonstrate consistency with forest plan direction for the MIS cutthroat trout, which is also a Sensitive species. Among standards the EA ignores are Standard 27...and Standard 28.” (15, 72)

FS Response: Fisheries Report Section 5.2 ‘Biological Evaluation and Biological Assessment’ contains a viability assessment for westslope cutthroat trout where risk to local and region populations is considered low. Section 2.4 ‘Effects Thresholds’ details how Forest Plan Standards 27 and 28 are incorporated into the fisheries analysis.

“The EA contains no analysis of ‘indicators such as aquatic insect density or diversity, fish populations, intragravel sediment accumulations, or channel structure changes that continue for more than 1 hydrologic year.’ The Forest Plan states, ‘The indicator species will be monitored because they are sensitive to management activities or are of special concern, such as the...westslope cutthroat trout.’” (15, 73)

FS Response: Fisheries Report Section 2.1 ‘Methods’ identifies the aquatic indicators that were analyzed (pool frequency, water temperature, large woody debris, width/depth ratios, sediment, physical barriers, and chemical contamination).

“The EA has no quantitative sediment analysis. It does not provide itemized numerical estimates of project-induced sediment increases, nor of decreases due to specific mitigation or restoration actions. The analysis is opaque and not credible without a breakdown of the numbers.” (15, 74)

FS Response: Hydrology Report pp. 15 and 23-24 provide a quantitative sediment analysis which breaks down sediment delivery from roads in the project area, by watershed. This shows current sedimentation, increases during implementation, and decreases (or increases) post implementation.

“The EA fails to support its claims of net improvement in long-term sediment amounts in streams. It lacks statistical rigor and scientific integrity.” (15, 75)

FS Response: The net improvement in long-term sediment amounts primarily comes from the GRAIP-Lite model. This model is based upon empirical data where the GRAIP researchers measured decreases in sedimentation after project implementation.

“The EA does not analyze and disclose project consistency with the existing TMDLs.” (15, 76)

FS Response: Hydrology Report p. 31 discusses consistency with existing TMDLs.

“The EA does not explain how the ‘Ninemile Watershed Restoration Plan’ is being implemented.” (15, 77)

FS Response: While it is beyond the scope of this analysis and outside of the purpose and need of the project to implement the Ninemile Watershed Restoration Plan, Hydrology Report p. 31 mentions that upgrading the Josephine crossing on the 890 road is part of the Ninemile Watershed Restoration Plan.

“The EA states, ‘As an overall summary, the streams and riparian areas are generally in an upward trend of recovery from past disturbances caused by many activities including historic riparian harvest, instream wood removal, grazing, road construction, and mining.’ Please cite all of the sources of data supporting this ‘upward trend’ assertion.” (15, 78)

FS Response: Rocky Mountain Research Station collected PIBO data in Butler Creek from 2003 to 2018 (Project File Items K7-2 and 3). This data shows a steady trend of increasing pool percentage, pool frequency, and pool depth as well as increases in overall stream index. Additionally, walk-through stream surveys were done by the project hydrologist and hydrologic technicians who observed similar trends of recovery.

“The EA mentions a ‘second beneficial watershed proposal is replacing an undersized culvert on FS Rd# 890 where it crosses the upper part of Josephine Creek.... This work would not be accomplished using funds generated by the project but would be implemented when adequate funding was secured.’ Please disclose a comprehensive list of past authorized restoration actions—in addition to the road decommissioning from Frenchtown Face—which have yet to be implemented in the Project Area because of lack of funding or whatever.” (15, 79)

FS Response: As disclosed on EA p. 94, the Soldier-Butler action alternatives comply with the fisheries regulatory framework and while aquatic resources would benefit from the watershed improvement proposal to

replace the undersized culvert on FS Road 890, meeting Forest Plan standards for fisheries isn't dependent on this action.

See Roads data spreadsheet in Project File; also all maps have "Previous Decision" roads symbolized for yet to be implemented road treatments.

"How many undersize culverts or other stream/road crossing problem sites in the Project Area would not funded by a Decision, or otherwise not considered necessary 'offset' activities." (15, 80)

FS Response: Hydrology Report Table 9 on p. 16 displays the undersized culverts that were found during project surveys. These will all be addressed with the current proposal.

"The EA doesn't disclose the effect that management-caused openings in forest canopy cause increased water temperatures in streams. It assumes RHCAs are 100% of the protection." (15, 81)

FS Response: Fisheries Report Section 4.1 'Direct and Indirect Effects' addresses potential effects to water temperature, primarily stating that there will be no effect due to RHCAs. This is because maintaining complex, multistory canopies along streams via RHCA buffers prevents direct thermal radiation from entering streams. The Fisheries biologist is unaware of any mechanism or cause-and-effect relationship that would allow management-caused openings away from streams to affect stream temperature. Section 4.2 'Cumulative Effects' acknowledges the Rocky Mountain Research Station modelling suggests stream temperatures will rise over time due to climate change.

"The EA fails to include any analysis of the trends toward attainment of Riparian Management Objectives, especially of those not currently being met." (15, 82)

FS Response: Fisheries Report Section 3.1 'Aquatic Ecosystem Indicators' discloses the current status and trend of RMOs. Section 4.1 'Direct and Indirect Effects' discloses potential effects to each of the RMOs and how RPMs and BMPs are expected to mitigate effects to the extent that project actions would not preclude attainment of RMOs.

"The EA states, "bull trout... were historically present in the Ninemile watershed" however the EA doesn't disclose any genuine effort to restore this bull trout population, or explain how project activities will not retard recovery. If this is consistent with the Forest Plan, then the plan is broken.

Population numbers and trends of native aquatic species are not disclosed in the EA." (15, 83)

FS Response: While the Forest Service, as a Federal agency, is charged with recovering Threatened and Endangered species, the Endangered Species Act does not mandate that Forests do so on all projects at all scales. And while many Soldier-Butler streams likely did contain bull trout historically, the relatively small size of these streams likely prevented them from being crucial bull trout spawning areas. The mainstem of Ninemile Creek, however, was large enough and adequately complex and connected to the Clark Fork River that it likely was a crucial spawning area, and the Lolo NF's efforts to recover bull trout in this drainage are evident with the Upper Ninemile Mining Restoration project. Population data for native (and non-native) aquatic species is located in Fisheries Report Section 3.2 'Non-Listed Aquatic Species'.

"Butler Creek supports a high-value genetically pure WCT population. Measures to minimize disturbance adjacent to this stream and in the headwater/tributary basins should be a priority." (20, 1)

FS Response: The 300' RHCA buffer around Butler Creek is a Resource Protection Measure that would be implemented to minimize effects to WCT.

“Proposed new road construction in the Pine Creek drainage also includes a new stream crossing. This crossing and associated road system are fairly low elevation in the drainage, downstream of most migratory trout spawning areas. This crossing site lies just upstream of a recently completed project involving FWP and Missoula County to enhance upstream fish passage in Pine Creek.

- a. Has the LNF explored opportunities for an easement through adjacent private lands that would eliminate the need for this crossing, as well as possibly the new road system and its associated impacts on fish and wildlife resources? This would be important because much of the planned work involves fire protection that is expected to benefit private landowners.
- b. Off-site mitigation for new construction on Pine Creek apparently includes road relocation on lower Butler Creek. If the new road and crossing were installed on Pine Creek, do plans also include a bridge across Pine Creek to minimize on-site aquatic impacts?” (20, 2)

FS Response: The Lolo NF has explored easements through private land but to-date has been unsuccessful.

