

Scoping Period

The scoping period for the Piquett Creek Project started on 9/10/2019. While comments may be submitted at any time, for the purposes of this scoping period, comments were accepted through 10/11/2019.

Parties Responding to Scoping

Table 1: Parties that Responded

Name	Acronym	Project File Document Name
Scott Kuehn, Pyramid Mountain Lumber	PML	SCOPE-004
Rodger and Patricia Miller	RPM	SCOPE-005
Wayne Lugaila and Lynn Lindsay	WL/LL	SCOPE-006
Mike and Kathy Jeffords	MKJ	SCOPE-008
Mark Van Loon	MVL	SCOPE-009
Michael Hoyt	MH	SCOPE-010
Charles Mabbott	CM	SCOPE-011
Michelle Long, Bitterroot Restoration Committee	BRC	SCOPE-012
William Peck, Idaho Forest Group	IFG	SCOPE-013
Jeff Lonn	JL	SCOPE-014
William Peck, Mineral County Resource Coalition	MCRC	SCOPE-015
Mac Donofrio	MD	SCOPE-016
Ravalli County Board of Commissioners	RCBC	SCOPE-017
John Mensik	JM	SCOPE-018

Comment Analysis & Response

Comments were reviewed by the interdisciplinary team to determine if issues or concerns were raised that demonstrated a clear cause-effect relationship and if remedies were suggested that would address the issue/concern. Issues raised by multiple parties are listed once. Comment text is summarized or paraphrased. Responses were only prepared for substantive comments. Substantive comments include: comments that address new scientific information or data that would have a bearing on the analysis; comments that identify errors in the analysis, assumptions, methodology, or conclusions; comments that address misinformation that could affect the outcome of analysis; comments that request clarification; or comments that identify an alternative way of accomplishing the purpose and need with a mix of allocations that differ from those under any of the proposed actions. Comments that were in general favor or against a proposed action, agree or disagree with Forest Service policy or decisions without supporting information, do not pertain to the project, or that take the form of vague, open-ended questions or statements were not addressed.

Issue/Concern	Resource/ Main Topic	Commenting Party/ies	Recommendation/ Suggested Remedy	Response	Remarks and/or Project Record Citations
Ground-disturbing activities could lead to an increase in invasive species.	Invasive Species/Weeds	CM, MVL, PML, RPM, MH, JL	Minimize the size of slash piles on log landings, chip and/or mulch and haul from log landings, leave denser tree spacing on south slopes, and replant larger log landings with native plants. Utilize winter harvest to minimize spread. Minimize the size of slash piles on log landings, chip and/or mulch and haul from log landings, leave denser tree spacing on south slopes, and replant larger log landings with native plants. Utilize winter harvest to minimize spread. Emphasize non-commercial thinning.	Comment considered but no changes needed	Project design features have been added to minimize and mitigate the introduction and spread of invasive weeds. Revegetation using native seed of disturbed locations such as skid trails, temp roads, log landings and landing burn piles is incorporated into the project design. The Piquett Creek project area and road network is covered by the 2003 Bitterroot National Forest Noxious Weed Treatment Project Environmental Impact Statement and Record of Decision that authorized the control and treatment of invasive plants. Winter harvest is allowed but unlikely to occur because of the winter hauling and snow plowing restrictions that are required to minimize potential sediment contributions to Piquett Creek. Non-commercial thinning will be utilized where it will meet the desired conditions.

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<p>Hauling restrictions curtailed on November 15th and no snow plowing is allowed, yet winter harvest conditions are described under soils, ground based harvesting. More detail would be appreciated.</p>	<p>Soils, Fisheries</p>	<p>PML</p>	<p>Please explain why hauling restrictions are proposed.</p>	<p>Comment considered but no changes needed</p>	<p>Hauling will be suspended by November 15th and no snow plowing will be authorized on Forest Roads within the Piquett Creek drainage. These restrictions are in place to reduce the potential for sediment from entering Piquett Creek from those activities. These restrictions are terms and conditions of the Biological Opinion on Bull Trout the Forest received from the USFWS for the Piquett Creek Project (PF-FISH-002). Winter harvest is allowed to occur within the project area when the suitable conditions described in the design features are present. Although it is unlikely to occur because of the haul and plowing restrictions, still allowing it may provide some flexibility during implementation.</p>
<p>The Forest Plan allows ground based yarding up to 40% slopes yet this project proposes to limit it to slopes under 35%.</p>	<p>Soils</p>	<p>PML</p>	<p>This should be a site by site decision and not a blanket restriction.</p>	<p>Comment considered but no changes needed</p>	<p>The 2018 Bitterroot N.F. Biennial Monitoring Evaluation Report contains a recent compendium of past soils monitoring across the forest (USDA Forest Service 2018). It is explicitly noted within the report that ground-based skidding on slopes at or near 40% gradient pose the greatest concern due to potential for topsoil displacement. This concern would be addressed with implementation of the design feature limiting operations on gradients greater than 35%. See PF-SOILS-001.</p>

