

Appendix H – Response to Comments on the Draft Environmental Assessment (EA)

Introduction

The Detroit Ranger District provided the public with a 30-day comment period for the Dry Beard Project Draft Environmental Assessment (EA). The comment period began on August 26, 2019 and ended on September 25, 2019. Seven letters were received from members of the public and public interest organizations.

Content Analysis

A standardized content analysis process was conducted to analyze the public letters received on the Draft EA. Content analysis is designed to extract comments from each letter received, evaluate similar comments from different letters, and identify topics of concern. Additionally, content analysis ensures that every comment is considered fairly and accurately represents the breadth and depth of the public's viewpoints. All letters and comments have been treated equally. They are not weighted by status of respondents or organizational affiliation and it does not matter if an idea was expressed by hundreds of people or a single person.

During the content analysis process, each letter was assigned a unique tracking number. Content analysts then read letters in their entirety and proceeded to identify discrete comments within them. Each letter may have contained anywhere from one to fifty comments.

How to Use This Comment Response Document

While all comments were reviewed and considered, only specific written comments as identified in 36 CFR 218.2 received a detailed response in the document below. Examples of specific written comments include those comments that provided new information; identified a new issue; identified a new way to meet the purpose and need; pointed out a flaw in the analysis; or identified a different source of credible research. General statements of support, opposition, or alternative preferences; comments outside the scope of the project; comments pertaining to issues already decided by law, regulation or policy; or comments already addressed in the Draft Environmental Assessment (EA) are not included.

In some cases, comment may have been summarized or paraphrased and similar comments may have been grouped into public concern statements. Pages, chapter, or sections cited within the response to comments refer to the Dry Beard Final Environmental Assessment (EA) unless otherwise noted.

A complete record of all letters, including names and addresses of individuals, agencies, and organizations that submitted a letter during the 30 day comment period, is available online in the Dry Beard Project Public Reading Room at <https://cara.ecosystem-management.org/Public/ReadingRoom?project=53556>

or in the project file located at the Detroit Ranger District.

	Comment	Resource	Response
	Comments from Richard Dwyer, Stahlman Summer Home Association		
1	We are pleased that the project includes a proposal to repair or replace the Idanha Bridge.	Idanha Bridge	Thank you for your comment.
2	...the increased heavy-vehicle traffic on an already failing Blowout Road, referred to as road 1000000 in the EA, is of concern. Although no mention of the timing of the project is included in the EA, experience tells me it will coincide with the heaviest usage of Blowout Road.	Blowout Road	Blowout Road will be improved prior to the timber sales. Traffic management and public safety, including signage, are standard practices for contractors. Haul can be expected year round but the heaviest traffic will likely occur during the normal operating period May 15 th – October 15 th . The earliest we would see timber haul is late summer 2021.
3	I have approached the Detroit Ranger District several time (sic) about the condition of Blowout Road. I suggest some of the income derived from the timber sale be allocated to improving the condition of Blowout Road.	Blowout Road	Blowout Road will be improved and maintained to Forest Service standards to safely allow haul and pubic travel. This will be done as part of the timber sale package.