A design is not in place for the Pine Creek crossing yet. However, any crossing would take into account the aquatic resources and minimize impacts to the stream. Generally the crossing would be designed to accommodate a bankfull flow plus several feet for floodplain capacity. Whether or not this is a culvert or a bridge would depend on what is most cost-effective for the crossing location.

“Large timber-management projects often include additional aquatic mitigation measures or offsets. One potential opportunity would be to replace the existing undersized culvert on upper Josephine Creek with an AOP (aquatic organism passage) culvert or bridge, implement needed road reconstruction measures, and stabilize adjacent slopes that pose a failure risk in the headwaters of this stream.” (20, 3)

FS Response: Thank you for your comment.

Recreation

“There are many roads in the project area that provide outstanding opportunities for non-motorized recreation. Currently, there is great pressure to allow mountain bikes in recommended Wilderness and even Wilderness. I hope you will consider roads that provide loops and/or end destinations that are closed to motorized use. I want to emphasize that this also applies to winter use. Please consider roads where there are cross country ski opportunities. Examples of this are Forest Roads near the Ninemile Community Center and beyond the county snow plowing on the upper Ninemile.” (7, 4)

FS Response: Recreation is not directly related to the purpose and need of this project so road management associated with this project does not focus on recreational benefits. However, as mentioned in the Recreation Report, under both Alternatives B (p. 6) and C, much of the proposed road decommissioning focuses on parallel jammer roads that don’t provide much benefit to recreationists in terms of scenery or recreational experience. Under both alternatives, where there is evidence of recreational use and where it is feasible, footpaths would be left after road decommissioning to allow for non-motorized access (p. 9 and 13; EA p. 39, RPM REC-10). Seven miles of proposed new road construction under Alternative B would be open to non-motorized recreation but closed to public motorized use (p. 10) which may benefit non-motorized recreationists. Under Alternative C, approximately 5.2 miles of road would be closed to public motorized use but open to non-motorized public recreational use. (p. 14.)

Transportation System (Roads and Trails)

“If...Alt B is chosen...consider...Treat Unit 54 as Unit 64...if done in the summer, apply dust abatement during hauling and add aggregate to the worst sections, such as between our two property entrances and in the low section

adjacent to the neighbors entrance. This would at least extend the overall upgrade of Butler Creek Loop and improve the part of the road that is most frequently trafficked.” (3, 2b)

FS Response: Road work would be commensurate with log haul and Forestry Best Management Practices (BMP). The timber sale contract also has provisions for haul to control dust and maintain the road pre-haul, during haul and post haul. While it is not in the Forest Service directives to maintain roads for private residences; home owners associations may seek a special-use permit for performing maintenance on a road to maintain it at a higher standard for personal use.

“We do not object to building 7 miles of new road, as long as they are truly designed with BMP’s implemented, and necessary to achieve on the ground objectives. We are not in favor of Decommissioning roads that might be needed for future management, i.e. fire protection, forest management, and access. Storing roads with proper BMP’s, grass seeding and closures are the best way to maintain future access as identified in transportation planning.” (4, 1)

FS Response: We believe that we have carefully considered the transportation system through travel analysis, and we are committed and required to implement BMPs for roads to suit the multiple uses of the Forest.

“While the amount of road to be decommissioned has been reduced, so many road miles unnecessarily and improperly decommissioned degrades access to this area of the Forest, and would designate a minimum road system in the project area that is not sufficient.” (5, 2)

FS Response: The travel analysis for this project analyzed and weighed the risks and benefits of the roads for long-term and short-term land management as well as the risks to resources. We believe we have proposed a road system appropriate for this project and for management of this landscape for the foreseeable future.

“We are in favor of Alternative C which has less commercial harvesting and less logging truck traffic. Since the road has been repaired after the Frenchtown Face project, it seems like wasted effort and money to run logging trucks up and down the road again, especially in the summertime, making the road rougher and full of potholes...it would require further grading and rolling afterwards.” (6, 1)

FS Response: A primary reason the roads are on the landscape is for timber haul either in the past, present, or future. The timber harvest and haul done with the Frenchtown Face Project is how the road improvements were implemented. With any timber haul there would be pre-haul, during haul and/or post-haul maintenance of the roads used for haul, depending on the need. Rutting or pot holing of the roads would be unacceptable and require the timber purchaser to perform maintenance.

“It would be appreciated if you could repair the potholes beyond the Forest Road (34005?) leading up to our property just beyond the turnoff to Kennedy Creek trailhead when all of the work is completed.” (6, 2)

FS Response: Under Alternative B, the road would be used for timber haul and would be upgraded. Under Alternative C the road would not be used for haul. After that or until then the homeowners association could work with the Lolo NF to share in road upgrades or discuss what could be done under the Forest’s regular road maintenance.

“We wish that lower Butler Creek Road not be rerouted or disturbed. We are afraid it would take many years to get it back to its solid road base again or relocated.” (6, 3)

FS Response: In some landscapes it can take several years for a road to “harden” or stabilize or, most importantly, for the cut slope or the fill slope to revegetate. However, past experience has shown, it is not likely that we would have any less of a ‘solid road base’ after construction in this area because the side slopes are less than 15%, the new route would be gravel surfaced, and the road template would likely have no cut and very minimal fill.

“The Forest Service in concert with Trout Unlimited have made great progress in restoring stream channels and riparian areas that have been impacted by a legacy of mining and road construction. I believe all agencies need to carefully consider the construction of any new roads.” (7, 2)

FS Response: We believe that we have carefully considered the transportation system, and we are committed and required to implement BMPs for roads to facilitate the multiple uses of the Forest.

“Regarding all roads in the project area, I hope you will carefully consider the season roads are open and/or closing roads year around. Many of the roads in the area are used for winter recreation such as snowshoeing, cross country skiing and snowmobiling. Spring, fall and winter use of many of these roads creates resource damage, sediment loads and loss of the road prism leading to continued erosion.” (7, 3)

FS Response: We believe that we have carefully considered the transportation system and its multiple uses.

“Regarding the proposals for road # 34029, up Butler Creek. Several of our friends and neighbors (and us too) use this road as a trail—it provides a nice loop for mountain biking in the summer and cross country skiing in the winter. It is listed as a mountain bike trail on the brochure ‘Kreis Pond Mountain Bike Trails.’ No motorized use on this roadway is just fine, but we ask that you do not rip this old road bed.” (12, 2)

FS Response: Under Alternative B the road would be added as a National Forest System Road with a closure level of 3-SN or ‘Stored Naturally’ meaning that we consider it already hydrologically benign and would not be using it now or in the near future for administrative purposes (traffic). Under Alternative C the road would be called Decommissioned 3-DN ‘decommissioned naturally’ for the same reasons and the road would not receive administrative traffic until another it was needed for a future project or Fire Emergency.

“Just seeing how much the road has eroded this early spring we would not like to see lower Butler Creek Road be rerouted or disturbed. Currently the road is closed to the public due to multiple washouts. The public including ATVs are driving around the Road Closed signs placed by Forest Service, further damaging the road and making it difficult for us to get to work. Rerouting the road also raises concerns on how long it will take for the road to be solid again.” (13, 3)

FS Response: Moving the road would help protect water quality and provide a much greater buffer so the road and stream don’t conflict. Also see response to comment (6, 3).