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It is not clear why hauling is restricted to FSRs 49, 731, 5720 and 5724.	Fisheries	PML	Please clarify why hauling is restricted to these roads.	Comment considered but no changes needed	The listed roads are not the only roads that can be used for hauling. Smaller spur roads that exit the listed roads can also be used for hauling as long as their stream crossings are graveled prior to hauling. The reason why forest roads 49, 731, 5720, and 5724 were listed is because those roads are the main collector roads in the project area. We did not want to list all of their spurs. FR 5723 and its spurs will not be used for haul. Restricting use of 5723 eliminates the need for an additional 1.3 miles of BMP upgrades on FR49 and the potential for sediment contributions associated with haul. It will also reduce the need for BMP upgrades on 3 tributaries of Piquett Creek. The 5723 road system primarily accesses areas outside of the WUI where the priority for commercial treatments isn't as high.
Retain large diameter trees	Silviculture/Veg	RPM		Comment considered but no changes needed	A requirement of the Wildfire Resiliency Categorical Exclusion: Section 605 of HFRA (16 U.S.C.6591d) (FSH 1909.15, 32.3(4)) is to maximize retention of old-growth and large trees as appropriate. Site specific prescriptions and treatments will be designed to retain and protect healthy large trees were available.

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Do not leave large amounts of activity fuels because they detract from scenery of forest	Fire/Fuels	RPM		Comment considered but no changes needed	Slash disposal will be accomplished through a combination of Fuels Management activities (Piling, Pile Burning, Prescribed Fire). Site specific slash treatment plans based on existing and desired future conditions of the area and coarse woody debris CWD requirements for soils and wildlife will be developed and incorporated into implementation plans. Proper slash disposal is essential in moderating potential fire behavior and ensuring treatment effectiveness (USFS-Science Basis for Forest Health Treatments), (Peterson 2007), (Peterson et al. 2005), (Stephens et al. 2012), (Strom and Fule 2007) (Omi and Martinson 2002, 2004, 2010), (Agee and Skinner 2005), (Graham 2004, 2007) (Pollet and Omi 2002), (Fule et al. 2001), (Hudak et al, 2011), (Prichard et al. 2020).
Do not decommission roads as it leads to loss of opportunity for recreation	Recreation	MKJ		Comment considered but no changes needed	No permanent road decommissioning is proposed as part of this project.

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Logging and thinning operation outcomes are dependent on who does the work (contractor vs. FS crew)	Other/Misc	MVL	Use Forest Service crews to implement project.	Comment considered but no changes needed	Achieving the desired outcomes from activities planned within this project are very important to the Forest Service and local community. Forest Service personnel will be involved and oversee all aspects of implementation. Certain activities such as commercial timber harvest are beyond the capability of Forest Service crews to implement but will still have Forest Service oversight. Tree marking will have oversight by a certified silviculturist to ensure prescriptions are being following and desirable trees are being retained. A certified sale administrator will monitor all harvest activities to ensure contract requirements, resource design features and the desired results are achieved. Thinning and other fuels reduction activities will likely be accomplished by a combination of contractors and Forest Service crews. The amount of thinning and fuels work needed within this project exceeds current capabilities of FS crews. Thinning contractors will have high performance standards for work quality as well as daily oversight by Forest Service inspectors and a contracting officer representative to ensure prescription parameters and contract requirements are met. Forest Service crews will be responsible for developing burn plans and implementing all of the prescribed fire activities within the Piquett Project.
Forest thinning and logging activities do not reduce the severity of wildfires.	Fire/Fuels	MH		Comment considered but no changes needed	Areas on national forest lands treated by activities proposed in this project would have reduced flame lengths, fire intensity and crown fire potential following implementation. Research shows that with a few exceptions, fuel treatments substantially moderated fire severity and reduced tree mortality (Safford, 2009). Treatments that include surface fuel reduction, particularly by prescribed burning, are well supported for moderating potential wildfire behavior in both long-needle pine and mixed conifer forests. These treatments appear to remain