	Comment	Resource	Response
	Comments from WildEarth Guardians		
4	<p>After all of this analysis of the 83 miles of road in the project area, only 4.5 miles of system roads was identified to be stored or decommissioned. This 3% reduction in the road system (counting only the decommissioned roads, since stored roads often do still need a bit of maintenance), we have to ask whether this truly meets the project purpose of “sustainably managing the road system”? We had several questions in our scoping comments (Guardians comments, August 2018, p. 2) that were not answered along this line of questioning. How will the remaining 80.4 miles be maintained with your average road budget and current maintenance backlog? We also asked: •What is the net improvement on the ground that really meets the project purpose of “sustainably managing the road network”? •How long post-construction will temporary roads be open before they are decommissioned? •Are the aquatic risks identified with these project roads in the Willamette’s Road Investment Strategy addressed with these road-related actions? If so, how? (i.e. the Draft EA states that the roads proposed to be decommissioned are high aquatic risks but what about the other high aquatic risk roads?) •The road maintenance work seems to indicate basic road maintenance to meet public safety and user objectives,</p>	Roads Hydrology	<p>Of the additional 80.4 miles of road, much will be maintained through timber sales, some will have work done through task orders on an as needed basis and some will not receive maintenance due to budgetary restrictions but have been identified as needed for future use. For those roads it has also been determined that threats to resources are very minimal. The net improvement to the on-the-ground road system includes road work to safely haul timber and travel to public on 39 miles of road. The other 44 miles of road would be treated or maintained through contracts outside of the timber sales and/or on an as needed basis.</p> <p>Temporary roads shall be decommissioned as soon as practical after harvesting operations are completed in the associated unit(s). If temporary roads are to remain on the landscape over the winter or during periods of heavy precipitation, the roads shall be placed in a hydrologically stable condition and erosion control measures such as waterbars, straw bales, wattles, silt fences, etc. shall be put in place. Temporary roads shall also be blocked to prevent vehicle access when not in use.</p> <p>The aquatic risk ratings for roads were based on a GIS modelling exercise. All of the roads that had high aquatic risk ratings (4 or 5) from the Willamette Road Investment Strategy, in addition to other roads that were identified as high potential for sediment delivery to streams from the GRAIP-lite model were assessed on the ground by aquatic specialists as part of the Dry Beard planning process. On the ground findings of aquatic risk were often but not always consistent with the modeled ratings, which is why assessment of the roads on the ground is an important follow-up from the Road Investment Strategy.</p> <p>The aquatic risks identified in the Willamette Road Investment Strategy with these project roads are addressed with the proposed road-related actions. These actions include improving road drainage by rocking roads, replacing undersized culverts, hydrologically stabilizing roads for closure and decommissioning.</p> <p>The other “high aquatic risk roads” that are not proposed for decommissioning are either 1) priority roads that would be improved and maintained with requirements for proposed timber haul, 2) are needed for future timber harvest, indicated by presence of plantations and matrix land and will be used and remain open if needed in near future or hydrologically stabilized and stored for future use or 3) aquatic risk concerns that were modelled, were found to not be issues on the ground.</p> <p>Roads that will be hauled on as part of the proposed action will have improved road drainage and reduced sediment delivery to streams post-implementation. Basic road</p>

	Comment	Resource	Response
	which is vitally important, but what about water quality objectives?		maintenance of non-haul roads will also reduce water quality impacts by improving road surface drainage.
5	The 19 culverts installed/replaced or removed would ensure that 4,750 cubic yards of fill was stabilized (Draft EA, p. 104). This implies that though there will be an increase in sediment during the 10 years that the project is implemented, at a future date, the sediment inputs will be less. Will this result in a net gain?	Hydrology	No, there will not be a net gain in sediment delivery. As indicated by Table 25 (Final EA page 105), the post-project annual sediment yield would be a 30% reduction from pre-project road sediment delivery (current condition). It is reasonable to consider that haul would not occur every year on every road throughout a 10-year period, so simply multiplying the 382 tons/year by 10 years would be a drastic overestimate. Based on professional experience, it would be reasonable to conservatively assume that any given haul road might be hauled on 7 years. With these considerations, the amount of fill stabilized is still estimated to be greater than the sediment delivered, and the sediment delivery post-project are still lower than current conditions due to improvements to road drainage and other proposed activities.
6	[W]hen we also see statements that say “post project, road densities improve slightly but still have a negative impact on the watersheds” (Draft EA, p.101), we have to ask whether the road actions proposed really match what the analysis says is needed in this area. There are 25 miles of system roads that are currently closed in this project area (Draft EA, p. 124). Are they all needed in the future, which is why they were not included to be decommissioned? Or are they already hydrologically stabilized with vegetation growing on the road bed and would add little benefit to wildlife and/or aquatic systems and/or soil health with further treatment?	Roads	We are unable to find the statement “post project, road densities improve slightly but still have a negative impact on the watersheds” (Draft EA, p.101)” in the Dry Beard EA on page 101, or anywhere in the draft EA or other project analysis. Many of the roads that are currently closed and are not proposed for decommissioning are indeed needed for the future. For those that may not be needed or the need will be in the greater future, they are remaining closed for many other reasons. Some are already hydrologically stabilized, some there is no threat to resources to justify decommissioning, and others are needed for administrative purposes. In regards to the effects of roads on wildlife, the main effect is the amount or density of open roads.