“The EA doesn’t state how much road would be 3-DN under the decision. The FS should provide a map of all the roads, displaying such important status information.” (15, 36)

FS Response: There is no ‘Decision’ for the Soldier-Butler project at this time. See EA Appendix E for a listing of each road and its proposed closure level (also see Transportation Report, Table C- 5 Summary of Road Decommissioning Miles by Closure Level, p. 18). Additionally, for spatial reference, maps have been added to the Project File.

“What does the FS do in project analyses to make sure they are aware of all ‘undetermined’ and other ‘non-system’ roads in a project area? Or does the FS simply not attempt to locate all that exist? If the latter, what is your guesstimate of the percentage of the length of project area ‘non- system’ roads you’ve identified?

Please disclose on a map ALL of the roads in the project area the FS is aware of, distinguishing between the various Maintenance Levels or nonsystem status. Please display closure status on this map.” (15, 37)

FS Response: The Lolo NF goes above and beyond that which is required to map to the best of our ability any known undetermined roads. All known roads, both existing and decommissioned, are shown on the maps provided with the EA. See Transportation Report, Table AE- 5 Summary of Soldier-Butler NFSRs for Functional Class and Operational Maintenance Level. In the Roads data and in specialists’ reports any road not

labeled as System= National Forest System Road (NFSR) would be in the category of ‘non-system.’ A map showing existing Objective maintenance level and Closure level as proposed in Alternatives B and C has been added to Project File.

“The Soldier-Butler EA fails to genuinely include an alternative with no new road building, calling Alternative C such an alternative yet it would construct ‘temporary’ roads. A genuine alternative would be consistent with the Travel Management Regulations Subpart A requiring a science-based Travel Analysis Process identify the minimum road system and so would guarantee all roads would receive timely, proper maintenance after project completion in recognition there is no increase in regular road maintenance dollars foreseeable.” (15, 38)

FS Response: While the Forest Service is not required to provide an alternative with no road building, Alternative A (No Action) meets this request. Alternatives B and C are consistent with 36 CFR 212.5(b). In the 36 CFR 212.5 there is no mention of ‘guaranteeing maintenance.’

“The FS proposes to leave decommissioned roads in the condition where they ‘leave a foot path of approximately 18” to allow non-motorized access for recreationists, hunters, anglers, etc.’ This seems to be a passive-aggressive expansion of the trail system and human access, without committing to inventory, oversight or accountability. The EA fails to say if these ‘foot paths’ would be system/inventoried trails, and fails to address maintenance needs and other problems such as weed spread caused by access, etc. These cumulative impacts are not considered.” (15, 39)

FS Response: The Lolo NF has implemented the practice of leaving a “foot path” when decommissioning roads on several past projects in response to public concerns that road decommissioning can make decommissioned routes impassable to authorized non-motorized recreation including hunting, hiking, dog walking, etc. In order to respond to public desires to allow legal non-motorized access to continue, a narrow 18” wide area is left relatively undisturbed during decommissioning along some routes. The foot paths are not incorporated into the trail system and there is no maintenance along those routes. The intent is to avoid blocking or denying legal non-motorized public access. The cumulative effects related to weeds can be found in the Noxious Weeds Report.

Additionally these foot paths aid in Forest Service monitoring of decommissioned roads and stream crossings.

“The Soldier-Butler EA does not demonstrate the project area is being managed consistent with Travel Management Regulations. The Travel Management Regulations (36 CFR 212) Subpart A requires the FS to identify the minimum road system needed to manage the Forest sustainably. The EA does not demonstrate how it is minimizing the forestwide road system in compliance with the Travel Management Regulations and related Directives.” (15, 40)

FS Response: The Solder-Butler project will amend the 1986 Lolo NF Travel Plan. The Plan and subsequent travel management changes made through project-level NEPA are consistent with 36 CFR 212 and the Lolo NF Forest Wide Travel Analysis Report. See Transportation Report Appendix F for information about the Travel Analysis process for this project. The road system in this project area is minimized for “safe and efficient travel and for administration, utilization, and protection of National Forest System Lands” (36 CFR 212.5(b)). While 36 CFR 212 Subpart A does not mention ‘sustainably’, 36 CFR 212.4 says “Construction and maintenance work on forest transportation facilities with appropriated funds shall be directed to what is necessary and economically justified for protection, administration, development, and multiple-use management of the federally owned lands and resources served.”

“The EA mentions the Motor Vehicle Use Map (MVUM) and the Over Snow Motor Vehicle Use Map (OSVUM). Have these maps—and the motorized travel they authorized—been established using the NEPA process? The EA doesn’t demonstrate management consistency with Travel Management Regulations Subparts B and C. What is ‘Lolo NF Travel Management?’” (15, 41)

FS Response: The MVUM and OSVUM maps are consistent with 36 CFR 212. These maps are an output product of the Natural Resource Monitoring (NRM) Infrastructure (INFRA) database which houses all roads data. The transportation atlas is maintained with each NEPA decision to update the Lolo Travel Plan.

“The EA mentions ‘an increase in law enforcement issues, conflicts with non-motorized recreationists and can lead to natural resources damage’ due to road construction, but doesn’t really analyze and disclose the cumulative impacts of closure violations and indirect effects of inadequate law enforcement funding.” (15, 42)

FS Response: The concern about law enforcement violations related to travel management is understandable especially when there are changes in regulations. However, the number or level of potential future law enforcement violations is not a reasonably foreseeable variable. There is no way to quantify what the possible future amount of violations might be in order to evaluate cumulative impacts. Additionally, levels of law enforcement funding are outside the scope of this project analysis. That said, we conduct regular front country patrols with temporary seasonal and permanent recreation and fire staff in cooperation with our law enforcement officer. During those patrols, we contact visitors and provide information and education related to regulations and travel management. We also issue warnings and violation notices when appropriate. Although budget and time constraints are factors in almost all operations, we generally focus on areas of concern such as where there are travel management changes. Our intent is to prevent law enforcement violations through education and to investigate and respond to instances of violations.

“The main ecological and financial problem facing the Lolo NF, and national forests throughout the Inland Northwest and U. S. Northern Rocky Mountains, is the existing excessive network of roads. Although the main focus of the Travel Management Rule Subpart A was to be this excessive road network, the FS sidesteps the issue at every juncture—in the delay of revision of the Forest Plan, in the design of projects, and in the systematic avoidance of conducting its duties under Subpart A, which requires the agency to minimize the ecological and economic liabilities of the excessive road network by significantly downsizing it.” (15, 43)

FS Response: The Lolo NF is consistent with 36 CFR 212. See response to (15, 40).

“The Soldier-Butler EA does not present the proper economic or financial analysis to allow anyone to understand how well or how deficiently all the post-project system roads will be maintained, in light of the well-demonstrated inadequacy of annual appropriations or other funding sources. Therefore, it is impossible to discern the resultant ecological damage from putting watersheds in a ‘press’ type condition which can never recover largely because of insufficient road maintenance.” (15, 44)

FS Response: Analyzing projected Forest budget, appropriated dollars and other funding sources at this detail is outside the scope of this project analysis. The cost of conducting project-specific road activities have been incorporated into project planning and can be found in project economic analysis tool (PEAT) and sale feasibility spreadsheets (in Project File).

