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July 17, 2017

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ATTN: Don Ferguson

RE: Pickett West Forest Management Project Environmental Assessment and Draft Finding of No Significant Impact (DOI-BLM-ORWA-M070-2016-006-EA)

Dear Mr. Bollschweiler,

On behalf of our members and supporters please accept the attached comments from Deer Creek Valley Natural Resource Conservation Association (“DCA”) and the Illinois Valley Section of the Oregon Chapter Sierra Club (“IVSC”) for the Pickett West Forest Management Project Environmental Assessment and Draft Finding of No Significant Impact.

BLM-administered public lands in the Pickett West Forest Management Project area adjoin residents of many of our members and supporters. We rely on these natural communities to sustain our nature-based economy, to moderate climate extremes, provide clean water, air and countless other life-sustaining essentials. These lands contribute directly to our members and supporters’ quality of life, including scenic values, recreation opportunities, fire safety, protection from noise and trespass onto our adjoining lands by off road vehicles. Our members visit and use these lands for recreation, hiking, bicycling, mushroom hunting, berry picking, observing wildlife and other values such as visual, spiritual well-being, peace of mind and so much more. These lands have some of the oldest and rarest natural community ecosystems remaining in the Deer Creek and other watersheds in the project area. Recreational opportunities on BLM lands are especially important due to their rarity among heavily logged private lands. Our members have plans to continue visiting these areas throughout our lifetime because the location is convenient to our community and we cherish the multitude of species in these natural communities.

We are commenting on the full Pickett West proposed project area, however Deer Creek watershed is the home of our natural and human community. Our human community has a long history of working toward sustainable relationships with natural community ecosystems and a pilot project for the NSA on BLM lands.

If the Natural Selection Alternative were implemented, BLM natural ecosystems and watersheds in the Pickett West Project Area could become a global model, showing how natural ecosystems can be

restored and sustained while products, including timber, are being obtained on a long-term sustainable basis, and at the same time provide countless other values and uses. The Natural Selection Alternative provides a way to have relationships that mitigate the greatest environmental crisis facing humans and all species, climate change and species extinctions.

Pickett West project includes a major portion of the Grants Pass Resource Area and is the largest that has been proposed in the Medford District that we are aware of. The proposed project area spans more than 200,000 acres and would directly and harmfully impact more than 17,000 acres of public lands from southern Oregon's lower Applegate River, to the upper Illinois River Basin in Deer Creek Watershed outside Selma, and the wild tributary streams of the mighty Rogue River.

These public lands support salmon, steelhead, and wildlife while delivering outstanding watershed and recreational values to the public. These natural ecosystems are source-drinking watersheds for thousands of people, they sequester large amounts of carbon; they provide crucial ecological functions. The natural amenities found on these public lands are highly valued and sought after, from local residents to tourists from around the world.

This massive land base, huge EA (477 pages), tiny confusing maps, limited time to inform and coordinate with our members, and also prepare these comments makes it all the more challenging for small all volunteer grassroots organizations such as DCA and IVSC to participate in the process.

Our goal is to participate in the public NEPA process, to help make this a more sustainable planet, for the good of all members of our community for this and future generations. We look forward to continued participation in the resolution of these profound and long term community concerns.

Thank you for your time and consideration of these comments.

Sincerely,

Mary Camp, as an individual
Mary Camp in behalf of the following:

Mary Camp, President
Deer Creek Valley Natural Resources Conservation Association,
PO Box 670
Selma, OR 97538

Frederick Mittleman, Chair
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DCA Pickett West EA Comments (DOI-BLM-ORWA-M070-2016-006-EA)

The Pickett West Environmental Assessment is not in compliance with NEPA, FLPMA, O&C Lands Act, NWFP, 1995 RMP, 2016 RMP, ESA, and CWA.

A. The Rationale for the Pickett West Purpose and Need is Based on Faulty Assumptions

Pickett West (PW) Environmental Assessment (EA) pg 10-12:

1.3 Purpose and Need for the Action

The BLM has a statutory obligation under the Federal Land Policy Management Act of 1976 which directs that “[t]he Secretary shall manage the public lands...in accordance with the land use plans developed by him under section 202 of this Act when they are available...” The Medford District’s Record of Decision and Resource Management Plan (1995 ROD/RMP) guides and directs management on Medford District BLM-administered lands. For more discussion see Chapter 1.5, Conformance with Law, Regulation & Policy.

One of the primary objectives identified in the 1995 ROD/RMP is implementing the Oregon and California Railroad Revested Lands Act (O&C Act) that requires the Secretary of the Interior to manage O&C lands for permanent forest production in accordance with sustained yield principles.

Existing forest stand conditions demonstrate there is a need for active management to meet objectives under the 1995 ROD/RMP and other regulatory directives. The proposed treatments are designed to provide a sustainable supply of timber, improve stand resiliency, and enhance or maintain northern spotted owl habitat. There is a need to apply silvicultural treatments that reduce the long-term risk of disturbances such as catastrophic wildfire or unacceptable mortality from moisture stress, insects, and disease.

Any alternatives that are to be given serious consideration as viable must meet the objectives provided for in the 1995 ROD/RMP. The 1995 ROD/RMP and statutes specify the following objectives that are to be accomplished in managing the various land use allocations (LUAs) for this project on the Medford District:

Within the Matrix LUA project objectives include but are not limited to:

- The production of a sustainable supply of timber and other forest commodities to provide jobs and contribute to economic sustainability in the Matrix LUA (1995 ROD/RMP, p. 38);*
- Contributing to local, state, national, and international economies through sustainable use of BLM-administered lands and resources and use of innovative contracting and other implementation strategies (1995 ROD/RMP, p. 80);*
- Preserving or retaining the existing character of landscapes on BLM-administered lands allocated for visual resource management (VRM) Class I and II management (1995 ROD/RMP, p. 240). Class I is the congressionally-designated Rogue River Wild and Scenic River Corridor; Class II is “the seen area” from the Rogue National Wild and Scenic River (wild section) (1995 ROD/RMP, p.69).*

Within the Dry Riparian Reserves, objectives include:

- *Restore and maintain the ecological health of watersheds and aquatic ecosystems as directed under the Aquatic Conservation Strategy (1995 ROD/RMP, p. 22);*
- *Contribute to the conservation and recovery of Endangered Species Act listed fish and their habitats and provide for conservation of Bureau Special Status fish and other bureau Special Status riparian-associated species (2016 ROD/RMP, p. 75);*
- *Maintain water quality and streamflows within the range of natural variability, to protect aquatic biodiversity, provide quality water for contact recreation and drinking water (2016 ROD/RMP, p. 75);*
- *Meet Oregon Department of Environmental Quality (ODEQ) water quality criteria (2016 ROD/RMP, p. 75);*
- *Maintain high quality water and contribute to the restoration of degraded water quality for 303(d)-listed streams (2016 ROD/RMP, p. 75).*

Within the Adaptive Management Area, objectives include:

- *Developing and testing new management approaches to integrate and achieve ecological and economic health and other social objectives. Specific emphasis for the Applegate Adaptive Management Area includes “development and testing of forest management practices including partial cutting, prescribed burning, and low impact approaches to forest harvest that provide for a broad range of forest values, including late-successional forest and high quality riparian habitat” (1995 ROD/RMP, p. 36);*

Objectives common to all LUAs include:

- *Improving the health of the forest and associated habitats to reduce tree mortality, and restore the vigor, resiliency, and stability of forest stands that are necessary to meet LUA objectives (1995 ROD/RMP, p. 62);*
- *Managing timber stands to reduce the risk of stand loss from wildfires, animals, insects, and diseases (1995 ROD/RMP, p. 72);*
- *Managing and maintaining road systems that reduce hazards to public health and safety, fire risks, and vandalism to public and private property (1995 ROD/RMP, p. 88) in an environmentally sound manner (1995 ROD/RMP, p. 84);*
- *Minimizing negative effects to Threatened and Endangered species within the planning area; endeavor to contribute to the recovery of federally listed and proposed plant and animal species and their habitat (1995 ROD/RMP, p.52).*
- *Maintaining or restoring components of the Aquatic Conservation Strategy (ACS) in Riparian Reserves (1995 ROD/RMP, p. 22);*
- *Maintaining haul roads to accommodate the safe movement of vehicles and machines (Oregon OSHA Chapter 437, Division 7, Section F);*
- *Maintaining or improving habitat conditions for *Fritillaria gentneri* within the *Fritillaria* Management Area (Conservation Agreement for *Gentner’s Fritillary* in Southwestern Oregon);*

The inability to proceed with a given sale in the Medford District Sale plan for any particular fiscal year has the potential to prevent the Medford District from meeting Allowable Sale Quantity targets, as directed in the O&C Act and the 2016 ROD/RMP.