	Comment	Resource	Response
7	Our question is simply whether the very small mileage of proposed road actions is enough to meet the project purpose.	Roads	The FS identified “Sustainably manage the network of road systems in the project area” as a project purpose. The IDT completed analysis of the road system following the Road Investment Strategy and determined proposed actions. The proposed actions do meet the project purpose.
Comments from American Forest Resource Council			
8	[T]he small amount of gap creation proposed will at least create some level of early seral habitat and we urge the District to implement those openings to the fullest extent analyzed. Given the relatively small scale at which this project is proposed to be implemented on, we urge the District to fully implement treatment on those 1,079 acres that were analyzed and to not defer treatment.		Those plantations judged to not need treatment for several years due to tree size, vigor, structure, or other resource considerations were not included in this project. Plantations that were included in the Dry Beard EA were determined to need treatment in the immediate future. All units and gaps as well as other plantations within the project area were field verified by the district silviculturist. Our intent is to implement what was analyzed and not defer any treatment.
9	The Dry Beard project contains an exceptionally unique set of timing restrictions when compared to the average vegetation management project on the Forest. We understand that the District has interested stakeholders who may be impacted by the implementation of this project and that these impacts are being mitigated by an array of parameters described in Table 13 (sic) of the EA. These parameters have the potential to make implementation difficult and costly to our membership.	Design Elements and restrictions	The design elements are described in the Design Elements table (Table 4) starting on page 22 in the EA. The wildlife timing restrictions are required by law to protect threatened and endangered wildlife species. Nine units have wildlife timing restrictions. The recreation timing restrictions are designed to limit impacts to the public recreating in the project area. Restricting haul on summer weekends and Federal holidays is not unique to this project, nor is the no weekend operations on opening weekends of hunting season. There are six units with operating hours restrictions, which are designed to reduce impacts to developed recreation areas.
10	The ability to yard and haul timber in the winter months will often make the difference between a sale selling and	Winter haul	The Forest Service recognizes the value of winter logs and seeks to accommodate extended haul wherever practicable.

	Comment	Resource	Response
	not. We are glad to see that District has prepared a document that is permitting the haul of timber products during the winter months.		
11	The 2.6 miles of road decommissioning likely represents a permanent removal of these roads and likely the deferral of management of those forest stands that they provide access to. Lands designated as Matrix are the only lands where our members can depend upon a long-term supply of timber products. Removal of adequate access to these lands compromises the agency's ability to achieve this long-term supply and is very concerning to us.	Roads and access	The IDT made decisions to keep or remove specific roads. All roads in the planning area were reviewed. The 1000010 and 100073 roads are on Private land and would be removed from the FS Road system, but no groundwork would be done.
12	Of particular concern to us is the fact that the Detroit District opted to propose decommissioning on road segments in conflict with the recommendations provided in the 2015 Road Investment Strategy (RIS). In particular, the 1000043-45, and 1003480 roads were recommended to either remain stored or remain open by the RIS. [W]e feel that, given the RIS recommendations, the Dry Beard EA does not provide sufficient rationale to justify the decommissioning of these road segments. We could not locate a substantive discussion in the EA that describes exactly how the IDT: 1. Determined that these two road segments are "not needed for future timber needs." 2. Determined that the resource risk outweighed the access value (for timber management and other	Road decommissioning	The resource concerns with the 1003-043 to 045 roads were tied to directly to water quality, stream crossings and Riparian Reserve management as specified below. An IDT field trip out to these roads took place on Nov 27, 2017. The direction was provided under the Roads Investment Strategy and the Forest that if a road was not going to be needed again in the next foreseeable (20) years or more, to decommission it and remove it from the system, especially roads with high resource concerns. Due to the proposed treatment to these Riparian Reserves in the proposed action towards improving ACS objectives, it was not anticipated that any additional management requiring roads would be needed in these Riparian Reserves in the foreseeable future after initial harvest takes place in Alternative 2. There was considerable discussion about these specific roads and long-term management of these Riparian Reserves. The proposed decommissioning of these roads is consistent with the direction of the Northwest Forest Plan Aquatic Conservation Strategy, the Willamette Land and Resource Management Plan and the Willamette Road Investment Strategy. 1003044 – This short spur road is located directly adjacent to a perennial stream with a less than 10 foot "buffer" in many spots. The road is insloped with a ditch that has an actively creeping hillslope that will continue to be a chronic source of fine sediment delivery to the perennial stream. Due to proximity to the stream, the road would require considerable work and would still have water quality concerns.