The direct, indirect, and cumulative effects of project road activities are analyzed in the document, and the results are disclosed under the appropriate resource headings. BMP and resource protection measures proposed have been discussed in the EA, under the appropriate resource headings. The effectiveness of BMPs is discussed in Hydrology Report, Appendix D.

“The Lolo NF participated in a sham Region 1-directed Travel Analysis Process (TAP) that failed to follow the Travel Management Rule Subpart A requirements for involving the public in a science-based effort to identify the forestwide minimum road system. The Soldier-Butler EA does not analyze or disclose the project area road system’s needed long-term financial investments, nor the associated ecological impacts due to inadequate maintenance funding. The EA relies on the assumption that this project will adequately mitigate the problems chronically posed

by the road network by project road work and BMP implementation, despite the fact that FS officials are aware this is not the case (USDA Forest Service, 2010t, Lolo National Forest, 1999).

Have all changes to project area Forest roads identified in the forestwide Travel Analysis Report been implemented? If not, please disclose what actions are yet to occur, and a timeline.” (15, 47)

FS Response: The Lolo NF is consistent with 36 CFR 212 and the Region 1 Travel Analysis Process (TAP) which resulted in the Lolo NF Travel Analysis Report (TAR). Both the existing transportation systems’ travel management and the TAR were incorporated for the Soldier-Butler Travel Analysis Process.

Disclosing the “road system’s needed long-term financial investments” or effects of long-term maintenance is not a requirement of the CFR or Lolo NF Forest Plan and is outside the scope of this project.

“The Soldier-Butler EA does not disclose the Project Area Road Management Objectives, which were to be developed using the Travel Management Regulations.

The Soldier-Butler EA does not incorporate the required science-based transportation analysis, and so there was no assessment that comprehensively identified the unneeded or most damaging roads. The process the FS used is not consistent with requirements to involve the public in a science-based Travel Analysis Process, create a Travel Analysis Report, and identify roads likely not needed to manage the forest, as required under the Regulations and in the Directives. The EA doesn’t even state how the Soldier-Butler project might or might not be implementing the forestwide minimum road system.

Does the FS maintain that the Soldier-Butler decision will be consistent with the Travel Management Regulations (36 CFR 212) Subpart A?” (15, 48)

FS Response: The Lolo NF completed its identification of the minimum road system (Project File). The minimum system is the road system determined to be needed to meet resource and other management objectives in the Forest Plan (36 CFR 212.5 (b)).

For the Lolo NF as a whole, the Lolo Forest Plan Final Environmental Impact Statement (FEIS) identifies the miles of inventoried system roads “considered necessary for resource management activities” (p. IV-54). Average annual road construction (miles by decade) and total projected road access (miles) are also displayed in the FEIS (pp. IV-54 and IV-60).

As required by 36 CFR 212 Subpart A, on September 30, 2015 the Lolo NF prepared a Travel Analysis Report to identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of NFS lands, and to identify roads that are no longer needed to meet forest resource management objectives (36 CFR 212.5 (b) (1) and (2)). The report provides an assessment of the road infrastructure and a set of findings and opportunities for change to the forest transportation system. The contents of the report informs decisions relating to the administration of the Forest transportation system and helps identify proposals for change (FSM 7712). The report identifies two road segments types as likely not needed. The first is a currently stored road in an area of stored roads it was analyzed and recommended to be kept in its stored state for future management. The other was a stream bottom road with heavy historic mining activity that has been decommissioned and the stream restored. Additionally there are several roads that had been identified as likely needed that the project would be changing. A map has been added to the Project File.█

As specified in FSM 7712.1(3) an appropriate scale of travel analysis was conducted to inform travel management decisions for the Soldier-Butler project. As part of project planning, a project-specific transportation assessment was conducted to determine project access needs and necessary mitigations for project activities including road construction, maintenance, storage, decommissioning, and reroute of roads. The

Soldier-Butler Project Transportation Report describes the science-based methodology used (FSH 7709.55) to consider social and environmental risk and benefits of the road system (see Project File).

“The Soldier-Butler EA does not disclose if the FS has surveyed the project area with the detail needed to determine if all non-system roads existing in the project area have been identified, so their ecological liabilities can be accounted for.

The Soldier-Butler EA does not present an analysis of the ongoing adverse impacts of the roads in the project area which will not be maintained or upgraded by the project. It basically ignores their cumulative impacts.” (15, 49)

FS Response: Mapping of non-system roads is not a requirement of the CFRs or the Lolo NF Plan. However, the Lolo NF has exceeded its minimum requirements to map all known prisms on the landscape. This is stated in the Transportation Report. Each resource uses these mapped routes to more fully capture cumulative impacts.

The EA alternatives are based on the recommendations provided by a travel analysis of road risks and benefits conducted by the Forest (EA Appendix E). Benefits and risks associated with each road were analyzed to make road management recommendations that balance the need for access and the available funding for road maintenance.

“Construction of new roads is unconscionable in today’s day and age. Especially on a landscape already crisscrossed with 400 miles of road at an unbelievably high road density. Roads affect wildlife habitat fragmentation, water quality, soils, and native habitat through weed introduction. In addition wildfire ignition and limited road maintenance budgets are also of concern.” (17, 8)

FS Response: Road density is discussed in the Hydrology Report on pp. 8, 15, and 23. The effects of roads, both existing and proposed, are disclosed in the existing conditions and environmental consequences sections of the relevant specialists’ reports.

Inventoried Roadless Areas

“The Soldier-Butler EA fails to provide an analysis addressing the roadless expanse...This analysis must consider the effects to the entire roadless expanse; that is both the roadless area and the unroaded lands contiguous to the roadless area.” (15, 84)

FS Response: See the Inventoried Roadless Area Report, which includes an analysis of the proposed project’s effects on the roadless expanse. This report was posted on the Lolo NF’s www NEPA project website at the time the EA was released along with the other specialists’ reports.

Economics

“For each alternative, please disclose the itemized costs for each of the following: new system roads, new temporary roads (including machine trails and excavated skid trails), project-related road maintenance, road decommissioning, all other road-related work, NEPA and associated pre- decisional costs, sale preparation and administration, project-related weed treatment, prescribed fire application, other project mitigation, post-project monitoring, environmental analyses and reports, public meetings and field trips, publicity, consultation with other government agencies, responding to comments and objections, collaborative meetings.” (15, 24)

FS Response: Costs not associated with the timber sale are listed in Table 2 “Other Resource Activity Costs” in the Economics Report (p. 16). The Project Economic Analysis Tool located in the Project File displays the itemized costs for all project activities (Project File K2-3). Costs associated with NEPA are sunk costs at the time of decision and are not included in the PNV analysis as stated on p. 11 of the Economics Report.

“The EA does not disclose project-related weed treatment costs, prescribed fire application costs, NEPA costs, costs of culvert replacement, meadow enhancement, etc.” (15, 25)

FS Response: The Project Economic Analysis Tool (Project File K2-3) located in the Project File discloses the project-related weed treatment costs, prescribed fire application costs, and costs of culvert replacement. Costs associated with NEPA are sunk costs at the time of decision and are not included in the PNV analysis as stated on p. 11 of the Economics Report. Meadow enhancement is not an activity associated with the Soldier-Butler project.

“Please identify the funding sources for all proposed non-commercial activities.” (15, 26)

FS Response: Non-commercial activities would be funded by timber sale stumpage, appropriated funds or funding from partners as funding sources become available.