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					<p>effective for up to ten years, but longevity should be expected to vary by ecosystem productivity (Omi, 2010). Scientific findings indicate the most appropriate fuel treatment strategy is often thinning (mechanical treatments that remove ladder fuels and decreasing crown density) followed by piling and burning fuels, and prescribed fire. These treatments would provide maximum protection from severe fires in the future (Peterson et al. 2005). Stephens found that when they are applied, both prescribed fire and its mechanical surrogates are generally successful in meeting short-term fuel-reduction objectives and in changing stand structure and fuel beds such that treated stands are more resistant and resilient to high-intensity wildfire (Stephens, 2012). Other research shows that areas treated before a fire begins can decrease severity (Strom and Fule 2007; Peterson 2007; Omi and Martinson 2002 & 2004; Agee and Skinner 2005; Graham 2004 & 2009; Pollet and Omi 2002; Fule et al. 2001; Hudak et al, 2011; Prichard et al. 2020). However, in extreme weather conditions, such as drought and high winds, fuel treatments may do little to mitigate fire spread or severity (Pollet and Omi 2002).</p>
Project activities will result in longer flame lengths	Fire/Fuels	MH	Do not thin or log in the WUI.	Comment considered but no changes needed	<p>Comment doesn't provide context to which activities might contribute to longer flame lengths. Activities that produce slash which is left untreated by either removing from the site or using prescribed fire may have a temporary increase in fire behavior. Prescribed fire is planned for all treatment areas within the Piquett Creek project. The combination of vegetation and fuels activities proposed within the Piquett Creek project are expected to reduce surface, ladder and crown fuels and fuel continuity in treatment areas. Research shows that with a few exceptions, fuel treatments substantially moderated fire severity and reduced tree mortality (Safford, 2009). Treatments that include surface fuel reduction, particularly by prescribed</p>

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					<p>burning, are well supported for moderating potential wildfire behavior in both long-needle pine and mixed conifer forests. These treatments appear to remain effective for up to ten years, but longevity should be expected to vary by ecosystem productivity (Omi, 2010). Scientific findings indicate the most appropriate fuel treatment strategy is often thinning (mechanical treatments that remove ladder fuels and decreasing crown density) followed by piling and burning fuels, and prescribed fire. These treatments would provide maximum protection from severe fires in the future (Peterson et al. 2005). Stephens found that when they are applied, both prescribed fire and its mechanical surrogates are generally successful in meeting short-term fuel-reduction objectives and in changing stand structure and fuel beds such that treated stands are more resistant and resilient to high-intensity wildfire (Stephens, 2012). Other research shows that areas treated before a fire begins can decrease severity (Strom and Fule 2007; Peterson 2007; Omi and Martinson 2002 & 2004; Agee and Skinner 2005; Graham 2004 & 2009; Pollet and Omi 2002; Fule et al. 2001), (Hudak et al, 2011), (Prichard et al. 2020).</p>

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Without structure hardening, in the event of a wildfire, structures will still be damaged even if the area is thinned and logged	Fire/Fuels	MH	Do not thin or log in the WUI.	Comment considered but no changes needed	It is well understood and supported that the immediate area surrounding a home and the characteristics of the building material are potentially the most critical elements in determining its survivability. We encourage homeowners to do their part in making their homes fire safe, however, hardening structures on private land is beyond the scope and scale of this project. While individual home-by-home treatments can help reduce the risk of loss of individual homes, relying solely on such treatments would forego strategic opportunities for reducing fire behavior and controlling fires within this wildland urban interface area prior to fire impacting structures. Additionally, reducing fire behavior and the potential for torching within the WUI will also reduce the potential for lofted firebrands which are also a principle ignition factor for structures. Highly ignitable homes can ignite during a wildland fire without a fire spreading near the structure. Firebrands that result in ignitions can originate from wildland fires that are a distance of 1 kilometer (0.6 miles) or more (Cohen 2000). Refer to the consideration of science document for individual responses to the literature provided.
Arno research being used to support need for project is flawed and more recent research (Baker and Ehle, 2001) shows longer fire intervals are more likely	Fire/Fuels	MH	Consider Baker and Ehle 2001 research.	Literature/science considered	Arno's research is site specific information available for replicating fire history and historical fire return intervals for the Bitterroot. It contains empirical data taken directly from the area where this project would occur. Tree ring data from the 1970s that shows historical fire return intervals is as applicable then as it is today since it puts a much longer timeline into context. Additionally, a comprehensive literature review conducted by the Fire Effects Information System (FEIS) of wildland fire interactions with ponderosa pine communities within the