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	<p>resource needs), 3. Used the RIS recommendations and additional information gathered during the project specific interdisciplinary analysis, as described on page 142 of the EA.</p> <p>Pages 125 and 126 indicates that the ID team analyzed each road segment for future use and resource risk, but did not provide a description of how those risks were weighed against both the RIS recommendations and the potential access value.</p>		<p>1003043 – This spur road branches off the 1003044 road with a failed stream crossing over the perennial stream. The crossing would need replacement with at least a 48” pipe or a temporary bridge, but the crossing location is unstable, with actively eroding stream banks towards the 10003044 road and the existing fill sunken in 12-18”. Due to directly connected 1003044 road issues and the stream crossing issues the road would require considerable work and would still have water quality concerns.</p> <p>1003045 – The majority of this road is located within Riparian Reserves, of which would be harvested under the Dry Beard EA Alternative 2. After the proposed round of management in the Riparian Reserve stemming from the Dry Beard EA Alt 2, it was not seen that it would need any additional management in the foreseeable future to maintain ACS in the Riparian Reserves. Water quality concerns were stemming from a section of road that was routed through a likely old debris flow channel that has no water drainage ability besides down the narrow road surface. The Soil Scientist noted active stability concerns on both sides of the road. In addition, there were concerns with two stream crossings on a fish bearing stream (Beard Creek and another perennial tributary). The IDT recommended to decommission the portion of this road from the boundary of private land up, following the proposed harvest in Alternative 2.</p> <p>1003480 – Thank you for bringing this road to our attention. This road was not rated as high aquatic risk and there is a plantation at the end of the road that will need future management. The road is currently closed. While this road was analyzed for decommissioning in the EA, the decision is for this road to remain closed following timber harvest.</p>
Comments from Oregon Wild			
13	<p>We would like to thank the Forest Service for focusing this project on the kinds of stands (over-represented, young, planted?) and the mostly the kinds of treatments (variable thinning) that are most in need of restoration and that raise fewer concerns in terms of wildlife conflicts.</p>		<p>Thank you for your comment in support of the project.</p>
14	<p>We urge the Forest Service to consider (and adopt) an alternative based on the following recommendations: <input type="checkbox"/> Mimic natural</p>		<p>The Forest Service believes the proposed action includes your recommendations. All gaps prescribed for this project retain 3-8 live trees per acre left in a combination of individual trees and clumps as described on pages 43 and 160 in the EA.</p>

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	<p>disturbance by retaining live and dead trees structure in the gaps; □ Do not plant conifers in gaps. Let gaps persist as complex early seral habitat. There is ample seed sources in the adjacent areas, so they will eventually fill in with conifers. □ Thin variably. Retain clumps of trees as is common in old growth forests. Avoid thinning methods that clears space around every tree; □ Recognize the trade-offs involved with thinning in riparian reserves. Thinning removes valuable structure with long-term effects on both aquatic and terrestrial wildlife. These effects likely violate the Aquatic Conservation Strategy. Retain 50 foot no-cut stream buffers in stands less than 50 years old, and 100 foot no-cut buffers in stands older than 50 years. Remember, riparian reserves are not to be used to meet timber objectives; □ Focus on areas accessible from existing roads. Avoid new road construction. □ Make climate change mitigation part of the purpose and need. Minimize carbon emissions by focusing on the youngest stands and retaining relatively high basal area. □ Retaining higher basal area will also help mitigate adverse effects of thinning on snag habitat, small mammals that are important prey for spotted owls (e.g., flying squirrels and red tree vole);</p>		<p>The prescription for these gaps is to plant the minimum stocking required, allowing the gap to maintain early seral characteristics as long as the NFMA direction allows.</p> <p>As described on pages 42 to 43 in the EA, most stand prescriptions incorporate Designation By Description (DxD) thinning intermixed with Dominant Tree Release gaps (DTRs) and no harvest skips. This combination of prescriptions within the stand provide for both horizontal, vertical, and species diversity. All of the stands being treated in this project fall within the Matrix land allocation as described in the Northwest Forest Plan. Although the long term direction for this allocation is not old growth habitat, these prescriptions will diversify structure to the benefit of a variety of organisms.</p> <p>Riparian Reserves were analyzed from watershed to unit level scales. Riparian Reserves proposed for thinning are all under 80 years old, are overstocked and are not currently meeting ACS objectives. Thinning in proposed unit Riparian Reserves will maintain and enhance ACS objectives “by reducing stand densities to increase light to the forest floor, improve stand vigor and increase stand diversity. Primary shade to streams would be protected, with slight reductions to the secondary shade zones and stream temperatures maintained. Alternative 2 would protect approximately 90% or more of the recruitment zones for large wood where Riparian Reserves are treated, with attributable reductions in wood recruitment to streams experienced in the short to intermediate term. Alternative 1 would protect large wood recruitment the greatest in the short to intermediate term, but would be delayed in its ability to generate larger wood, responsible for forming and maintaining stream channels. Alternative 2 offers the greatest opportunity to improve ACSOs in Riparian Reserves on the watershed scale” (EA, pg 91) Larger buffers were applied to Riparian Reserves where not treating would maintain or enhance ACS objectives.</p> <p>Stream buffers were determined for each stand and are designed to best protect the aquatic, botanical and geologic resources. (See Appendix G of the EA).</p> <p>No new system roads will be built. All temporary roads are used only where necessary for timber harvest and will be effectively removed from the landscape after use.</p> <p>The Dry Beard project focuses on harvest of younger plantations. As stated in the EA, the plantations proposed for treatment are 35 to 65 years old (pg 5).</p> <p>Climate change mitigation is outside the scope of this project. Thinning trees reduces competition, “allowing the remaining trees to grow in diameter at a faster rate than without thinning” and removing carbon from the atmosphere faster than if left to self-thin (EA, pg 34,140).</p>