Climate Change/Carbon Storage

“The Soldier-Butler EA provides no information on climate change effects on project area vegetation. The EA provides no analysis as to the veracity of the project’s Purpose and Need, the project’s objectives, goals, or desired conditions in light of expected effects of climate change. The FS has the responsibility to inform the public that climate change is and will be bringing forest change. For the Soldier-Butler project, this did not happen, in violation of NEPA...Nor does the Soldier- Butler EA acknowledge pertinent and highly relevant best available science on climate change. This project is in violation of NEPA.” (15, 51)

FS Response: Climate change was discussed in the Forested Vegetation Report on pp. 7-9, 13, 23, 28-33, 36-38, 43, 46, 48, 56, 61-62, and 64. Also, the Carbon Cycling and Storage Report is located in the Project File.

“The Soldier-Butler EA fails to consider that the effects of climate change on the project area, including that the ‘desired’ vegetation conditions will likely not be achievable or sustainable. The fails to provide any credible analysis as to how realistic and achievable its desired conditions are in the context of a rapidly changing climate, along an unpredictable but changing trajectory.

FS Response: Climate change was discussed in the Forested Vegetation Report pp. 7-9, 13, 23, 28-33, 36-38, 43, 46, 48, 56, 61-62, and 64.

The Soldier-Butler EA fails to analyze and disclose how climate change is already influencing forest ecology, and even more so in the future. This has vast ramifications as to whether or not the forest in the project area will respond as the EA assumes.” (15, 52)

FS Response: Climate change was discussed in the Forested Vegetation Report pp. 7-9, 13, 23, 28-33, 36-38, 43, 46, 48, 56, 61-62, and 64.

“The Soldier-Butler EA does not analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. The EA fails to provide estimates of the total amount of carbon dioxide (CO₂) or other greenhouse gas emissions caused by FS management actions and policies—forestwide, regionally, or nationally. Agency policymakers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.” (15, 53)

FS Response: The Carbon Cycling and Storage Report is located in the Project File along with the references cited in that report.

General Support for a Specific Alternative

“Alternative B is better designed to provide increased long-term management benefits while adhering to forest management guidelines.” (2, 1)

“We are in favor of Alternative C, with less commercial harvesting and less log truck traffic. My wife and I commute daily (Monday-Friday). We've already encountered issues with traffic on the road and worry that having logging trucks go up and down would be inherently more dangerous, not to mention the added damage to the road and increased amounts of dust. Perhaps a way to be able to communicate with the drivers could help avoid a dangerous situation.” (13, 1)

“Alternative B, which we strongly support, does the best job of addressing the issue of public and firefighter safety. We believe the Forest Service has an obligation, sometimes at the risk of adversely affecting other resources, to fully address safety issues to the best of their ability.” (16, 2)

“...we respectfully request that you implement this project with Alternative B as it exists in this EA. This alternative does a much better job of meeting the Purpose and Need for Action and does substantially more to benefit jobs and economic benefits to local citizens and communities. Alternative B is the only alternative that gives public and firefighter safety the consideration it deserves.” (18, 3)

“...this alternative does a much better job of meeting the Purpose and Need for Action and does substantially more to benefit jobs and economic benefits to local citizens and communities. Alternative B is the only alternative that gives public and firefighter safety the consideration it deserves. We respectfully request that you adopt Alternative B intact as presented in the EA.” (19, 2)

FS Response: Thank you for your comments.

Alternative Modification Suggestions

“I think you can modify Alternative C, and with the inclusion of Unit 12 to offer a greater degree of protection around the Josephine Creek homes; Unit 3 (along Kennedy Creek); and Unit 21 (Butler Creek). With a few exceptions, I think that a modified Alt. C will give you more public support, will better manage the project area to promote ecosystem health and decrease high intensity wildfire, will promote connectivity, and will better insure that our wildlife populations remain healthy into the future.” (12, 6)

FS Response: The Selected Action may be a modification of either Alternatives B and/or C or include a mix of activities from both of these alternatives.

“If Alternative B is going to be utilized, is it possible to switch area 54 for area 64 on Alternative C? This will lessen the stress on the wildlife and help reduce poor air quality during the process which could have adverse health consequences with my wife's asthma. Whichever Alternative is chosen, we request dust abatement to be utilized to further decrease the chance of triggering an asthma attack as we are so far from treatment.” (13, 2)

FS Response: The Selected Action may be a modification of either Alternatives B and/or C or include a mix of activities from both of these alternatives. The timber sale contract would include a provision for road maintenance requirements. This provision would include dust abatement in which dust abatement materials shall be applied to the road surface as necessary to control surface loss and provide vehicles are always intervisible within their stopping sight distance.

NEPA Process

“To enhance the project...we encourage the Forest to look at doing a larger project footprint to generate more volume for the logging and sawmilling infrastructure, and to provide more funds to do the needed restoration work such as replanting” (5, 1)

FS Response: Thank you for your comment.

“AFRC supports a site-specific Forest Plan Amendment that would allow for the amount of cover to drop below 50% in the winter range, for the sake of accomplishing fuels reduction. Further AFRC supports the Forest asking for Regional Office approval to create openings over 40 acres in size to increase the development of early seral species.” (5, 4)

FS Response: Thank you for your comment.

“AFRC supports the site-specific Forest Plan amendment that would change the MA designation for about 76 acres in the Kennedy Creek drainage from MA 4 (active mineral extraction and processing operations) to MA 18 (winter range for deer, elk and bighorn sheep). This amendment is needed because the Kennedy Creek Mine has been abandoned and reclaimed.” (5, 5)

FS Response: Thank you for your comment.

“The EA reveals that the Forest Service (FS) has arbitrarily and without public notice significantly altered the implementation of the Frenchtown Face project, as described in the ROD authorizing that project. Perhaps the most significant changes to that project involve not implementing road decommissioning as the ROD committed to. The Soldier-Butler project falls partially within the Frenchtown Face project area, which also would cause cumulative impacts with Frenchtown Face. The Soldier-Butler EA states that the Frenchtown Face project is still ongoing. The FS is obligated to halt Frenchtown Face project implementation and re-initiate the NEPA process for Frenchtown Face, at least to prepare a Supplemental EIS because of all the implementation changes. However due to the overlapping and cumulative effects, we also believe the FS is obligated to analyze both Frenchtown Face and Soldier-Butler in the same EIS. Preparing only an EA for the latter violates NEPA.” (15, 1)

FS Response: The Responsible Official has the authority to make new decisions that may affect prior project decisions or implementation. Road actions proposed in the Soldier-Butler project are needed to meet project need and objectives. The effects of these road actions have been analyzed and disclosed to the public, as required by NEPA. The cumulative effects of the Soldier-Butler and Frenchtown Face projects are analyzed and disclosed. There are no significant effects from project activities.

“The Soldier-Butler EA is unable to properly analyze and disclose cumulative impacts from past management activities because monitoring information is incomplete or unavailable. The EA cites no results of the monitoring required in the Forest Plan. Also, the most recent the Forest Plan Monitoring and Evaluation Report was published in September 2002, which means monitoring has not been conducted as the Forest Plan requires.” (15, 2)

FS Response: To conform to the 2012 Planning Rule (36 CFR 219), monitoring items currently found within the Lolo Forest Plan have been reviewed and changed to address information that is critical for informed management of resources in the plan area and within the financial and technical capabilities of the Forest (Forest Plan Monitoring Program Transition 2016, which is posted on the Lolo website: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd517142.pdf. This document (pp. 7-54) displays the Forest Plan monitoring items and the modified data collection interval and sources.