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					<p>Northern Rockies shows similar results to Arno and found that low to moderate surface fire typically burned every 6-13 years. (Fryer, 2016). The mean fire free period(s) identified from Arno's West Fork study locations were used to articulate what fire's historical impact on vegetation and fuels would have been within the project area and how that departure has created the current conditions. We acknowledge that portions of the project area would have burned more or less frequently than the mean fire free period, as well as at varying intensities and this would have had different effects to the vegetation, fuels and landscape diversity.</p> <p>The comment about how fire will become more frequent and severe with changes to the climate highlights the need to have forests that are resilient to increased fire disturbances on the landscape. Refer to the consideration of science document for individual responses to the literature provided.</p>
Prescribed fire is unlikely to restore the Forest to a more historical condition	Fire/Fuels	MH	Do not use prescribed fire.	Comment considered but no changes needed	Restoring the forest to its historical state is not a specified objective of prescribed fire for this project. Historical conditions are used as a reference of landscape conditions that were resilient to natural disturbances which is the purpose and need of the project. The proposed use of prescribed fire within this project is to restore fire as a natural process on the landscape in a controlled manner that will diversify the landscape, reduce potential fire behavior, enhance wildlife habitat and diversify and move the project area towards desired conditions.

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Reducing stand densities will not reduce severity of wildfires or insect and disease outbreaks	Fire/Fuels	MH		Literature/ science considered	<p>Results from the 2016 Bitterroot NF Wildfire Risk Assessment show that the current risk to values within the project area as well as adjacent communities is too great to manage the area with wildfire. Completing the proposed treatments to change fire behavior and break up fuel continuity will allow for increased future opportunities to use wildfire on the landscape. The combination of vegetation and fuels activities proposed within the Piquett Creek project are expected to reduce surface, ladder and crown fuels and fuel continuity in treatment areas.</p> <p>Research shows that with a few exceptions, fuel treatments substantially moderated fire severity and reduced tree mortality (Safford, 2009). Treatments that include surface fuel reduction, particularly by prescribed burning, are well supported for moderating potential wildfire behavior in both long-needle pine and mixed conifer forests. These treatments appear to remain effective for up to ten years, but longevity should be expected to vary by ecosystem productivity (Omi, 2010). Scientific findings indicate the most appropriate fuel treatment strategy is often thinning (mechanical treatments that remove ladder fuels and decreasing crown density) followed by piling and burning fuels, and prescribed fire. These treatments would provide maximum protection from severe fires in the future (Peterson et al. 2005). Stephens found that when they are applied, both prescribed fire and its mechanical surrogates are generally successful in meeting short-term fuel-reduction objectives and in changing stand structure and fuel beds such that treated stands are more resistant and resilient to high-intensity wildfire (Stephens, 2012). Other research shows that areas treated before a fire begins can decrease severity (Strom and Fule 2007; Peterson 2007; Omi and Martinson 2002 & 2004; Agee and Skinner 2005; Graham et al.</p>

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					2004 & 2009; Pollet and Omi 2002; Fule et al. 2001; Hudak et al, 2011; Prichard et al. 2020). Refer to the consideration of science document for individual responses to the literature provided.
Reducing stand densities will negatively impact wildlife and forest diversity.	Wildlife	MH		Comment considered but no changes needed	The Forest uses best practices and design features to avoid or minimize impacts to wildlife. Effects from the proposed activities on wildlife species have been analyzed. Refer to the Wildlife Specialist Report and Biological Assessment (PF-WILD-001)