	Comment	Resource	Response
			<p>The proposed action was designed to avoid adverse effects to spotted owls and their prey.</p> <p>Retention of no-treatment areas (skips and Riparian buffers) would help mitigate short-term effects to flying squirrels by providing travel corridors from adjacent late seral habitats and across the landscape. Design elements require that snags and coarse woody debris be retained in all units and removed only if dead wood poses a safety concern or for operational purposes. (EA, pg 58)</p>
15	<p>The EA failed to conduct an adequate analysis of the trade-offs associated with commercial logging in riparian reserves, including depleted wood recruitment that is supposed to be conserved throughout the full extent of the riparian reserves to meet the needs of both aquatic and terrestrial species.</p>	Riparian Reserves	<p>A thorough analysis of trade-offs associated with timber harvest in Riparian Reserves is provided on page 110-112 of the EA. The adequacy of this analysis is determined through NMFS. 2018. Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Willamette National Forest Timber Sale Program [WCR-2018-8761]. United States Department of Commerce National Oceanic and Atmospheric Administration and referenced in the EA.</p>
16	<p>Appendix G provides a rationale for logging in each riparian reserves but fails to disclose all the trade-offs associated with logging so the alleged benefits can be weighed against the unavoidable adverse effects of tree removal, e.g. wood depletion, soil displacement, damaging the understory, etc.</p>	Riparian Reserves	<p>Appendix G provides rational for treatment in Riparian Reserves, which in most of the carefully selected units would be tree removal. Discussion of the tradeoffs is documented in the Hydrology and Soils sections of the EA.</p>
17	<p>this analysis fails to account for the fact that thinning is proposed across a large fraction of the riparian reserves, so the mitigation that riparian reserves could and should provide is severely compromised by extensive logging of intended mitigation sites.</p>	Riparian Reserves	<p>As stated on page 110 of the EA, “Alternative 2 would thin approximately 430 acres of Riparian Reserves representing 9% of the Riparian Reserves in the project area. Thinning intensities would match the prescription for the rest of the unit and would retain canopy closure well above 50% in all stands”. There are no mitigation sites or any extensive logging of Riparian Reserves as part of the proposed project. Thinning is proposed in Riparian Reserves.</p>
18	<p>The Forest Service and the EA put far too much faith in BMPs that do not adequately ensure that wet season hauling would avoid impacts to streams.</p>	Wet season haul	<p>The Forest Service utilizes many tools including BMPs, contract clauses, contract monitoring and specialist input when monitoring wet season haul. While impacts may not be fully avoided, they are effectively minimized.</p>