For example, Forest Inventory and Analysis (FIA) National Program database is used to monitor the quantity of old growth, which is discussed in the Forested Vegetation Report (p. 41). Montana Fish, Wildlife and Parks elk population and distribution and bull elk harvest are used to monitor the current population status of elk on NFS lands (Wildlife Report pp. 36). Project area detrimental disturbance surveys are used to determine if forest management activities are maintaining soil productivity (discussed in the Soil Report pp. 10-11 and Soil File 5 contained in the Project File).

Monitoring conducted by the Forest Service and others, scientific studies, and other assessments were used to inform the environmental analysis.

“The EA states, “The Forest conducts post-project implementation monitoring per guidance in the Forest Plan.” Yet the Soldier-Butler EA does not include an analysis of how well past projects met the goals, objectives, desired conditions, etc. stated in their respective NEPA documents, how well the projects conformed to forest plan standards and guidelines. It is informative for the public to know, in the NEPA process, if the impacts of past projects were correctly anticipated by their respective NEPA documents, and how well the statements of Purpose and Need in those NEPA documents were served.” (15, 3)

FS Response: The information you suggest is either addressed in the EA (e.g., past projects are listed in EA Appendix D), is located in the Project File (e.g., monitoring reports for soils, various wildlife species, and BMPs and Forest Plan Monitoring Reports), or is available to the IDT Team in District and Supervisor’s Office files.

“The purpose and need does not stress economics, however Sun Mountain believes a primary goal of the project should be to maximize receipts from commercial timber harvest. It is essential that the timber products offered are economically viable. Success depends on both the volume and requirements of removal.” (9, 1)

“The items we believe are missing in the Purpose and Need for Action would identify the need to provide timber to help sustain local manufacturing facility and the need to provide for the economic stability of our rural communities.” (16, 1)

“Additional items that we believe should have been included in the Purpose and Need for Action in this project and should be included in all future projects are to:

- Provide for the sustainable yield of timber from National Forest system Lands at a level that will help support the economic structure of local communities and contribute to the regional and national timber demand.
- Provide opportunities for development of recreational projects.” (18, 2)

“...in planning future projects, we would like to offer the following comment. Recreation and timber are huge economic drivers for all rural communities and we believe they should be highlighted in the Purpose and Need for Action on all future projects.” (19, 3)

FS Response: Forest-wide management direction described in the Lolo Forest Plan includes Forest-wide Goal #1 which states, “provide a sustained yield of timber and other outputs at a level that will help support the economic structure of local communities and provide for regional and national needs” (p. II-1). Goal #s 2 – 8 outline forest management direction pertaining to other resources (e.g., wildlife, recreation, clean air and water and diverse ecosystems) which are also considered in project planning. Restating Forest-wide management direction in the purpose and need is not necessary to obtain the outcomes that the commenters desire.

“...the scoping for this project was insufficient and did not include critical issues. For example, the last scoping meeting was held in January of 2017, more than two years ago. Since that time the Nine Mile area has been designated by the U.S. Fish & Wildlife Service as a Demographic Connectivity Area (Figure 1) for grizzly bears, meaning occupancy by female/cub groups. Public scoping was not taken on this major issue for regional grizzly bear recovery.” (10, 2)

FS Response: The last public meeting that was held for the project was March 28, 2019 during the EA comment period. This meeting and comment period provided opportunities for input on this issue. In addition, consultation with the USFWS will occur.

“The explanation of purpose and need in the EA do not justify the actions proposed nor are they based upon the best available scientific information, as required by the 2012 Planning Rule, NEPA and the ESA.” (10, 3)

FS Response: The purpose and need for the Soldier-Butler project described on EA pp. 2 – 5 does justify the proposed activities analyzed in the EA and are supported by scientific literature. As a point of clarification, *best available scientific information*, as required by the 2012 Planning Rule, applies to plan level decisions, not projects implementing the plan.

“I am disappointed with the ‘range’ of alternatives displayed in the Soldier-Butler project—or perhaps lack there-of. In reviewing the E.A, and with some personal experience in nearly all of these drainages, it appears that Alt B primarily focuses on removal of vegetation (fuels) to decrease high intensity wildfire potential, but with little regard to recreation, wildlife, & visuals.” (12, 4)

FS Response: The effects of the alternatives on high intensity wildfire potential as well as recreation, wildlife, visuals and all other relevant resources are analyzed and disclosed in the EA and resource specialists’ reports. The alternatives were developed in response to comments received during scoping and the ID Team’s identification of potential effects during the planning process (EA p. 11). The decision for this project may be a modification of one of the alternatives.

“A full Environmental Impact Statement should be prepared before continuing with this project.” (10, 1) (14, 1)

FS Response: As stated on EA p. 1, “The Forest Service has prepared this Environmental Assessment (EA) to disclose the direct, indirect, and cumulative effects of the proposed action and alternatives and determine whether they may significantly affect the quality of the human environment and thereby require preparation of an Environmental Impact Statement (EIS). This EA fulfills agency policy and direction to comply with the National Environmental Policy Act (NEPA), the Lolo National Forest Plan, 40 CFR 1508.9, 36 CFR 220.7, and other relevant federal and State laws and regulations.”

“The EA states that the Frenchtown Face Ecosystem Restoration Project (2007) partially overlaps the Butler Soldier analysis area...The Soldier-Butler proposal includes reversing the Frenchtown Face decision to decommission about 37 miles (34 miles listed in the decision and plus an additional 3 miles) of the 85 within the adjacent/overlapping area.” This is a significant amount of road decommission. Failure to implement after twelve years presents questions of what process is used to reverse a decision...The EA should have more clearly disclosed aspects of the Frenchtown Face that had been implemented.” (17, 1)

FS Response: See response to comment (15, 1). Aspects of the Frenchtown Face decision which are within the overlapping area and that have been implemented or are foreseeable future actions have been accounted for in the cumulative effects of the alternatives in the Soldier-Butler analysis.

“Purpose and Need emphasizes fire suppression as the impetus for the proposed action and fails to adequately consider climate change or the cumulative effects of past management...the proposed activities could negatively impact the identified values at risk far more than would wildfire.” (17, 2)

FS Response: Refer to earlier comments on the effects of climate change on vegetation in the project area. Effects of relevant past management activities in the project area are documented and disclosed in the cumulative effects analyses for each resource.

“The Proposed Action adds to Cumulative Effects of Management in the analysis area. Soldier-Butler has been a heavily managed landscape that warrants restraint to avoid detrimental cumulative effects.”...for example, past harvest, road building, cumulative effects on winter range, and “adding adverse impacts on ungulates.” (17, 3)

FS Response: See response to comment (17, 2).

“I support the No Action Alternative but Alternative C would be preferable in that it does not require new road construction. Forest service employees have worked hard on this project, but as it stands it is not ready. The purpose and need still needs work. And the proposed action needs to be consistent with today’s understanding of the role of fire on the landscape. I strongly encourage you to choose the No Action Alternative and to take the time to better assess all aspects of this proposal.” (17, 9)

FS Response: Thank you for your comment.