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Proposed actions will benefit some wildlife species but project should not show preference for one species over another	Wildlife	MH		Comment considered but no changes needed	Proposed actions are not designed to occur on every acre of the Piquett Project. The CE authority allows for treatment of up to 3,000 acres of the approximately 5,800 acres of the Piquett Project. Project activities, locations, and extent of treatment largely depends on where and if and how certain project activities can be effectively implemented. For example, the Northern Rockies Lynx Management Direction prohibits certain activities from occurring in certain places (i.e. any harvest of mature, multi-story field-verified lynx habitat) while other policy and regulations require an analysis of the existing condition and how proposed project activities may impact certain species. Project activities will result in a mosaic landscape that contains a variety of forest types under a variety of growth conditions and successional stages. Heterogeneous landscapes provide the greatest benefit for the greatest number of species.

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Roads have a negative impact on water quality/quantity and wildlife	Hydrology, Wildlife	MH	Do not build any new roads (including temporary roads)	Comment considered but no changes needed	<p>The potential impacts to water, aquatics and wildlife from the existing road network and temporary road construction has been analyzed (see Wildlife and Fisheries Biological Evaluations, PF-WILD-001, PF-FISH-001 and PF-WAT-004).</p> <p>No new permanent roads will be constructed as part of this project. All temporary roads must be decommissioned no later than three years after date of project completion. Rehabilitation activities of temporary road construction and landings would include recontouring, slashing with readily available debris, and application of organic fertilizer and seed.</p>

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Old growth forests are important and complex systems	Silviculture/Veg	MH, MD, JL	Conduct an old growth inventory. Do not have any management activities in old growth or implement a diameter limit of 20" DBH. Consider the following science: Hessburg, P.F., et al., 2015	Comment considered but no changes needed	There is no proposal to remove any old growth stand from old growth status, as defined by Green et al. 1992 (amended 2005). Treatments may be proposed to reduce competition and ingrowth to create a more resilient and resistant stand to insects, disease and wildfire that would protect and aid in managing these stands for old growth into the future. Old growth data will be collected where appropriate to determine if stands qualify based on the Green et al. definition and ensure we're meeting the Forest Plan. See Silviculture Report PF-SILV-001 and Implementation Plan PF-DECISION-003. We agree with Hessburg, P.F., et al, 2015 and incorporate his principles on scale and heterogeneity into project planning, development and implementation. Refer to the consideration of science document for individual responses to the literature provided.

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Project activities will utilize equipment that burns fossil fuel and that will negatively impact the climate	Climate Change	MH, MD, JL	Analyze how management activities will affect the earth's climate. Consider the following science: Campbell, J.L., Harmon, M.E., Mitchell, S.R., 2011; DeLuca, T.H., and Aplet, G.H.,2008; Harmon, M.E., et al., 1996; Harris, N.L., and 6 others, 2016; Law, B.E., and Waring, R.H., 2015; Law, B.E., Hudibug, T.W., Berner, L.T., Kent, J.J., Buotte, P.C., and Harmon, M.E., 2017; LePage, 2019; Segerstrom, C., 2018	Literature/ science considered	The Piquett Creek project proposes to treat 3,000 acres of USFS system lands. This acreage represents 0.35% of lands on the West Fork Ranger District and 0.19% of Bitterroot National Forest lands. When placed into the context and scale at which changes to the climate are measured, potential impacts of vegetation treatments within the Piquett Creek project would be immeasurable. Additionally, the activities proposed within this project are incorporating the adaptation strategies to address climate change effects on forested vegetation as recommended by the Climate Change Vulnerability and Adaptation in the Northern Rocky Mountains (<i>NRAP GTR</i>) - Final Volume 1 and Volume 2. (Halofsky et al. 2018) Refer to the consideration of science document for individual responses to the literature provided.
WUI boundary is not based in science that shows logging far from structures is not effective	Fire/Fuels	MD	Change WUI boundary to stay within 0.25 mile of private land	Comment considered but no changes needed	The Wildland Urban Interface boundary for Ravalli County was defined by the Bitterroot Community Wildfire Protection Plan (DNRC, 2006). This boundary was established using a set distance from the forest boundary. Changing that boundary is outside the scope of this project.