	Comment	Resource	Response
19	Authorizing wet season log hauling is a gift to the timber industry at the expense of the public interest. It should not be authorized.	Wet season haul	Roads must meet certain standards and provisions if they are going to be used for wet weather haul. These provisions are costly and are paid for by the purchaser to mitigate impacts. Not all roads are suitable for wet weather haul.
20	The EA failed to conduct an adequate analysis of the trade-offs associated with commercial logging and its effects on short-term and long-term recruitment of snags and down wood.	Snags and dead wood	<p>The EA discloses the short and long-term effects to snags and down wood recruitment.</p> <p>“Over the long term, deadwood levels would be lower in thinned stands when compared to those left to natural succession.” (p.68)</p> <p>“Downed wood levels are within the range of historic variability and are expected to remain at that level.” (p.68)</p> <p>The effects of logging on future snags is discussed in detail on pages 66-68 and displayed in Figures 24 and 25 in the EA.</p>
21	The EA (p 58) relies on ineffective and inadequate mitigation. The EA admits that “Thinning reduces the abundance of large live trees and large snags, important habitat for flying squirrels” but that “Design elements require that snags and coarse woody debris be retained in all units.” This analysis fails to account for the fact that existing snags and down wood are ephemeral, and that maintaining biologically optimal levels of snags and down wood requires a constant input of mortality from the pool of green trees, and that thinning depletes that recruitment pool, so mitigation requires maintaining more green trees, but the EA (and Appendix F) did not even quantify and disclose the adverse effects of logging on recruitment of snags and dead wood habitat over time. Such an analysis would reveal the shortcomings of relying on weak mitigation such as retention of existing snags and down wood.	Snags and dead wood	<p>The EA shows the effects on recruitment of snags and downed wood relative to no treatment. “Thinning reduces the abundance of large live trees and large snags, important habitat for flying squirrels (Manning et al. 2012). Thinning treatments would reduce inter-tree competition, accelerating the development of large live trees, which eventually turn into large snags. Over the long term, thinning young stands should therefore cause an improvement in the habitat of northern flying squirrels” (EA, pg 58). Project Design Element 25 states that the project will “retain existing snags 10” dbh or greater unless they pose a safety hazard or cannot be avoided due to yarding operations. If fallen, leave on site for downed wood.” The next states “all existing large downed wood (>10 inches diameter) will be retained, unless approved by the Forest Service” (EA, pg 25).</p>

	Comment	Resource	Response
22	<p>Another important trade-off caused by commercial thinning is adverse impacts on prey species relied upon by spotted owls and other meso-predators. The prey species adversely affected include: red tree voles, flying squirrels, red-backed voles, among others. The EA analysis of effects on prey species is contradictory and inaccurate.</p> <p>The EA (p 58) says. “Thinning treatments would reduce inter-tree competition, accelerating the development of large live trees, which eventually turn into large snags. Over the long term, thinning young stands should therefore cause an improvement in the habitat of northern flying squirrels.” This is not accurate. Thinning reduces the population of green trees available for recruitment as snags. This effect far outweighs any minor increase in the growth rate of the few trees that remain after thinning.</p>	Spotted owl prey	<p>This EA is tiered to the 2017 USFWS Letter of Concurrence for Routine Land Management Activities within the Willamette Planning Province which addressed the impacts to northern flying squirrels in more depth on pages 60-62 stating:</p> <p>“Wilson (2010, p.140) also reported most thinning is likely to suppress flying squirrel populations for several decades, but expected the eventual long-term benefits of variable-density thinning for squirrels are likely to be positive. While an emphasis on developing mid-story tree layers is critical if the goal is to accelerate late-seral conditions and promote prey for spotted owls, there can be short-term effects to flying squirrels. Wilson (2010, p. 99) states that “Variable-density thinning had a negative effect on flying squirrel populations during four out of the first five years following treatment, but not significantly so after that period. Likewise, there was an additional significant forest interaction with thinning during 1994 and 1996, but not beyond that point. This supported the conclusion that squirrels recovered from the short-term effects of thinning within 3-4 years post-thinning as reported by Carey (2001).” (p.61)</p> <p>“Sollmann et al. (2016, abstract) offers the following “Whereas thinning had negative effects on Northern flying squirrel density on the scale of a thinning treatment unit, our results suggest that these effects were largely absorbed by the heterogeneous landscape, as animals shifted their distribution into un-thinned areas without a decline in overall density.” (p.61-62)</p>
23	<p>One of the purposes of this project is “Contribute to a predictable, sustainable supply of timber and other forest products to maintain the stability of local and regional economies” (EA p 7). The agency should reconsider the purpose and need for timber targets in light of the fact that the public <i>needs</i> carbon storage to reduce global climate change much more than they <i>need</i> wood products.</p>	Carbon storage	<p>The suggestion that the agency should reconsider the purpose and need to include carbon storage is outside the scope of this project.</p> <p>One of the best ways to make our forests more resilient to a change climate is to reduce stress on trees by thinning. Thinning trees reduces competition, “allowing the remaining trees to grow in diameter at a faster rate than without thinning” and removing carbon from the atmosphere faster than if left to self-thin (Draft EA, pg 34, 140).</p>