“The Soldier-Butler does not disclose the cumulative impacts of livestock grazing—nothing on impacts to streams, riparian areas, soil productivity, forest stand composition--nothing.” (15, 85)

FS Response: EA Appendix D described the past, present and reasonable foreseeable actions in the Soldier-Butler project area. Page D-6 states, “There are no active grazing allotments in the analysis area. The Upper Ninemile grazing allotment partially overlaps the northwest boundary of the analysis are but it is not active.” It also states that there are no known future grazing activities.

Scientific Integrity

“Please consider up to date science on thinning, historical stand data, and the prevention of high severity fires. The purpose and need does not mesh with current science. Six et al 2018, Nacify et al 2010, and Bradley et al 2016 to name a few. Also consider this map of the nearby Bitterroot area in 1898 for historical stand distribution.” (14, 6)

FS Response: The Forested Vegetation Report discusses these concepts with supporting science at length pp. 6-37, 42-44, 47-48, and 49-64.

“The FS has not undertaken the task of determine the reliability of all the data used as input for the models used in the Soldier-Butler EA analyses...The validity of the various models utilized in the Soldier-Butler EA’s analyses have, by and large, not been established for how agency utilizes them. No studies are cited which establishes their content validity, and no independent expert peer review process of the models has occurred.” (15, 6)

“...FS itself acknowledging the problems of data that is old and incomplete, leading to the limitation of models the FS typically uses for wildlife analyses:

Habitat modeling based on the timber stand database has its limitations: the data are, on average, 15 years old; canopy closure estimates are inaccurate; and data do not exist for the abundance or distribution of snags or down woody material.” (15, 7)

FS Response: The Lolo uses R1 VMap for the majority of its habitat modeling, not timber stand database information. See response to comment (15, 8) below.

“The Soldier-Butler EA does not conform to NEPA because the FS has not insured the reliability of data relied upon by the models, and the FS has not validated the models for the way the EA utilizes them. The Ninth Circuit Court of Appeals has declared that the FS must disclose the limitations of its models in order to comply with NEPA. However, the EA has failed to disclose these limitations.” (15, 8)

FS Response: Methodologies, including assumptions and limitations of models are disclosed (for example, Forested Vegetation Report p. 10, and resource reports in the Project File). All models used are based on established research and have been widely accepted, as shown in the Project File resource reports. Parameters for habitat models are based on a review of literature for the particular species in the Northern Region, and represent the latest relevant science for determining suitable habitat for the species at a coarse scale. Areas modeled as suitable habitat within proposed harvest units in the project area were then field-verified to

determine if modeled results met the definition of suitable habitat outlined in the scientific literature (Wildlife Report pp. 16 – 17).

The evaluation of environmental effects as summarized in Chapter 3 of the Soldier-Butler EA does not solely rely on model outputs. Models are just one tool; field data and pertinent current science are also used in analyzing potential effects of Agency actions. The analysis methods for each resource are described in the individual resource reports located in the Project File, and scientific references and other sources relied upon for conclusions are disclosed.

“The Soldier-Butler EA violates NEPA because the FS has not insured the professional and scientific integrity of its analyses...The Soldier-Butler EA violates NEPA in terms of methodology, scientific accuracy, and scientific integrity.” (15, 9)

FS Response: Thank you for your comments and supporting literature on the importance of reliable science and evidence in environmental analyses. The Forest Service adheres to CEQ requirements for scientific integrity in environmental analyses. The agency relies on multiple sources of information, ranging from published data sets and peer-reviewed literature, to field notes and professional training, to conduct analyses and draw conclusions. Most of the evidence in agency NEPA analyses has been widely used and is neither untested nor new. Information is fully disclosed and readily available for public review should members of the public have site-specific concerns with the analysis of evidence and methods used.

Monitoring

“The Soldier-Butler does not cite any science to support its assumption that the FS management will result in snags and down logs in abundance to support viable populations. What is the best available science the EA relies on for its snag retention guidelines? The guidelines are inconsistent with the scientific opinion and recommendations found in Bull et al., 1997 and other scientific information on snag habitat discussed in these comments.” (WL-15-20)

FS Response: Refer to Wildlife Report pp. 17 – 20 and 23 – 24.

“No monitoring is cited to support any EA claims of benefits to snag and down log-dependent species’ population numbers or distribution.” (WL-15-21)

FS Response: Refer to Wildlife Report pp. 17 – 20 and 23 – 24.

Appendix E - Forest Plan Amendment Documentation

This amendment changes/assigns Management Area (MA) designation for two parcels in the Kennedy Creek drainage as follows:

- Changes the MA designation for about 76 acres from MA 4 (active mineral extraction and processing operations) to MA 18 (winter range for deer, elk and bighorn sheep). This amendment is needed because the Kennedy Creek Mine has been abandoned and reclaimed. Amending the direction of the Lolo Forest Plan would reflect that this parcel would no longer be managed for mining and would be managed to attain a proper balance of cover and forage for big game through regulated timber harvest.
- Assigns MA designations to approximately 96 acres of land that were not allocated an MA in the 1986 Lolo Forest Plan due to an inaccurate display of property boundaries. These areas would be assigned MA designations of MA 14 (riparian with grazing) and 18 (winter range).

Management direction for these MAs is summarized in the Forest Plan as follows:

- MA 4: Forest Plan, pages III-12 through III-13
- MA 14: Forest Plan, pages III-64 through III-67
- MA 18: Forest Plan, pages III-83 through III-90

This amendment is consistent with the provisions outlined in the 2012 Planning Rule (see below). This minor modification of MA allocation does not affect the Forest Plan's overall framework, which provides for sustainability, diversity, multiple uses, and timber management.

Consistency with the 2012 Planning Rule (as amended in December 2016)

The above described Forest Plan amendment to the Lolo National Forest Land and Resource Management Plan (Lolo Forest Plan) will change the area to which existing Forest Plan direction applies but will not change the text of that plan direction. More specific information about the amendment is provided below.

Per the National Forest Management Act and its implementing regulations at 36 CFR 219 (2012 Planning Rule), a plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for the change. The responsible official has the discretion to determine whether and how to amend the 1986 Lolo Forest Plan and to determine the scope and scale of any amendment. Although the Lolo Forest Plan was developed using the 1982 Planning Rule procedures, this amendment was prepared under the 2012 Planning Rule. The following sections describe how the procedural requirements of the 2012 Planning Rule were applied to the amendment.

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)). These provisions include:

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

Initially, two separate Forest Plan amendments were scoped and included in the EA: 1) the MA change/assignment that is the subject of this documentation; and, 2) an amendment for Forest Plan MAs 18 and 23, which was applicable to EA Alternative B. In response to EA comments and through the analysis, it was found that the second amendment was not needed and it was not included in the Selected Action. No comments were received regarding the Forest Plan amendment proposal discussed in this documentation.

As described in Section 4.0 of this Decision Notice, opportunities for public comment on the Forest Plan amendments were provided during initial scoping (Project File documents C-1 and C-18) and during the 30-day comment period on the EA. The Forest Plan amendments are described on EA pages 14 and 15. The legal notices for both scoping and the 30-day comment period on the EA (Project File documents C-5 and E-4) also included information about the Forest Plan amendments. These notices were published in the *Missoulian* newspaper on

December 16, 2016 and March 14, 2019, respectively, and subsequently posted on the Lolo National Forest website.

Amend Consistent with FS NEPA Procedures (§ 219.13(b)(3))

This amendment is based on a preliminary identification of the need to change the Plan. The need for change/assign Forest Plan MAs was identified as described above. The public has been provided opportunities to participate as described above. 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 by this Decision Notice. There are no significant effects as described in the finding of no significant impact (see Section 5.0 in this Decision Notice).