2016 ROD/RMP Allowable Sale Quantity of Timber

- *Sustainably contribute to the variable annual Medford District sustained-yield unit target of 37 MMbf (million board feet) within the harvest land base (2016 ROD/RMP, p. 5), and*
- *Contribute to the 1,700 acre non-allowable sale quantity target.*

B. The EA Purpose and Need misinterprets the O&C Act, while the proposed action alternatives violate the O&C Act.

In the Pickett West Forest Management Project Environmental Assessment Chapter 1 under Purpose and Need (P&N), it states that:

One of the primary objectives identified in the 1995 ROD/RMP is implementing the Oregon and California Railroad Revested Lands Act (O&C Act) that requires the Secretary of the Interior to manage O&C lands for permanent forest production in accordance with sustained yield principles. (11)

However, the EA omits the more important part of the O&C Act that explains the broader purpose for managing for sustained yield. The Oregon and California Lands Act (“O&C Act”) governs railroad grant lands that revested in the federal government due to the railroad company’s breach of its statutory duties. In the O&C Act, Congress sought to put an end to wasteful and destructive logging practices that clear cut large forest areas for short-term gains without safeguarding the forests and other resources. The Act instituted a conservation ethic, marking the first federal statute to impose sustained-yield constraints on timber cutting.

The O&C Act provides that O&C lands:

“shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut and removed in conformity with the principal of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities (43 U.S.C. §1181a).

The Sustained Yield Purpose and Need Should be Secondary, Not Primary

The key phrase here is “sustained yield **for the purpose of**” (emphasis added). Sustained yield is not meant to stand alone and separate from the rest of the multiple uses described above, but rather it is designed to be consistent with them and contributing in a positive way to those protective measures for the human and natural communities. BLM should structure the analysis so that these enumerated purposes are primary, and sustained yield is sought to the extent it fulfills these purposes.

In the 1944 Sustained Yield Act, Congress articulated a vision of sustained yield that encompassed, “... maintenance of water supply, regulation of stream flow, prevention of soil erosion, amelioration of climate, and preservation of wildlife.”¹⁶ U.S.C. § 583 Congress clearly does not see a conflict between sustained yield timber production and water quality or wildlife habitat. The Gang of Four also cautioned that there is “no free lunch.” To reconcile these, one must conclude that as long as the timber yield is low enough, other resources can also be sustained.

In the O&C Act, Congress did not require BLM to apply a one-dimensional view of sustained yield equating maximum tree growth rates with sustained yield. Congress explicitly required BLM to account for water resources, recreation, community stability, and later passed superseding legislation requiring conservation of water quality and imperiled fish and wildlife. The BLM must adopt a modern view of sustained yield.

In 1997, Jack Ward Thomas, one of the main authors of the NWFP, also cautions against an outdated view of sustained yield timber production:

The vision that I was taught in school of the "regulated forest" and the resultant predictable outputs of commodities has turned out to have been a dream. And a dream that could only be realized in a time of seemingly boundless virgin forests. This vision held only so long as, no matter what the circumstances, there was more timber available over the next ridge. And, that timber was relatively cheap--easy to access and log--and environmental risks were either less appreciated or more palatable than at present. Further, it was assumed that good forestry was--as a matter of course--good wildlife management, good watershed management, etc.

By now it is becoming obvious that this dream was built on the pillars of the seemingly boundless virgin forest and an ethic of manifest destiny coupled with hubris of being able to predict the response of nature and humans. This was coupled with an inflated sense of understanding of forested ecosystems and of human control. Perhaps it is time to recognize that such stability is not attainable in any western region except for relatively short periods of years or decades.

Why? Consider the variables that interact to affect long-term stability of the supply of timber. Each variable is subject, more or less independently, to considerable variation over the longer term. Taken together, in terms of their interactions, these variables are guaranteed to produce varying levels of uncertainty and makes attainment of stability unlikely.

Oscillations in timber supply can be moderated by taking a conservative view of "annual sale quantity" projections as opposed to the tendency to make overly optimistic projections such as those that resulted in the first forest planning efforts of a decade or so ago.

Insanity has been defined as doing the same things over and over and expecting a different result. Decidedly, optimistic outcomes were the trademark of the first generation of forest plans. With decided regularity, this optimism has not been justified and only reluctantly recognized and abandoned. This caused the agency(s) performance, in terms of commodity production, to consistently come in at below anticipated levels--i.e., the predictions were not valid and belated

recognition of that fact, in turn, caused additional instability because of accumulated effects. More conservative approaches are more apt to produce predictable results. And, if results exceed those anticipated, it is easier to adjust commodity yields upward than to deal with the social and political consequences of short fall.

While the search for new understanding through science may produce short-term instability in commodities such as timber supply as managers react to new information, such efforts are essential to long-term stability if renewable natural resources are to be managed in a sustainable fashion. In the end, there can be no turning back from science--no matter now politically [sic] expedient that may seem in the short run.

In summary, the timber supply from federal lands is one drought, one insect and disease outbreak, one severe fire season, one election, one budget, one successful appeal, one loss in court, one listing of a threatened or endangered species, one new piece of pertinent scientific information, one change in technology, one shift in public opinion, one new law, one loss of a currently available technological tool, one change in market, one shift in interest rates, et al, away from "stability" at all times. And, these changes do not come one at a time, they come in bunches like bananas and the bunches are always changing. So, stability in timber supply from the public lands is simply a myth, a dream that was never founded in reality. It is time to stop pretending.

BLM must respond to opposing viewpoints by taking a "hard look" as required by NEPA at the core issue of sustained yield as the primary purpose of the Pickett West Project.

Within the O&C Act, the term "permanent forest production" has been debated by the timber industry and conservation groups. Permanent forest production is not synonymous with commercial logging. A 1979 Interior Solicitor memorandum clarified the forest production need not be for commercial use. That is but one of the uses. The forest production could be to protect watersheds, stream flows, or recreation. (Interior Solicitor Mem. (Aug. 27, 1979). The mandate to protect watersheds and stream flow supports establishing safeguards like those embodied in the Aquatic Conservation Strategy of the Northwest Forest Plan.

In addition, the goal of the timber production from O&C lands is to promote economic stability of local communities. In the O&C Act, Congress sought to curtail the type of boom and bust logging frenzies that had generated economic instability. Congress decidedly did not support maximizing timber production for short-term economic gain. Instead, it sought to institute long-term sustainability. To achieve these goals, BLM must consider alternatives that promote community stability, even if they favor selective harvesting over intense thinning and regeneration harvest, and even if they shift some areas of the forest to other activities that would achieve that goal.

The EA and FONSI are based on flawed economic reasoning and analysis that attempts to justify timber sales that creates more economic harm than good.

During scoping, DCA submitted economic analyses from H. John Talberth, President and Senior Economist for the Center for Sustainable Economy. Talberth discussed many relevant and important

economic factors to consider, specifically with regards to the O&C Act. These factors were not adequately responded to in the EA with a rationale for why they were not incorporated into the analysis as required by the NEPA Handbook Section 6.8.1.2.

PW EA 12:

The inability to proceed with a given sale in the Medford District Sale plan for any particular fiscal year has the potential to prevent the Medford District from meeting Allowable Sale Quantity targets, as directed in the O&C Act and the 2016 ROD/RMP.

The EA is using this need to meet ASQ targets as the driving force for the proposed action alternatives, “However, there is nothing in the O&C Act that requires the BLM to actually sell that amount of timber each year. Indeed, the O&C Act puts significant conditions on BLM’s timber sale program: (1) it must be offered at reasonable prices; (2) under normal market conditions, and (3) to achieve a variety of purposes, including community stability. If none of these conditions can be met, then no timber sale program much less an expanded one need be implemented” (Talberth 2015).

The EA failed to ensure that the timber offered for sale in the Pickett West timber sales will be offered at reasonable prices that offset all agency and public economic costs associated with logging. The EA has not discussed the process the ID team used to ensure that when offered for sale, its timber receives reasonable prices. The EA failed to incorporate negative externalities into the analysis.