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24	The Forest Service’s boilerplate NEPA analysis regarding carbon and climate fails to take a hard look that NEPA requires. The Forest Service should not rely on the boilerplate NEPA language from the regional office.	Carbon and climate change	The long term effects of climate change in the Pacific Northwest are uncertain at this time and the effects of timber sales are even harder to measure. Climate change analysis in the Forest Service is an ongoing and evolving process. One of the best ways to make our forests more resilient to a changing climate is to reduce stress on trees by thinning. Thinning reduces competition on remaining trees for light, water, and nutrients, all of which are necessary for these trees to cope with a changing climate. Treatments prescribed for this project, including the thinning of dense stands of trees, would improve forest health and resiliency to the possible effects of climate change in the future (EA, pg 140). Given the best available science found at the time of this project, Dry Beard would have a negligible effect on climate change.
25	If young stand thinning requires construction of temporary roads, the agency should do an analysis that illuminates how many acres of thinning are reached by each road segment so that we can distinguish between short segments of spur that allow access to large areas (big benefit, small cost) and long spurs that access small areas (small benefit, big cost).		The number of and location of temporary roads is part of the project design. Acres accessed is considered during project design. Temporary road construction resource impacts and economic costs are considered during project planning by each specialist. Temporary roads are discussed in an interdisciplinary setting to determine the best resource options.
26	Temporary roads still cause serious adverse impacts to soil, water and wildlife, and spread weeds. Decommissioning such roads is not entirely successful and the soil compaction effects can last for decades. The agency should consider avoiding building spurs by treating some areas non-commercially (e.g. thin lightly, create lots of snags, and leave the material on site).	Temporary roads	Temporary roads may cause short-term disturbance to wildlife while in use. “Some minor short-term disturbance to deer and elk from noise, human presence, bridge repair/replacement and increased road use during harvest activities may occur, but overall effects to habitat are expected to be beneficial.” (p.71) “The use of non-system spur roads focuses the amount of compaction within units, reducing both the number of trips across the ground and shortening the skidding distance. All temporary roads used in this project would be effectively removed (added structures removed, subsoiled, seeded and slashed/mulched) at the completion of harvest activities” (Draft EA, pg 89).
27	The agency assumes that temporary and semi-permanent new roads will have no effect because they are temporary.	Temporary roads	The FS recognizes that temporary roads do have effects. Effects of temporary roads were analyzed for throughout the EA (p. 89, 102, 104, 120, 126-127, 138).

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28	The NEPA analysis must address the significant cumulative watershed effects caused by past, present and foreseeable future road construction.	Road construction	Past road construction created our current condition/ road system. There is no present or foreseeable permanent road construction. Analysis of cumulative watershed effects related to road construction is provided on p. 103-106 of the EA.
Comments from Karen Sjogren			
29	Are the LSRs 16a or 16b?		The LSRs in the Dry Beard project area are designated 16b, Late Successional Reserves – 100 acre.
30	What were the criteria for determining which method of fuels reduction to use on a particular unit?	Fuels reduction	Several criteria are used in determining what fuels treatments will be utilized following timber harvest. The first consideration in determining if an underburn is either possible or desirable is the diameter of the trees that will be retained after the sale. Generally underburns will only be conducted when the majority of the post-harvest trees in a stand are at least 16" in diameter at the base of the tree. A second consideration is the size of the unit and its position on the slope. Smaller units are more expensive to burn on a per acre basis than larger units, and units located at the base of a steep slope are generally avoided due to the potential for fire to spread uphill from the planned prescribed fire area. Other considerations include potential impacts to flora and fauna (which could be either positive or negative depending on the species), proximity to private land, and impacts of smoke to communities and/or identified habitats.
31	Were any nesting owls actually observed in the recent surveys mentioned, or any owls at all, within the 10,000+ acre Project Area?	Wildlife	During the 2 years of surveys, one nesting pair with a juvenile and another pair with no reproductive indications were located within the project area.
32	Will the wet meadows in units 52 and 62 be treated to remove the Canada thistle and St. John's wort?	Botany	Yes, we intend to treat and monitor the Canada thistle and St. John's wort in the wet meadows in units 52 and 62.
33	What is "headwall" protection?	Hydrology	Headwalls are basically the topographic beginning points of where streams emerge on steeper slopes. The Detroit Tributaries Watershed Analysis (1997) recommended to "revegetate debris torrent prone headwall areas and other sites prone to erosion, where appropriate." Headwall protection also includes buffering these areas from timber removal and locating new (temporary) roads away from these areas.