Format of Plan Components (§ 219.13(b)(4))

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

Compliance with the Substantive Requirements of the Rule (§ 219.13(b)(5))

Scope and Scale of the Amendment

This amendment would result in a net increase of 172 acres to the timber suitable base, which equates to less than 0.008 percent of the acres contained within the Lolo National Forest. At the Forest-scale, this change would be insignificant. The Lolo Forest Plan (1986) acknowledges that Management Area (MA) boundaries are not firm lines, but represent a transition from one set of opportunities and constraints to another with MA direction established for each. MA boundaries are flexible to assure that the values identified are protected and to incorporate additional information gained from further on-the-ground reconnaissance and project-level planning (Forest Plan, page III-1). Site-specific data collected for the Soldier-Butler project environmental analysis served as a check on the correctness of the land allocation in the Plan (Forest Plan, page V-2).

Determination and Application of Substantive Requirements

Because the Lolo Forest Plan was prepared using the 1982 planning rule procedures, the current planning rule requires that the responsible official determine which specific substantive rule provisions are directly related to the amendment and any apply such requirement(s) within the scope and scale of the amendment. Considering the scope and scale described above, I have determined there are 4 related substantive requirements based on the purpose and/or effects of the amendments as follows:

§ 219.8 Sustainability

The Forest Plan amendment to change/assign MAs to these lands addresses the components of sustainability in the Soldier-Butler EA, Chapter 3 and specialists' reports, including terrestrial and aquatic ecosystems, dominant ecological processes, disturbance regimes, wildland fire, and invasive species on these lands. The amendment will provide for ecological sustainability on these lands by applying forest plan components and state and federal protections that will improve and maintain vegetation structure, function, and composition, and fish and wildlife habitat. The plan amendment applies forest plan standards to maintain soil productivity, water quality, and air quality for prescribed burning activities.

§ 219.9 Diversity of Plant and Animal Communities

The Forest Plan amendment maintains the diversity of plant and animal communities on these lands through the application of forest plan standards and guidelines, including but not limited to: Northern Rockies Lynx Management Direction; Inland Native Fish Strategy; Conservation Strategy for the Grizzly Bear in the Northern Continental Divide Ecosystem (2018); and other Forest and Regional direction to provide for the diversity of plant and animal communities across all lands managed by the Lolo National Forest.

§219.10 Multiple Use

The Forest Plan amendment includes components to address multiple uses of NFS lands when changing/assigning MAs for these lands. The multiple uses include, but are not limited to: scenery, air quality, cultural and heritage

resources, fish and wildlife species, habitat and habitat connectivity, grazing, recreation opportunities, riparian habitat, soil, water quality, timber, and vegetation. In addition to the uses listed above, the responsible official considered the following multiple use in the project area, such as: habitat conditions for fish and wildlife commonly enjoyed and used by the public and federally recognized Tribes; land ownership and access; reasonably foreseeable risks to ecological, social, and economic sustainability, such as uncharacteristic wildfire and the effects of insect and disease in forest stands; disturbance regimes and the ability of terrestrial and aquatic ecosystems to adapt to change; water supplies and water quality; and opportunities to connect people with nature. These multiple uses will continue to occur on these lands following site-specific review and following management area direction of the assigned MAs.

§219.11 Timber requirements based on the NFMA

In determining the need for a Forest Plan amendment to change/assign management areas on these lands, the ID Team and the decision maker considered the suitability of lands for timber production in accordance with 219.11 (a)(i-vi): (i) there is no statute that prohibits timber production on the land; (ii) the lands have not been withdrawn from timber production;(iii) timber production is compatible with achieving the desired conditions; (iv) there is no irreversible damage anticipated to soil slope, or watershed conditions; (v) given the evidence of natural regeneration on these lands following timber harvest from former private timber company owners, there is a reasonable assurance that they can be restocked within 5 years after final regeneration harvest; and (vi) the land is forest land.

The Forest Plan amendment to change/assign MAs to these lands in the Soldier-Butler project area appropriately meets the applicable provisions of 36 CFR 219.8 – 219.11 and does not preclude any of the other substantive provisions of the 2012 rule.

Using the Best Scientific Information to Inform the Amendment (§ 219.3)

The Lolo Forest Plan (1986) acknowledges that MA boundaries are not firm lines, but represent a transition from one set of opportunities and constraints to another with MA direction established for each. MA boundaries are flexible to assure that the values identified are protected and to incorporate additional information gained from further on-the-ground reconnaissance and project-level planning (Forest Plan, page III-1). Site-specific data collected for the Soldier-Butler project environmental analysis served as a check on the correctness of the land allocation in the Plan (Forest Plan, page V-2). Based on field reviews, Forest resource specialists determined the identified areas required a change in MA.

Stating whether or not projects authorized at the time of amendment may continue without change (§ 219.15(a))

Projects and/or other agency actions authorized before this decision may proceed unchanged.

Effective Date (§ 219.17(a))

As stated in Section 7.0 of this Decision Notice, this Forest Plan amendment will be effective immediately after the decision is signed pursuant to 36 CFR 219.17(a)(3).

Objection Opportunity (§ 219.57(b))

As stated in Section 7.0 of this Decision Notice, this Forest Plan amendment, as a component of the Selected Action, was subject to the objection process pursuant to 36 CFR 219, subpart B. No objections on this amendment were received.

Project and Activity Consistency with the Plan

All future projects and activities must be consistent with the amended Plan. The Forest Service's prior interpretation of consistency, that projects need only be consistent with Plan standards and guidelines, and not the 2012 Planning Rule consistency provisions at 36 CFR 219.15(d), applies when an amendment developed and approved under the 2012 Planning Rule does not change the text of the Plan direction but simply applies existing Plan direction to a different or additional area or areas within the Plan area [as in this case] (see FSH 1909.12, ch. 20, sec. 21.33).

Appendix F: Terms and Conditions

The following were taken from the USFWS Biological Opinion for the Soldier-Butler Project, which is located in the Project File.

Reasonable and prudent measures

Biological opinions provide reasonable and prudent measures that are expected to reduce the amount of incidental take. Reasonable and prudent measures are those measures necessary and appropriate to minimize incidental take resulting from the proposed Soldier Butler Project. Reasonable and prudent measures are nondiscretionary and must be implemented by the agency in order for the exemption in section 7(o)(2) to apply.

1. Reduce the potential for harm caused by displacement of female grizzly bears.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Forest must comply with the following terms and conditions that implement the reasonable and prudent measure described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary:

1. To minimize effects to grizzly bears within security areas, complete the vegetation treatments in units 24, 25, 26, and 70, including the associated hauling on roads 18179, P-18179, P-18179-A and 34370 that access these units, within two consecutive grizzly bear non-denning periods or less. Due to the need for appropriate burn windows, this term and condition does not apply the prescribed burning proposed for these units.
2. Where possible, prioritize the remaining project-related activity within the action area in order to reduce the duration of use of the 9 miles of temporary roads and 40.3 miles of restricted/closed roads to the minimum time-frame possible.
3. Install a gate on Road 5507 (Kennedy Ridge Road) at the Kennedy Ridge Trail parking area. This would increase security habitat by effectively closing a two mile segment of road that dead-ends adjacent to the IRA. Gate will remain in place during the logging and road building porting of the project (approximately 5 years).