The range of negative externalities associated with BLM timber sales includes a wide array of costs associated with diminished recreational and commercial fish landings, sediment removal, increased flooding, loss of water quality, increased habitat restoration costs, loss of tourism revenues, and social costs of carbon emissions, to name a few. The most logical way to account for these and one most consistent with market principles, DOI commitments, and BLM guidance is to incorporate these costs into minimum bid prices. The methods and sources of information needed to meet the reasonable price standard and set minimum bid prices that reflect all agency and social costs are well established, and have been for decades. (Talberth 2015)

DCA was informed in our meeting with BLM on April 13th that this information from Talberth and others was sent to a person at the state department who was dealing with socioeconomic issues for the project. We hoped to contact this person directly about the status of this information and after requesting BLM staff multiple times for a name and contact info, we never received it. This individual or persons are part of the ID team if they are working on this project, and the public should be able to access these ID team members as part of the NEPA process. (see Walker 2017 PW EA comments) Although we were told that someone would be analyzing and responding to this information, a word search in the EA document yielded no results for “Talberth”, which means nowhere in the EA does the EA specifically address the topics in the documents from Talberth. A very short and incomplete explanation was given on page 356 in response to scoping comments asserting that the “BLM’s analysis of the economic value of timber harvest is flawed.” BLM’s response is that “The analysis referred to was that conducted for the Western Oregon RMPs, which is not relevant because a comparable scale of analysis is not being conducted for this EA. The specifics of any resulting timber sales are not known at

this time, so a quantitative economic analysis is not possible” (EA 356). How does BLM intend on offering timber at a reasonable price, as required by the O&C Act, if they are not doing an economic analysis? It is irrational to dismiss relevant data and analysis simply because they were intended for comments on the RMP when those comments pertain to this Pickett West project. That is not a justifiable means to dismiss these valid arguments. The public is considerably limited in our ability to comment substantively on this project if BLM has not done an economic analysis to disclose the economic costs and benefits of this project.

Talberth asserts in his August 2015 comments on the new RMP DEIS that “The BLM arbitrarily rejected analysis of the no-harvest and natural selection alternatives when they represent the only economically rational choices.” He further explains that:

A reasonable price for BLM timber that offsets agency costs and internalizes the negative externalities of logging would too high at current market prices to attract timber sale purchasers. But the law, DOI policy, and BLM guidance all require such a reasonable price. Nor can the BLM justify its timber sale program in the face of markets that are not normal but severely distorted by negative externalities, subsidies, missing markets, and other well-known sources of market failure. Nor can the BLM demonstrate that its timber sale program meets Congressionally imposed sideboards designed to ensure that the timber sale program protects watersheds, water flow, economic stability, and recreation. Because of this, BLM’s decision to reject the no harvest and natural selection alternatives is groundless. Overcutting on adjacent state and private lands underscores not only the need to consider in detail, but need to select one of these reasonable alternatives.

Talberth 2015 further states:

Congress requires the timber sale program to be consistent with permanent forest production and the principle of sustained yield. In making this consistency determination, it is essential for the BLM to account for logging on non-BLM ownerships and consider how the pattern of logging on those lands relates to the demand and supply of goods and services provided by BLM lands. This duty is amplified by NEPA’s requirement to take connected actions and cumulative effects into account. [(40 CFR § 1508.25(a)1] [(40 CFR § 1508.7)] Moreover, there is nothing in the O&C Act that limits the concepts of forest production and sustained yield to timber only. Indeed, as noted by DellaSala et al. (2005) “the O&C term ‘forest production’ interpreted in today’s climate means more than timber volume and includes multiple natural resource objectives related to watershed health, carbon sequestration, fish and wildlife habitat, recreation, endangered species, and other values inherent to BLM lands that also contribute to community stability.

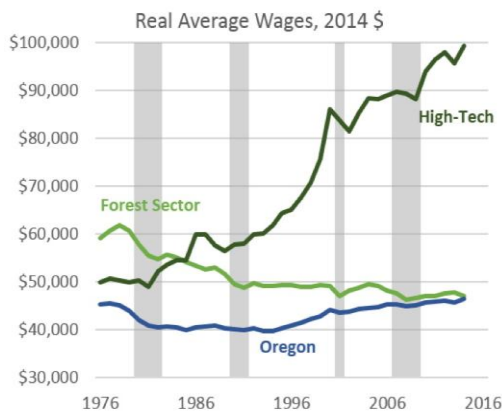
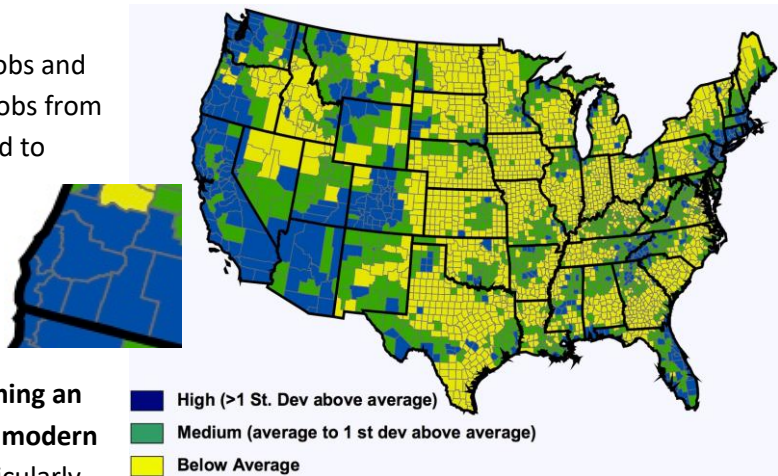
Renowned economist Ernie Niemi, of Natural Resources Economics, Inc. gave a presentation in May 2015 on a cost benefit analysis of “Oregon’s Forest Economy—for This and Future Generations”, which we submitted in our scoping comments in the form of a DVD of the presentation and a printed version of the slides. You may listen to this presentation at this link:

<http://vp.telvue.com/preview?id=T01550&video=238025> .

The data shows that more logging will NOT stimulate economic growth or generate stable, high-wage jobs; a better way is amenity-driven growth.

- Map titled *Amenities in SW Oregon are Especially Powerful*, shows the correlation of amenities with job and income growth (Federal Reserve Bank of Kansas City). The dark blue represents an especially significant correlation, showing that **Amenity-based jobs and incomes are high in SW Oregon** (illustrated in enlargement upper left of map).

- Direct effects of correlation between jobs and income growth are important. Existing jobs from timber industry is 25-30,000 as compared to outdoor recreation industry which is 140,000. New jobs for outdoor recreation industry are projected at 7,000/year. However, the indirect effects of jobs to income growth are more important. **Quality of life is becoming an increasingly important consideration in modern business location decisions.** This is particularly true for high-technology firms... (University of North Carolina)



- The graph on the left, illustrates the implication of managing natural ecosystems for their many ecosystem services and amenities to boost high-tech industries instead of timber. (Oregon Office of Economic Analysis)

- Timber dependency has higher unemployment, lower income, more poverty, lower levels of education, higher death rates and infant mortality, poorer health care and more arrests* (National Research Council, 2000).

Niemi’s presentation shows **BLM management plans have huge impacts on our local economy and social well being.** The trade-off between Timber Jobs (which are down), and Incomes and Amenity-Based and Recreation Jobs and Incomes (which are up) are large and significant. Timber jobs correlate with reduced social well-being. As stated in many economic studies, ***In Oregon, the relationship between the environment and the economy is changing. Industries that extract raw materials have been stagnating, while industries that benefit from the presence of environmental amenities have***

grown rapidly (Lorah and Southwick, 2000). Cost-benefit analysis requires reassessing how BLM plans will contribute to local economic stability of rural communities.

THE NSA RESPONDS TO ECONOMIC REALITIES

The NSA supports diverse enterprises and meaningful work, while retaining ecosystem services and Oregon's nature based economy. Economic research data shows BLM forestry management practices generate much greater costs than benefits. People are not attracted to logged, unnatural landscapes.

People are attracted to natural ecosystems because they're defined, designed, organized, regulated, regenerated and sustained through natural selection. People are attracted to places where natural beauty is retained. Forestry externalizes costs to natural and human communities for money and profits that can't buy them back. The NSA externalizes collateral environmental, social and economic benefits.

John Talberth, Ph.D., President and Senior Economist for the Center for Sustainable Economy made the following comment on BLM's Draft Resource Management Plan for Western Oregon:

***The BLM arbitrarily rejected analysis of the no-harvest and natural selection alternatives when they represent the only economically rational choices.** As the foregoing suggests, neither a continuation of nor an increase in BLM's timber sale program can be economically justified during this planning cycle. A reasonable price for BLM timber that offsets agency costs and internalizes the negative externalities of logging would be too high at current market prices to attract timber sale purchasers. But the law, DOI policy, and BLM guidance all require such a reasonable price. Nor can the BLM justify its timber sale program in the face of markets that are not normal but severely distorted by negative externalities, subsidies, missing markets, and other well-known sources of market failure. Nor can the BLM demonstrate that its timber sale program meets Congressionally imposed sideboards designed to ensure that the timber sale program protects watersheds, water flow, economic stability, and recreation. Because of this, BLM's decision to reject the no harvest and natural selection alternatives is groundless. Overcutting on adjacent state and private lands underscores not only **the need to consider in detail, but need to select one of these reasonable alternatives.** (Talberth, 2015)*

Roger Brandt, retired Chief of Interpretation and Visitor and Education Services National Park Service Ranger, stated:

I support the Camp's program because they are paying attention to managing the forest to produce a diversity of assets that put many industries to work rather than just the timber industry. They produce timber while at the same time create a forest landscape that supports or improves tourism; recreation; quality of life, which makes the community more attractive to retirees, home-based entrepreneurs, and businesses looking for a place to establish their enterprise; reduces fire hazards; increases habitat diversity; improves water retention, a critical factor for recharging ground water systems that feed salmon spawning rivers; and increase the value of private property. In addition to this, the cost to taxpayers for "cleaning up" after the timber industry is negligible. Orville uses shade rather than herbicides to control the proliferation

of flammable brush that usually dominates after clearcutting, there is minimal risk of eroding silt and log debris clogging salmon spawning habitat, and virtually no anti-logging court action to slow things down.