	Comment	Resource	Response
34	Road densities are higher within the project area than outside of it in the same subwatersheds, two of which are functioning “at risk” or “poor”. Clearly, more can be done to improve or close roads in this area.		The Dry Beard planning area is one of the more managed parts of the landscape, with 68% designated by the NWFP as matrix. The FS carefully examined all of the roads in the planning area to assess for future need and resource protection. It is possible that more could be done to reduce road densities in the planning area, but these were balanced with the consideration that this area will continue to be a managed landscape under the NWFP and all of these roads not proposed for decommissioning are currently or will be needed in the future by FS, private landholders, and recreation.
35	What does “hyporheic” mean?		Hyporheic refers to the interflow of stream surface water into the shallow ground through the stream channel bed, stream banks and floodplains, with flow returning back to the stream surface.
36	What does “HUC” stand for?	Fish and Aquatics	HUC stands for Hydrologic Unit Codes. Watersheds are delineated by USGS using a nationwide system based on surface hydrologic features.
37	In table 27, what do the asterisks stand for?	Fish and Aquatics	The asterisks denote confirmed sightings of the individual species listed. The table has been updated with clarification.
38	This section describes creating small ½ - 3 acre gaps and replanting them with diverse species. Is this outside of the reserves?	Fish and Aquatics	There are no ½ to 3 acre gaps located in Riparian Reserves as stated in the Habitat Complexity section. These gaps would be created in upland areas.
39	The Proposed Action has a positive benefit/cost ratio, ...returning about 4 million dollars for restoration activities. Would this money go toward replacing the bridge?	Economics	Some of the money from the timber sales could be used for bridge replacement or repair. Money from the timber sales would also be used for other resource work in the project area, such as planting seedlings, weed management, and riparian treatments.
40	Will the decommissioned/closed roads be available to hikers?	Recreation	Decommissioned and closed roads will still be available to hikers. There will be no prohibition in place to prevent people from accessing these roads by non-motorized means.
41	How does the assertion that there are no 303d streams in the project area correlate with the elevated temperatures observed at the Blowout Creek gauging station? Is	Hydrology	The USGS gaging station and temperature data on Blowout Creek is located just upstream (south of) the Dry Beard Project Area. Blowout Creek is not currently meeting stream temperature water quality standards. It is not listed as 303(d) because it has a TMDL for temperature in effect. The streams in the Project Area that are tributaries to Blowout Creek (Beard Creek, K Creek and other small tributaries) provide cooler water inputs to Blowout Creek, but their flows are too minor to affect

	Comment	Resource	Response
	Blowout Creek a 303d stream within the project area?		stream temperature in Blowout Creek which warms significantly in the reaches between Ivy Creek and the 10 road.
42	The “System Miles Analyzed” appeared to be off by .22 miles – my total was 83.02 miles. Based on the notes in the last column, I totaled road segments for closure and decommissioning, and come up with .98 (vs. 1.75) miles of stored roads, and only 1.27 (vs. 3.46) miles of decommissioned roads. Please explain where the additional mileage comes from.	Roads	<p>“System Miles Analyzed” math has been verified, the total miles analyzed is 83.24. The miles for the closures include roads 1000021, 1000085, 1000086, 1000101, 1000112, 1000114, 1003405, 1003421, 1003422, 1003477 and 1003479. The road proposed for decommissioning include 1000006, 1000008, 1000043, 1000044, 1000073, 1000084, 1000110, 1003324, 1003404, 1003406, 1003425, 1003426 and portions of roads 1000007, 1000045, 1003308 and 1003480. Additional notes have been added to the table for clarification.</p>
43	For ACSO #2, the resulting Riparian Reserve canopy closure will be 30-70%; for ACSO, it is a minimum of 40%. Which is it?		<p>Canopy closure and canopy cover are not interchangeable terms. Canopy cover is a downward view of how much of the ground is covered by tree crowns, while canopy closure is an upward looking view of how much sky is covered by a tree crown or trunk at one single point. Canopy closure is a term used by silviculturists to measure how much each tree interacts with one another. Please see the illustration on the next page.</p> <p>ACSO objective 2 states 30 to 70 % canopy cover, while ACSO objective 4 states minimum 40% canopy closure. 30% canopy cover is roughly equivalent to 40% canopy closure.</p>

	Comment	Resource	Response
			<p>(a) Diagram illustrating canopy closure. A central point on the ground has several lines radiating upwards to the canopies of various trees, representing the view from a specific location through the canopy.</p> <p>(b) Diagram illustrating canopy cover. Vertical lines are drawn from the ground to the top of each tree's canopy, representing the vertical extent of the canopy cover.</p> <p><i>Figure 1. An example of a measure of canopy closure (a) and canopy cover (b).</i></p>