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Project activities will lead to more compacted soils in an area with already high compaction	Soils	MD	No remedy suggested	Comment considered but no changes needed	Soils in the project area with high compaction have been delineated and avoided to the extent practical. In the few instances where treatment areas intersect these soil types the proposed units and associated temporary roads have been designed to adhere to the regional direction of less than 15% detrimental disturbance per unit. At high levels soil compaction can be considered detrimental. Due to the large percentage of coarse textured soils in the project area compaction of this magnitude is not expected. The Draft 2018 Bitterroot N.F. Biennial Monitoring Evaluation Report contains a recent compendium of past soils monitoring across the forest (USDA Forest Service, 2018). Analysis conveyed within the report shows that harvest activities have displayed consistent downward trends in DSD since the 1990s and over the past five years per-harvest unit DSD has generally fallen below 10%, with minor exception. DSD associated with skyline harvest has been observed to be 4% or less over the past eight years. See PF-SOILS-001.
Without defined harvest units, it is hard to comment on the project	Public Engagement	MH, JL, MVL		Comment considered but no changes needed	The scoping letter and scoping supplement provided a description of the proposed action and details for activities that would be used to meet the desired conditions and purpose & need of the project. The supplement also included a treatment diagnosis crosswalk table that described the existing conditions and what potential activities would be used in those situations to achieve the desired conditions. The design feature section provided additional information on where certain activities were not allowed to be implemented. Within the scoping letter, the responsible official requested the public to use that information to consider the cause and effect relationship of the proposed activities and how they might affect people or the environment in order to determine whether there are extraordinary

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					<p>circumstances. Additionally, there will be another opportunity to provide feedback on site specific activities and units during the implementation phase of the project. The West Fork Ranger District plans to continue working with the collaborative groups and residents that helped to develop this project as well as any other interested parties to develop and formalize an implementation plan and schedule that will specify treatment activities and locations within the project area. The public will have 30 days to provide additional feedback or suggest improvements to the draft plan within the context of the decision. Refer to the Implementation section of the CE review form and decision memo (PF-DECISION-001) and the implementation plan. (PF-DECISION-003)</p>

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Project activities will affect several resources including recreation, wildlife, and aquatic species.	NEPA/Proj Development	JL	An environmental assessment should be prepared because of effects to bull trout, lynx, wolverine, and grizzly bear	Comment considered but no changes needed	The purposes of the Healthy Forest Restoration Act are listed in 16 U.S. Code § 6501. These purposes fit those of the Piquett Creek project. The project's compliance with requirements for use of the Healthy Forest Restoration Act Wildfire Resiliency Categorical Exclusion (16 U.S.C. 6591b) (FSH 1909.15, 32.3(4)) and documentation of proposed action activities as they relate to extraordinary circumstances is provided in the CE review form (see project file PF-DECISION-001). Effects to bull trout, lynx, wolverine, and grizzly bear were considered as part of this review and those findings are documented in the project file (PF-WILD-001, WILD-003, WILD-005, WILD-006, WILD-007, PF-FISH-001) as well as summarized within the CE review form (PF-DECISION-001). Formal consultation with the USFWS was completed for bull trout, and informal consultation for grizzly bear and lynx. The biological opinion for bull trout and concurrence letter for grizzly bear and lynx are in the project file. (PF-FISH-002, PF-WILD-004). Consultation for Wolverine was completed under the programmatic agreement with USFWS. Effects are documented in the Wolverine summary sheet located in project file (PF-WILD-001, WILD-007)
By focusing on only retaining ponderosa pine in low elevation sites, old-growth Douglas-fir could be removed.	Silviculture/Veg	JL	Avoid the one-size-fits-all prescription to remove Doug Fir to favor Ponderosa Pine in all low elevation sites.	Comment considered but no changes needed	The objective of the proposed treatments is not to remove one species in favor of another. The objective is to increase stand resiliency to disturbances by removing insect and disease-stressed Douglas-fir and leaving healthy Douglas-fir and ponderosa pine. All Douglas-fir will not be removed from lower elevations. Silviculture prescriptions will be prepared based on site specific conditions and designed to meet the desired future condition that supports the project purpose and need for resiliency.