Those who measure everything in board feet rather than productivity, don't get it. The Camp's have a timber management program that makes every acre of the forest economically productive every year rather than once every 80-100 years.

During scoping, DCA and other members of the public requested the BLM to reevaluate the requirements of the O&C Act and reassess how this project meets the multiple-use requirements stated in the O&C Act with regards to the above discussion on interpretation of the O&C Act. However, the EA purpose and need statement did not change to reflect the broader intent of the O&C Act, and is still using a narrow and inaccurate interpretation of the law, primarily focusing on short term timber volume at the expense of everything else. BLM responded in the EA to comments expressing that the “purpose and need for the project is too narrow and must be broadened to include recreation development and economic stability for communities” by stating that “The commenter is expressing their preference for the management of BLM-administered lands, which differs from the direction in the RMPs” (350). This rationale is not accurate because as described above, these are mandates under the O&C Act, not personal preferences. Sustained yield should not be misinterpreted and used as justification to get timber volume out of public lands at the expense of all the other listed values. The EA does not provide adequate analysis to show how the timber harvesting from this project is being done *for the purpose of* the other O&C mandates. The EA’s proposed action alternatives, which would degrade watersheds, destabilize local communities, and diminish recreational opportunities, would produce completely opposite results of what sustained yield is designed to accomplish based on the O&C Act. Therefore, **this EA would violate the O&C Act rather than implement it.**

- C. **The EA is not in compliance with NEPA because the main objectives of the Purpose and Need are broad, (i.e. “implementing the O&C Act... provide a sustainable supply of timber, improve stand resiliency, and enhance or maintain northern spotted owl habitat” and “reduce the long-term risk of disturbances such as catastrophic wildfire or unacceptable mortality from moisture stress, insects, and disease” (11)), while the proposed range of alternatives to meet these broad goals (i.e. assuming a “need for active management” and “a need to apply silvicultural treatments” (11) as described in Alternative 2 and 3), are unduly narrow.**

NEPA regulations require environmental analyses to include a statement that "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action". 40 C.F.R. § 1502.13. The EA lists implementing the O&C Act as one of the primary objectives of this project. (EA 11) The EA states that “The RMP directs the BLM to implement the O&C Act” (EA 43). However, the O&C Act is a multiple use act with a holistic intent for responsible management that takes many different factors into consideration, as discussed above. **This very broad goal of “implementing the O&C Act” (EA 11) in turn should yield a broad range of reasonable alternatives, as required by NEPA. The NEPA Handbook states that “The broader the purpose and need statement, the broader the range of alternatives that must be analyzed” (36).** Likewise, the rest of the

stated objectives, “provide a sustainable supply of timber, improve stand resiliency, and enhance or maintain northern spotted owl habitat” and “reduce the long-term risk of disturbances such as catastrophic wildfire or unacceptable mortality from moisture stress, insects, and disease” (11), are exceptionally broad in scope, which could yield a plethora of possible alternatives to meet these needs. The statement of purpose and need must be broad enough so that it does not foreclose the consideration of reasonable alternatives. *City of Carmel-by-the-Sea v. United States Dep’t of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997) (“The stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives and an agency cannot define its objectives in unreasonably narrow terms.”) In assuming a “need for active management” and “a need to apply silvicultural treatments” (11) as described in the Action Alternatives, the EA provides an unreasonably narrow range of alternatives to meet the broad objectives in the Purpose and Need. To the extent that this statement of need forecloses other alternatives that would meet the purposes of the Medford District Resource Management Plan (“RMP”) as amended by the Northwest Forest Plan (“NWFP”), the statement of need is too narrow.

At the beginning of the Purpose and Need for the Action, the EA states that:

The BLM has a statutory obligation under the Federal Land Policy Management Act of 1976 which directs that “[t]he Secretary shall manage the public lands...in accordance with the land use plans developed by him under section 202 of this Act when they are available...” The Medford District’s Record of Decision and Resource Management Plan (1995 ROD/RMP) guides and directs management on Medford District BLM-administered lands.

The EA is stating this “statutory obligation” to implement the 1995 RMP land use plans as one of the main objectives for this project. This is an exceptionally broad objective, while the EA has narrowly interpreted this to equate to “a need for active management to meet objectives under the 1995 ROD/RMP and other regulatory directives” (EA 11). By assuming there is a need for active management to implement the RMP, the BLM has arbitrarily narrowed the scope of analysis so as not to include less timber volume dominant alternatives that would comply with RMP objectives and other regulatory directives.

What is missing from the EA’s above description of FLPMA obligations is that the Federal Land Policy and Management Act (“FLPMA”) obligates the BLM to manage public lands for multiple use and sustained yield. 43 U.S.C. § 1701(a)(7). The term “multiple use” includes “the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” *Id.* at § 1702(c). The term “sustained yield” means “*the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.*” *Id.* at § 1702(h). These FLPMA mandates are congruent with O&C Act mandates, while the EA’s proposed alternatives are incongruent with both FLPMA and the O&C Act.

Although Alternative 3 is more environmentally preferable to Alternative 2, both alternatives are very similar. They are both based on the same assumptions about fire, restoration, and resiliency described in the “Background and Existing Conditions” section on page 10. Both alternatives impact the same

units, which means regardless of which alternative or blend of alternatives is implemented, the exact same units would be impacted with logging activities. The vast majority, (85%), of the commercial harvest units is 80 years old or older according to BLM stand age determinations, which means regardless of which alternative or blend is selected, these older ecosystems would be heavily disturbed with logging activities. The Table on the front page of the cover letter dated May 23rd, 2017 which summarizes the 2 action alternatives makes it appear like Alternative 3 would commercially harvest around 1,000 fewer acres compared to Alternative 2, yet this is different from what is explained on page 2 of the FONSI. It says “Alternative 2 proposes the treatment of approximately 6,005 acres” and “Alternative 3 proposes the treatment of approximately 6,005 acres” (2). Both alternatives also have the exact same “approximately 11,102 acres of Hazardous Fuels Reduction maintenance.” (FONSI 2) Omitting the “Understory Reduction” acres on the front page table is misleading since most people who look at this document might simply look at the table on the front page and not read every word and would not know that the Understory Reduction acres were not shown on the Table. Regardless, both action alternatives are extremely similar and would impact the same number of acres in the same areas. The EA is not in compliance with NEPA because it does not provide a *range* of reasonable alternatives to meet the broad objectives outlined in the purpose and need.

D. The EA is not in compliance with NEPA because it does not provide a range of reasonable alternatives to meet the purpose and need.

Section 6.2.1 in the BLM NEPA Handbook describes the role of the purpose and need statement, stating that *“The purpose and need statement dictates the range of alternatives, because action alternatives are not “reasonable” if they do not respond to the purpose and need for the action”* (35). The EA states the need to comply with the O&C Act as one of the primary “needs” for the project, yet the EA fails to provide a range of reasonable alternatives that could potentially meet this need. The Handbook states that *“the action alternatives will respond to the problem or opportunity described in the purpose and need statement, providing a basis for eventual selection of an alternative in a decision”* (36). The EA does not show how the proposed action alternatives will provide for a sustained yield of timber, let alone the rest of the O&C mandates or the other broad objectives outlined in the Purpose and Need. The EA says “the timber output of each alternative has not been estimated so economic results cannot be analyzed” (EA 300). If timber output has not been estimated for the alternatives, how is it assumed that the action alternatives are reasonable relative to the no action, the Natural Selection Alternative (NSA), or any other alternative considered? How are managers and the public supposed to evaluate this EA if wood volume, (the first stated goal in the purpose and need) (see FONSI p2), is not even calculated or disclosed in the EA? The EA does not show adequate data to lead to the conclusion that the short term timber volume yielded off of this project will meet the intended ASQ targets and be able to be sustained in the long term. The EA did not show adequate data to demonstrate that the remaining requirements of the O&C Act would be met with this project; protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities. Rather, it appears that short term timber volume is being considered a priority in this project at the expense of these other areas.

The majority of the objectives outlined in the purpose and need statement describe goals for restoration, resiliency to disturbances, and enhancing or maintaining NSO habitat. While these goals are ambitious in theory, the EA has provided 2 action alternatives that will not only fail to meet to these objectives, but will in fact have the opposite results given the harmful effects of industrial logging have been well documented. (See discussion on Determination of Significance) It is extremely presumptive to equate industrial logging, the majority of units cut down to 30-40% canopy, to be restorative. 60% of the units are being proposed for Restoration Thinning under Alternative 2. The EA and FONSI take the position that the overall impacts of this project will be positive, and the negative impacts will be minor, insignificant, and well accounted for with mitigation techniques. This is a giant assumption to equate intense logging with restoration. The Natural Selection Alternative understands that extracting anything from the system is inherently degrading and does not confuse product extraction with ecosystem restoration. The EA did not analyze the impacts of removing substantial amounts of biomass from the ecosystems and how this impacts energy recycling functions, topsoil productivity in the long term, and other important factors related to ecosystem health and productivity. 30% canopy is 1% away from a regeneration harvest, another term for essentially a clear cut. The EA has not provided adequate data to show how this can possibly be restorative.

The very term “restoration thinning” is extremely misleading to the public. If the goal is immediate volume to meet ASQ targets (as we were told in numerous BLM communications), then that should be fully disclosed and all the negative impacts should be analyzed without bias and be fully disclosed in the EA so the public is informed and can make substantive comments. However, the EA is attempting to get volume out of these units and claim minor to no negative impacts, and even beneficial impacts, by justifying it with this controversial claim of restoration and “saving” it from fire. The EA has greatly overestimated the potential positive impacts of this project and greatly underestimated the potential negative impacts. (See discussion on Determination of Significance) The EA is selectively using sources that support the basic assumptions driving the action alternatives, while ignoring credible, peer-reviewed science and data that refutes these basic assumptions. NEPA Handbook Section 6.8.1.2 “Analyzing Effects” says that “The effects analysis must demonstrate that the BLM took a “hard look” at the impacts of the action. The level of detail must be sufficient to support reasoned conclusions by comparing the amount and the degree of change (impact) caused by the proposed action and alternatives (40 CFR 1502.1) (Handbook 55). BLM is directed to “Use the best available science to support NEPA analyses, and give greater consideration to peer-reviewed science and methodology over that which is not peer-reviewed” (55). The EA has not provided the public with an unbiased analysis based on the best available science and incorporating relevant data as required by NEPA.

The Background and Existing Conditions section on page 10 of the EA, which appears to be driving the proposed AAs, says that *“not only does southwest Oregon demonstrate the highest need for active forest restoration in the region, but the three watersheds in the planning area are among the most in need of active management to promote forest resiliency” (EA 10)*. Not only is there a lack of credible data to show how the proposed AAs meet “forest resiliency” goals and the rest of the objectives in the P&N, but the EA did not respond to the substantial amount of data, as required by NEPA (40 CFR 1502.24), submitted during scoping that showed how the AAs would in fact achieve the opposite results of the

intended goals, and would therefore not meet the purpose and need for the project. (See Determination of Significance) The response given in the EA for not considering relevant data that was submitted during scoping is highly inadequate.

EA p99 says *“While there has been some debate about the efficacy and need for restoration in forests such as those proposed for treatment in the Pickett West, the overwhelming majority of scientists who study ecological processes in the inland Pacific Northwest support the need for active management.”*

How have this “overwhelming majority of scientists” been quantified and measured? Does this mean the majority of scientists that the ID team considered? Does this mean that there is a large group of scientists that all vote on these matters and they came to a democratic majority decision to accept these premises? This is not an adequate response to relevant data and does not fulfill the NEPA requirements of taking a “hard look” as described in the Handbook by providing “a reasoned analysis containing quantitative or detailed qualitative information” (55). The Handbook goes on to oblige BLM staff to “Use the best available science to support NEPA analyses, and give greater consideration to peer-reviewed science and methodology over that which is not peer-reviewed” (55). Many peer-reviewed studies were submitted during scoping that were not adequately responded to in the EA.

Section 6.8.1.2 “Analyzing Effects” on page 55 of the Handbook says the following:

Describe the methodology and analytical assumptions for the effects analysis as explained below:

Methodology: Your NEPA document must describe the analytical methodology sufficiently so that the reader can understand how the analysis was conducted and why the particular methodology was used (40 CFR 1502.24). This explanation must include a description of any limitations inherent in the methodology. If there is substantial dispute over models, methodology, or data, you must recognize the opposing viewpoint(s) and explain the rationale for your choice of analysis. You may place discussions of methodology in the text or in the appendix of the document. To the extent possible, we recommend that the analysis of impacts be quantified.

Assumptions: We recommend that your NEPA document state the analytical assumptions, including the geographic and temporal scope of the analysis (which may vary by issue), the baseline for analysis, as well as the reasonably foreseeable future actions (see section 6.8.3, Cumulative Effects). You must also explain any assumptions made when information critical to the analysis was incomplete or unavailable (40 CFR 1502.22).

Section 6.7.2 “Use of Relevant Data” on page 53:

The CEQ regulations require the BLM to obtain information if it is “relevant to reasonably foreseeable significant adverse impacts,” if it is “essential to a reasoned choice among alternatives,” and if “the overall cost of obtaining it is not exorbitant” (40 CFR 1502.22). If information essential to reasoned choice is unavailable or if the costs of obtaining it are

exorbitant (excessive or beyond reason), you must make a statement to this effect in the EIS or EA. In this statement, you must discuss what effect the missing information may have on your ability to predict impacts to the particular resource. If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, you must include within the EIS or EA:

- 1. a statement that such information is incomplete or unavailable;*
- 2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;*
- 3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and*
- 4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. (40 CFR 1502.22(b)).*

Although the vague concept of the “overwhelming majority of scientists” is difficult to quantify, there is substantial discussion and data from other reputable scientists, both locally (see attached February 4, 2016 letter from several local scientists) and at the national level (see below discussion) who disagree with the BLM’s stated “need for active forest restoration” in older ecosystems “to promote forest resiliency” (EA 10). The EA is proposing to allow significant logging and canopy reductions in primarily stands older than 80 years old, in riparian reserves, and in lands designated as LSR under the new RMP, with the assumption that logging is compatible with preserving late-successional habitat characteristics and other LSR management objectives. This assumption was rejected in the Northwest forest Plan (as explained below) and BLM has not explained how they arrived at a contradictory conclusion.

85% of the commercial harvest units proposed in Pickett West are 80 years old or older, according to BLM stand age determinations. 45% of the proposed commercial harvest units are 150 years old or older, according to BLM stand age determinations and the Unit Summary Table on p430-434. We have serious concerns about the methodology for determining stand age (as discussed in more detail later). We have reason to believe that stand age has been consistently underestimated and that many of the units are much older than represented in their “stand age”, which is discussed more later in this document. A flawed methodology for stand age would drive the percentages higher, making the proportionate impact on older ecosystems much higher than expected. However, even assuming stand age determinations are accurate, the following will offer some insights into how other scientists understand the impacts of logging in stands greater than 80 years old and how such logging in such ecosystems will not enhance or maintain NSO habitat as predicted in the EA.

The following is an excerpt from comments from a collective of 18 conservation organizations on the new RMPs DEIS, which is relevant to the Pickett West EA assumed “need” to log in units >80 years old for restoration purposes:

Heiken (2009) explained:

The Northwest Forest Plan prohibits logging of stands 80 years or older in the Late Successional Reserves for several reasons: (a) such stands are beginning to acquire late successional characteristics and provide valuable habitat for spotted owls and other wildlife; (b) there is a lack of evidence to support the hypothesis that logging in stands >80 years old is beneficial to habitat development; and (c) logging will likely do more harm than good.