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Purpose and need appears to be for commercial harvest and fire hazard is overstated.	NEPA/Project Development, Fire/Fuels	JL	Restrict commercial timber harvest to MA 1 and the CPZ (within 0.25 mile of structures). Consider the following science: Cohen, J.D. 1999; Cohen, J.D. 2000; Cohen, J.D. 2002; Cohen, J.D. 2003b; Cohen, J.D. 2003c; J.D. and J. Saveland, Donato D.C., B.J. Harvey, W.H. Romme, M. Simard, and M.G. Turner. 2013; Hart, S.J., Schoennagel, T., Veblen, T.T., and Chapman, T.B., 2014; Hessburg, P.F., et al., 2015; Kramer, H., et al., 2019; Kulakowski, D., Daniel Jarvis, D., 2011; Meigs, G. W., J. L. Campbell, H. S. J. Zald, J. D. Bailey, D. C. Shaw, and R. E. Kennedy. 2015; Meigs, G.W., J.D. Zald, H.S. Campbell, W.S. Keeton, and R.E. Kennedy, 2016; Nacify, C., Sala, A., Keeling, E.G., Graham, J., Deluca, T.H., 2010; Simard, M., Reese, W.H., Griffin, J.M., Turner, M.G., 2011; Swetnam, T.W., Allen, C.D., and Betancourt, J.L., 1999; Zald, S.J., and Dunn, C.J., 2018	Literature/ science considered	The purpose and need of the Piquett Creek Project is to Improve landscape resilience to disturbances (such as fire, insects and diseases) by diversifying forest structure and composition and reducing fuels. Vegetation management activities that include commercial harvest will be used to help meet the purpose and need of the project. Refer to the consideration of science document for individual responses to the literature provided.

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<p>Insects and disease are natural processes and treatments may not be proven to actually improve outbreaks.</p>	<p>Silviculture/Veg</p>	<p>JL</p>	<p>Let insects and disease run their course. Restrict commercial harvest for insect and disease control to MA1.</p> <p>Consider the following science: Bailey et al. 2005, Carswell 2016, Hadfield et al. 2000, Hoffman 2004, McNulty et al. 2014, Keim 2019, Six et al. 2014, Six et al. 2018, Sthultz et al. 2009, and Watson and Herring 2012.</p>	<p>Literature/ science considered</p>	<p>Management areas 1, 2 & 3A of the 1987 Bitterroot National Forest Land Resource Management Plan are found within the Piquett Creek project area. Forest plan direction allows for commercial timber harvest to occur in each of these management areas to achieve resource goals. Proposed activities are consistent with Forest Plan direction for Management Areas 1, 2 & 3A.</p> <p>Refer to the consideration of science document for individual responses to the literature provided.</p>
<p>Newer studies have found that fire-frequency in the northern Rockies has been overestimated and that mixed severity fires were historically common in dry, low elevation forests. They make the case for reintroducing fire without first doing extensive fuel treatments. Your goal of eliminating all mixed and high severity wildfires is not ecologically sound.</p>	<p>Fire/Fuels</p>	<p>JL</p>	<p>Consider introducing prescribed fire to ponderosa and Pine/Douglas-fir forests without as much pretreatment.</p> <p>Consider the following science: Baker WL (2017); Baker, W.L., and Ehle, D., 2001; Baker, W.L., T.T. Veblen, and Sherriff, R.L. 2007;</p>	<p>Literature/ science considered</p>	<p>The Piquett Creek Project does not have a goal to eliminate all mixed or high severity wildfire. There is a goal to reduce flame lengths and crown fire hazard potential within the Wildland-Urban Interface, adjacent community protection zone and low severity fire regimes. We recognize that mixed and stand replacing fire is a natural disturbance process in some forest types found in the Piquett Creek project and on the Bitterroot NF. We desire to have fire as part of those systems where appropriate when negative impacts to other onsite and adjacent values can be mitigated. Mixed and stand replacing fire was historically typical in areas identified as Fire Regimes III-V which</p>