This reasoning is articulated in several scientific reports, including the 1990 Interagency Scientific Committee (ISC) Report, the 1993 SAT Report, and various reports to Congress where the scientists were being asked to explain to a skeptical committee in Congress why logging old forests could not be compatible with conserving late-successional forest ecosystems. The ISC report said “no consensus exists about whether any silvicultural systems would produce the desired results. The ability to harvest timber in currently suitable owl habitat and have that habitat remain suitable has not been clearly demonstrated.”⁶¹

The SAT noted that “considerable additional research is likely required” before we will know whether silviculture can be compatible with spotted owls, and while the spotted owl is relatively well studied, the risks and uncertainty are even more pronounced for the hundreds of other species associated with old-growth.⁶² It should also be recognized that President Clinton’s Mission Statement directed the FEMAT team to ensure that “tests of silviculture should be judged in an ecosystem context and not solely on the basis of single species or several species response.”⁶³

The 1993 Report of the Scientific Analysis Team (SAT) specifically highlighted the risks associated with logging in suitable owl habitat, saying “intentions to selectively cut forest stands to create conditions favorable for spotted owls, represents increased risks to the viability of the spotted owl.”⁶⁴ The Scientific Analysis Team said there are several factors that support this conclusion and affirm the Interagency Scientific Committee’s decision to exclude logging in old growth reserves and rely on natural processes to maintain and restore habitat:

- a. *“Lacking experience with selective cutting designed to create spotted owl habitat, such practices must be considered as untested hypotheses requiring testing to determine their likelihood of success. ... Given the uncertainty of achieving such expectations, it is likely that some silvicultural treatments, which have been characterized as largely experimental, may well have an opposite effect from that expected. Consequently, such treatments may hinder the development of suitable habitat or they may only partially succeed, resulting in development of marginal habitat that may not fully provide for the needs of spotted owls. Results which fall short of the expected conditions could occur because of delay or failure to regenerate stands that have been cut, increased levels of windthrow of remaining trees, mechanical damage during logging to trees remaining in the logging unit, the spread of root rot and other diseases. Increased risk of wildfires associated with logging operations that increase fuels and usually employ broadcast burning to reduce the fuels also increase the risk of not attaining expected results. Such events may spread to areas adjacent to stands that are logged, thereby affecting even more acreage than those acres directly treated.” [SAT p 147-148] The SAT indicates that these comments apply equally to density management and patch cutting, both of which are being promoted as tools to*

enhance owl habitat. The SAT also cited concerns about the effect of logging on snags and down woody debris which are essential features of owl habitat.

- b. *“Planning produces a description of desired future conditions [and] culminates in a final plan for a project which, for timber sales, involves legal contracts obligating the purchaser and the seller to specific provisions. ... Our experience is that commonly not all provisions of the plan are thoroughly incorporated into such contracts, nor are all contract provisions thoroughly administered to ensure compliance.” [SAT p 148-149].*
- c. *“There are also probabilities associated with how well monitoring will identify ‘trigger points’ that indicate a management plan may need modification. The more complex the plan (i.e., the more variables there are to monitor) the less likely the monitoring plan will successfully detect problems. Manipulation of forest stands to accelerate development of spotted owl habitat on a landscape scale, as prescribed in the Bureau of Land Management Preferred Alternative, is an extremely complex issue involving a myriad of variables over a very long timeframe. Development of a monitoring plan intensive enough to isolate the causes of observed variations for wide-scale implementation of the Bureau of Land Management Preferred Alternative seems unlikely to us. ... [I]nadequate monitoring will increase, perhaps dramatically, the risk of failure of a plan that relies heavily on adaptive management.” [SAT p 149].*
- d. *“A basic requirement for a viable adaptive management strategy is the existence of resources necessary to make the required adjustments. Adaptive management can only be expected to reduce risk if options to adjust management to fit new circumstances are not eliminated. Adaptive management, therefore, can be considered a means to reduce risk associated with a Resource Management Plan commensurate with the options for adjustment which remain during the time the plan is in effect.” [SAT p 149-150] In other words, silvicultural manipulation of mature forests has long-term consequences and is likely to foreclose some future options in those stands, thus reducing the utility of adaptive management. A prime example is the fact that logging “captures mortality,” yet mortality is an essential feature of oldgrowth habitat used by both spotted owls and their prey.*
- e. *SAT then noted the cumulative effects of all these uncertainties: “The combined risks associated with treatment of spotted owl habitat or stands expected to develop into suitable habitat for spotted owls, as discussed above, will likely result in situations where either habitat development is inhibited or only marginal habitat for spotted owls is developed. The exact frequency of these partial successes or failures is unknown. Given the likely cumulative relationship among the risks for each factor, it appears to us that the overall risk of not meeting habitat objectives is high. ... Members of the Interagency Scientific Committee indicated that, because a plan (the Interagency Scientific Committee’s Strategy) was put forth which proposes to reduce the population of a threatened species by as much as 50 percent, providing the survivors with only marginal habitat would be extremely risky and certainly in their minds not ‘scientifically credible’*
65
- f. *The SAT concluded, “The transition period (1-50 years) between implementation of the Interagency Scientific Committee’s Strategy and achievement of an equilibrium of habitat and spotted owls is a critical consideration. ... Given the existing risks that face owl populations and the sensitivity of the transition period, the short-term effect of these actions on habitat loss may be much more significant than the long-term predicted habitat gains. We further conclude that, although research and monitoring studies are presently being initiated, no significant new data exist which suggest that the degree of certainty that is expressed in the Bureau of Land Management Draft Resource Management Plans for developing owl habitat silvicultural treatments is justified. Therefore, it is our opinion that the course prescribed in the Interagency Scientific Committee’s Strategy, pertaining to timber harvest in Habitat Conservation Areas,*

*remains the most likely course to result in superior habitat conditions within reserves (i.e., Old-Growth Emphasis Areas). The approach prescribed by the Interagency Scientific Committee's Strategy preserves options for adjustments in the course of management under a philosophy of adaptive management."*⁶⁶

The authors of the Northwest Forest Plan took all this into account and determined that 80 years is a useful place to draw the line between younger forests that are likely to benefit from careful thinning and older forests that are likely to experience net negative consequences.⁶⁷ There is no new science to change that conclusion. In fact, new information developed since 1994 shows that dead wood is probably more valuable than previously thought. It is important for a wide variety of ecological functions, not least of which is providing complex habitat to support owl prey species. Thinning stands over 80 years will remove many large trees and prevent them from ever becoming snags and dead wood. The long-term loss of recruitment of dead wood habitat in older stands is a very strong argument against logging in stands over 80 years old.⁶⁸

Structure-based management (SBM) is often suggested as a way to produce logs and habitat from the same forests, but this is not a well-supported approach to managing older forests. There are well-founded critiques which point out that structure-based management is untested, uncertain, high risk, and unlikely to result in desired outcomes. Consider the well-developed critique of structure based management set forth by the Scientific Panel on Ecosystem Based Forest Management:

The concept that all forests must be silviculturally manipulated (logged) and eventually replaced in order to provide desired goods and services, including the continued health of forest landscapes, is an old and honored tradition. ... The proposition that forest values are protected with more, rather than less logging, and that forest reserves are not only unnecessary, but undesirable, has great appeal to many with a vested interest in maximizing timber harvest. ... Our interpretation of the scientific literature, combined with our professional experience, leads us to some very different conclusions about appropriate approaches. Scientifically based strategies for the conservation of forest ecosystems, with a sound theoretical basis in conservation biology—including biodiversity and critical ecological services—have inevitably incorporated reserves along with ecologically sensitive management of unreserved areas (e.g., FEMAT 1993). ... In our view, the assumptions underpinning simplified structure-based management (SSBM) are not supported by the published scientific literature on structural development of natural forests, disturbance ecology, landscape ecology and conservation biology, or by the relationships between ecosystem structures and processes. ... We do not believe, however, that scientific literature or forestry experience supports the notions that intensively managed forests can duplicate the role of natural forests, or that sufficient knowledge and ability exist to create even an approximation of a natural old-growth forest stand.⁶⁹

[in dry forests] Hanson et al (in press) reviewed 2 decades of fire records in conifer forests in dry provinces of the Northwest Forest Plan and found that the proportion of area burned and the severity of fire has not changed significantly.⁷⁰ These findings, along with the evidence that logging has unavoidable adverse impacts, indicates that caution is warranted. We should not encourage excessive and unwarranted logging in mature forests. PNW Research Station recently reported that profit-driven fuel reduction logging can conflict with both habitat objectives and fire risk reduction objectives.⁷¹

If there is a new push for timber volume from mature forests and trees, it will cause fire hazard to increase. Commercial logging can increase fire hazard by making forest stands hotter and windier, and fuels dryer. "Thinning opens stands to greater solar radiation and wind movement, resulting in warmer temperatures and drier fuels throughout the fire season. [T]his openness can encourage a surface fire to

spread. ...”⁷² Opening the canopy also stimulates the growth of new surface and ladder fuels, and logging moves fine fuels from the canopy to the ground where they are more available for combustion.

BLM’s Western Oregon Plan Revision EIS confirms that fire hazard will increase in areas managed for timber production, and that retaining more canopy cover would help reduce fire hazard. “The more canopy that would remain, the less effect wind would have on drying fuels and surface fires. This reduction in mid-flame wind speed would reduce flame length, which can lead to a reduction in tree mortality. ... A lower probability of mortality equates to greater fire resiliency.”⁷³

(ConservOrgs 2015)

John Talberth describes how:

all remaining tracts of mature and old growth forest need protection because they are key landscape components for regulating stream flow, water quality, and water temperature and for responding to increasing scarcities of campsites, trails, and other recreation needs that depend on unlogged forests. Putting more of these stands on the chopping block is thus inconsistent with O&C Act requirements. So is the plan to build new logging roads. It is remarkable that the BLM is proposing new road construction when, in fact, forest roads in western Oregon already represent an extreme disruption of healthy watershed function.³⁰ The dominant effects of these high road densities on stream and riparian networks are well known and involve “alteration of routing of water, water-born chemicals, sediment, and mass movements to and through native stream networks.”

(Talberth 2015)

Other stated “needs” in the EA after sustained yield of timber are, “improve stand resiliency, and enhance or maintain northern spotted habitat” (EA 11). The above discussion and incorporated references provide rationale for why the proposed AAs will not meet the EA’s stated “needs”. Although the term “stand resiliency” was not defined in the “Appendix A Glossary” of the EA, a Wikipedia search for the definition of resiliency yielded the following: “In ecology, resilience is the capacity of an ecosystem to respond to a perturbation or disturbance by resisting damage and recovering quickly”. The EA has not provided data based on similar past logging projects that has yielded the intended resiliency results. Stand projections are primarily based on computer models provided by using the Rogue Basin Cohesive Forest Restoration Strategy, while there are ample opportunities for real on the ground monitoring of past projects that would yield more reliable and relevant data.

(Incorporated by reference is a “Citizen-Based Monitoring Report Documenting Illegal Logging and the Continuing Degradation of Endangered Species Habitat on Medford District BLM Lands”, submitted by Klamath Forest Alliance, Applegate Neighborhood Network, and Siskiyou Crest Blog. The study, titled “The O’Lickety Timber Sale: Illegal BLM Logging and the Continuing Loss of Northern Spotted Owl Habitat in the Applegate Valley of Southern Oregon”, documents a phenomenon of “Accelerated Overstory Mortality”. Also incorporated by reference is the “Endangered Species Act Compliance Fact Sheet: Medford District BLM, Ashland Resource Area, Southern Oregon” from Ruediger 2017.)

The EA claims that “Long-term, beneficial indirect effects are expected from all of these treatments by reducing competition of the residual stand, thereby increase overall stand vigor and growth rates” (EA 182). Ruediger’s study documents significant wind-throw of residual trees after thinning, providing significant evidence that remaining trees are not actually experiencing “increased vigor and growth rates”, and are instead more susceptible to disturbance and mortality.

E. The EA is using flawed basic assumptions, premises, and methodology to achieve the stated objectives of “enhancing or maintaining northern spotted owl habitat”.

If enhancing or maintaining NSO habitat is the goal, then a logical question would be why is the EA proposing to downgrade and/or remove habitat? This downgrading and removal directly conflicts with the stated goal of enhancing or maintaining NSO habitat. Since the canopy targets and prescriptions are being determined in large part based on surveys of owl “occupancy rates” (EA 44), this is a highly uncertain way of determining impacts to NSO. “Under Alternative 2, all NSO sites without recent NSO occupancy (<2 years) were considered low value sites” (EA 44). Occupancy based on BLM surveys, which are inherently inadequate at finding every owl, should not be the determining factor in whether a unit is logged to 30%, 40%, or 60%. The methodology to determine owl occupancy and suitable habitat are questionable, which will be further expanded on later in this document (see Determination of Significance #9c). The efficacy of the proposed AAs in achieving the enhancement or maintenance of NSO habitat is highly suspect and is not supported by the relevant data submitted as part of this document.

See comments from the GEOS Institute for further discussion on how “TNC’s analysis of proposed treatment effects on Northern Spotted Owls and their habitat lacks scientific rigor” (Della Sala et. al. Letter Feb 4, 2016).

The substantial scientific controversy surrounding the assumptions and models used throughout the EA were not adequately addressed in the FONSI under #4 of the 10 criteria of significance where it says “None of the comments were considered controversial in respect to their context and intensity in determining significance” (FONSI 8).

F. The EA proposed action alternatives are based on flawed assumptions about historical fire regimes and ecosystem resiliency.

The EA states in the “Background and existing conditions” section that “Stands proposed for treatment exhibit a range of conditions due to the variety of past management activities or lack of disturbance” (EA 10). DCA asserts and will document in these comments that while there is credible evidence to suggest that past management activities on BLM lands has resulted in artificially dense and homogenous tree plantations that lack diversity and complexity and are more prone to high severity fire, there is a lack of credible evidence to assume that undisturbed ecosystems are overstocked and in need of “active management” to return to them to a historically inaccurate “active disturbance regime” (EA 10). Many cut areas are beginning to recover naturally, and if natural selection processes are allowed to continue restoring them, they have a chance of recovering in hundreds of years. This has occurred in the Deer

Creek watershed where active management and silvicultural “treatments” have not been done in these areas. (DCA 2016 IVM)

The Southern Oregon Forest Restoration Collaborative, which developed the Rogue Basin Cohesive Forest Restoration Strategy being used for the action alternatives for the Pickett West project, has been challenged by a diversity of sources. (See attached letter from several local scientists dated Feb 4, 2016, Della Sala et al.). Below is a study done by William Baker that challenges the validity and efficacy of SOFRC recommendations such as those implemented in BLM’s “Pilot Joe project.”

William Baker: “Reconstruction of the Historical Composition and Structure of Forests in the Middle Applegate Area, Oregon, using the General Land Office Surveys, and Implications for the Pilot Joe Project” was submitted during scoping and not responded to in the EA:

Introduction

The Middle Applegate area of southwestern Oregon has been the site of collaboration to restore forests and watershed health (<http://www.applegatepartnership.org>), and part of the area is now the site of a pilot area (USDI BLM 2011) to demonstrate proposed methods for combining logging and forest restoration (Johnson and Franklin 2009). Here I present information from the original late-19th century surveys about historical forest structure in the Middle Applegate and discuss its relevance to the proposed Pilot Joe project (USDI BLM 2011).”

Final paragraph of Baker document:

“If the Pilot Joe project is going to achieve restoration while also producing wood, I suggest that the proposed alternative needs to be reshaped to be congruent with the local science-based historical information contained in this report and in previous research (Detling 1961, Hosten et al. 2007, Odion et al. 2004, 2010, Colombaroli and Gavin 2010). These are congruent in showing that the ideas of Johnson and Franklin (2009) and summaries by BLM (USDI BLM 2011) are incorrect for the Applegate landscape, so that the proposed Pilot Joe project will not restore these forests, relative to historical conditions, nor will it create forests that are resistant and resilient to future climate change.” (P 10)

(Baker 2011)

It is false to assume that because an area has been undisturbed for a significant amount of time that it is unhealthy and suffering from “reduced species diversity, diminishing structural complexity, and an increasing risk for high severity fire” (EA 10). In fact, the opposite is true of our undisturbed natural ecosystems that are being targeted for “treatments” under Pickett West. They support incredible species diversity, structural complexity, and are the most resilient to high severity fire. Please refer to the study by William Baker from July 2011 titled “Reconstruction of the Historical Composition and Structure of Forests in the Middle Applegate Area, Oregon, using the General Land Office Surveys, and Implications for the Pilot Joe Project”, submitted in full by the DCA. In this document, Baker describes how

The hypothesis that mature and late-successional forests existed historically as fire-susceptible patches in a matrix of low-density, fire-resistant forests (and this should be recreated today) is not supported by the historical evidence....Closed canopy, complex forests (e.g., late-successional forests) in this area were likely the least susceptible to high-severity fire (Odion et al. 2004), and they formed patches in a more extensive fire-susceptible matrix.

(Baker 2011)

The EA did not provide a rationale for not incorporating relevant data into the analysis.

The EA states in the P&N that “There is a need to apply silvicultural treatments that reduce the long-term risk of disturbances such as catastrophic wildfire or unacceptable mortality from moisture stress, insects, and disease” (EA 11). The EA does not provide data to support the inherent assumptions throughout the EA that the proposed industrial logging disturbance will produce the same beneficial results as natural disturbances such as fire, insects, and disease. While logging disturbance extracts enormous amounts of biotic material from the ecosystem, fire, insects, and disease do not. While fire is referred to as “catastrophic” in the EA, there is substantial data to support the opposite conclusion; that fire, including high intensity fire, produces incredible biodiversity, unique structural components, and a wide range of ecosystem benefits. (See GEOS 2017) The EA does not disclose that the attempt by humans to artificially “mimic” natural processes through practices such as thinning and prescribed burning, does not achieve the desired results as effectively as natural processes do.