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			<p>Dellasala, D.A., Ingalsbee, T., and Hanson C.T, 2018; Hutto, R. L. 1995; Malison, R.L., and C.V. Baxter. 2010; Odion D.C., Hanson C.T., Arsenault A., Baker W.L., DellaSala D.A., Hutto R.L., Klenner W., Moritz M.A., Sherriff R.L., Veblen T.T., Williams M.A. 2014; Sestrich, C.M., T.E. McMahon, and M.K. Young. 2011; Swetnam, T.W., and Baisan, C.H., 1996; Williams, M.A., W.L. Baker. 2012b.</p>		<p>only comprise 10% of the project area. Ponderosa pine and dry Douglas-fir comprise 93% of the forest vegetation within the Piquett Creek project. Local research efforts suggest that historically, fires in these forest types would have burned frequently and generally at low to moderate intensities. Variability in fire intensities likely depended on fuel continuity and weather conditions which resulted in mosaic burn patterns and landscape diversity. A comprehensive literature review conducted by the Fire Effects Information System (FEIS) of wildland fire interactions with ponderosa pine communities within the Northern Rockies shows that low to moderate surface fire typically burned every 6-13 years. (Fryer, 2016). These findings are similar to the site specific results Arno found on the Bitterroot NF (Arno, 1976, 1983) as well as numerous other publications. (Barrett et al. 1997; Arno et al. 1995; Agee 1993; Fischer and Bradley 1987; Arno and Gruell 1986; Habeck 1976; Habeck and Mutch 1973; and Leiberg, 1899). Prescribed fire is planned for areas containing ponderosa pine and Douglas-fir and will be used as a standalone treatment where existing conditions allow the desired conditions and control requirements to be achieved. Refer to the consideration of science document for individual responses to the literature provided.</p>

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<p>Treating areas that historically had infrequent mixed and high severity fires, such as steep north-facing slopes and riparian areas will take them farther from historic conditions rather than closer.</p>	<p>Fire/Fuels</p>	<p>JL</p>	<p>Do not treat these areas.</p>	<p>Comment considered but no changes needed</p>	<p>This comment is in reference to a field trip stop for the Mud Creek project. The Piquett Creek Project does not propose to treat areas that historically had infrequent mixed and high severity fires. A criterion for use of the Healthy Forest Restoration Act Wildfire Resiliency Categorical Exclusion (16 U.S.C.6591b) (FSH 1909.15, 32.3(4)) is that treatments occur within the WUI or if outside the WUI in an area in condition classes 2 or 3 in Fire Regime Groups I, II, or III. 97% of the project area is classified within fire regimes I, II & III that historically had frequent, low to mixed severity fire. (PF-SCOPE-001 & 002) Arno's research on the historical role of fire in the Bitterroot found that habitats similar to those found within Piquett Creek burned frequently and generally at low severity. No treatments are planned for riparian areas and RHCA buffers have been established for the project areas to exclude those habitats. To reduce the need for fireline adjacent to RHCA's prescribed fire is allowed to back and creep into RHCA's. Previous monitoring shows that except for a few localized instances, these burns have been of low severity and have had negligible effects on riparian vegetation and aquatic fauna. (PF-FISH-001)</p>

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Temporary roads fragment habitat, increase sediment and cause visual scars.	Timber/Logging Systems	JL	No remedy suggested	Comment considered but no changes needed	The potential impacts of temporary road construction on water and habitat has been analyzed (see Soils, Wildlife and Fisheries Biological Evaluations, PF-SOILS-001, PF-WILD-001 and PF-FISH-001). All temporary roads must be decommissioned no later than three years after date of project completion. Rehabilitation activities of temporary road construction and landings would include recontouring, slashing with readily available debris, and application of organic fertilizer and seed. No new permanent roads will be constructed as part of this project.
Remote sensing and modeling should not be a replacement for field surveys and on the ground work.	Other/Misc	JL	Do extensive field surveys.	Comment considered but no changes needed	On-the-ground field work is used to support and adjust remote sensing and modeling predictions. Remote sensing data and modeling has been utilized by all resource areas to help inform existing conditions, potential effects and focus where site specific surveys might be necessary. During the summer of 2019, field surveys were completed by Fisheries, Watershed, Botany, Invasives, Heritage, Silviculture, Fuels, Timber, Soils and Wildlife staff. Field analysis was used to determine proposed action relation to extraordinary circumstances and compliance with other laws, regulations, and policies. Additional field work and monitoring will be completed throughout the implementation of the Piquett Creek project.
There is potential for negative economic impacts to Ravalli County.	SocioEconomic	JL	Do a thorough economic analysis.	Comment considered but no changes needed	An economic analysis not required for a categorical exclusion (36 CFR 220.6). Economic considerations will be considered when prescribing activities and identifying treatment units.