The premises used in the Pickett West EA, which are based on SOFRC recommendations, are not congruent with ecological research, such as the Baker study mentioned above, or the following Baker study on ***Restoration of Landscape Structure Altered by Fire Suppression***:

"Unusually large fires would probably hasten the restoration of landscape structure, while small prescribed fires will not restore the landscape but instead will produce further alteration."

(Baker 1994)

We recognize that fire is not a “threat” to natural communities as it is to human communities. In fact, Chad Hanson, Ph.D. states in his research from 2010 on ***“The Myth of ‘Catastrophic’ Wildfire, A New Ecological Paradigm of Forest Health”***, that

Hanson, Chad, Ph.D. 2010, *The Myth of “Catastrophic” Wildfire: A New Ecological Paradigm of Forest Health*

Executive Summary

Popular myths and misconceptions about the ecology of fire and dead trees in western U.S. conifer forests are numerous, and are strongly at odds with the recent scientific evidence, which indicates the following about these forest ecosystems:

- *The only effective way to protect homes from wildland fire is to reduce the combustibility of the homes themselves, and reduce brush and very small trees within 100 feet of the homes. Commercial thinning projects that remove mature trees hundreds of yards – and often*

- several miles – from the nearest home do not protect homes, and often put homes at greater risk by diverting scarce resources away from true home protection, by creating a false sense of security, and by removing large, fire-resistant trees and generating combustible logging “slash debris”, which increases potential fire severity. Currently, less than 3% of U.S. Forest Service “fuels reduction” projects are near homes.*
- *Patches of high-intensity fire (where most or all trees are killed) support the highest levels of native biodiversity of any forest type in western U.S. conifer forests, including many rare and imperiled species that live only in high-intensity patches. Even Spotted Owls depend upon significant patches of high-intensity fire in their territories in order to maintain habitat for their small mammal prey base. These areas are ecological treasures.*
 - ▷ *Current fires are mostly low- and moderate-intensity, and high-intensity fire comprises a relatively small proportion of the total area burned. Areas that have not burned in a long time are not burning more intensely.*
 - *Vigorous natural regeneration of conifer seedlings occurs after high-intensity fire. Numerous large trees also survive, and their growth tends to increase substantially after the fire, which converts woody material on the forest floor into highly usable nutrients for tree growth. By contrast, after very long absence of these fires, forests can lose so much of their productivity that, ultimately, sites lose the ability to support forest at all.*
 - *There is far less fire now than there was historically. There is also less high-intensity fire now than there was prior to fire suppression policies.*
 - *Fires are not becoming more intense.*
 - *Predictions vary about the effect of global warming and climate change on forest fire activity, but the most recent projections indicate reduced fire activity in most forests due to changes in combustible vegetation, and increased precipitation in many areas. Even scenarios for increased fire activity would not rectify the current deep deficit of fire in forest ecosystems.*
 - *Ton for ton, dead trees (“snags”) are far more important ecologically than live trees, and there are far too few large snags and logs to support native wildlife in most areas. Recent anecdotal reports of forest “destroyed” by beetles are wildly misleading and inaccurate.*
 - *High-intensity fire burns cleaner than low-intensity, and produces fewer particulates.*
 - *Current forests, including old-growth forests, are carbon sinks, meaning that they are absorbing more of the greenhouse gas CO₂ than they are emitting. High-intensity wildland fire promotes high levels of carbon sequestration. Old-growth conifer forests cannot function as carbon sinks without fire. Without large, intense wildland fires to cycle nutrients and rejuvenate the productivity of the soil, forests can become carbon sources after about 600 years of age.*
 - *Mechanical “thinning” decreases total carbon storage in conifer forests.*

- *Though timber interests have promoted increased logging by describing current forests as “overstocked”, the scientific data indicates that, due to past logging, as well as exclusion of wildland fire, forests of today have much less total biomass than historic forests. However, “biomass” thinning is a growing threat to forests, and is now associated with post-fire logging, and logging of unburned old-growth trees.*
- *Ecologically “healthy forests” are those that have an abundance of low-, moderate-, and high-intensity fire effects, and an abundance of large snags. We need more, not less, fire and large dead trees and downed logs to keep our forest ecosystems healthy.*
- *“Thinning” projects designed to prevent high-intensity fire and reduce future large snag densities are not promoting “forest health”, and post-fire “salvage” logging is profoundly destructive ecologically. Moreover, if fire suppression policies achieve their stated goal, many wildlife species that depend upon habitat created by high-intensity fire will be put at risk of extinction.*

(Hanson 2010)

In July 2015, twenty-five leading fire scientists from around the world, led by Chad Hanson and Dominick DellaSala, released a new book providing a global synthesis on large wildland fires, called ***The Ecological Importance of Mixed-Severity Fires: Nature’s Phoenix***. We incorporate this book into our comments by reference. We provided a copy of this book to the State BLM Office with our official comments on the Western Oregon Revised Resource Management Plan. This book provides to substantive comments and relates to “new relevant data” with regards to understanding the role of fire in ecosystem health and function.

This synthesis provides for the first time extensive documentation from around the world that reveals how forests and other plant communities need a variety of different types of fires, including severe ones, to rejuvenate over the long-term. These findings challenge and disprove the assumption that fires are damaging to forests, and logging is needed to reduce fire effects as presented in the Pickett West EA.

According to Dominick A. DellaSala, Chief Scientist of the Ashland-based Geos Institute and co-editor, *"This is the first global synthesis of the countless ecosystem benefits of large and severe fires. Simply put, fire is to dry forests as rain is to rainforests, both are needed for vibrant forest ecosystems to remain that way."*

Chad Hanson, director and ecologist of John Muir Project, Earth Island Institute, and co-editor states:

"The research compiled in this book provides strong evidence that when large fires burn through a forest they enrich fire-dependent communities and provide habitat for scores of plant and wildlife species that rival the more celebrated old-growth forests. Although it makes many uncomfortable, it is time that we recognize the important role that fire plays in renewing forests."

Researchers compiled findings from western North America, central Europe, southeast Australia, and sub-Saharan Africa, summarized as:

- *Forest thinning in the backcountry does not improve homeowner safety, and does not meaningfully influence large, weather-driven fires.*
- *The mosaic of fire patches in large fires (unburned to severely burned areas) produces ideal habitat for scores of plants and animals.*
- *Large, severe fires restore habitats for a fire-dependent web-of-life. Post-fire logging, tree planting, and herbicides most often degrade the rich post-fire landscape and increases future fire risks.*
- *Contrary to what many think, large and severe fires are not currently increasing in western North America compared to historical times.*
- *Climate change in dry regions may increase the frequency and extent of large fires this century eventually closing the gap in historical acres burned.*
- *People can live safely with fire in the backcountry by building with fire-resistant materials and reducing flammable vegetation nearest homes.*
- *Large severe fires contribute much less carbon dioxide to global warming than the burning of fossil fuels or forest thinning over large landscapes.*
- *Record fire suppression is doing little to stop large fires during extreme weather events. It is best to prepare for fire by reducing risks to homes and proper zoning that limits sprawl into fire-prone areas.*

DellaSala added, *"In the 1940s when the Forest Service started its fire suppression policy, it made sense to put out fires for public safety. The truth is, large fires are not going away no matter what we do to try to stop them, so we need to do a better job of investing scarce public resources in protecting lives and homes."*

This major fire reference includes nearly 400 pages of science-based accounts of large and severe fires that have shaped the ecology of plant and wildlife communities for millions of years. So called "mixed-severity fires" burn in a mosaic (quilt-like) pattern of small to large patches of low (ground burning) to high-severity (most trees killed) burns that resembles a living kaleidoscope of plants and wildlife. This is in stark contrast to logging after a fire. (See <http://www.prnewswire.com/news-releases/global-synthesis-of-large-wildland-fires-shows-they-are-ecologically-beneficial-300107497.html>)

Chad Hanson, Ph.D., Director of the John Muir Project, research ecologist, and co-editor/co-author of the book, *"The Ecological Importance of Mixed-Severity Fires: Nature's Phoenix"* states, ***"Though the timber industry and Forest Service would like to keep the public afraid of fire in order to justify continued taxpayer-subsidized commercial logging on our national forests, the truth is that we do not need to be afraid of fire in our forests."***

Jack D. Cohen, Research Physical Fire Scientist with the USDA Forest Service Missoula Fire Sciences Laboratory, is the pre-eminent researcher on wildfire and home ignitions, and a founder of the Firewise Communities/USA recognition program. Jack coined the concept and phrase *"home ignition zone"*. You may read his papers on preventing home loss disasters during wildfire, and review his post-fire examinations of home destruction at the Firewise website. See a range of videos on youtube.

Jack Cohen, *Reducing the Wildland Fire Threat to Homes: Where and How Much*

Research for the Structure Ignition Assessment Model (SIAM) conclusions:

“SIAM modeling, crown fire experiments, and WUI fire case studies show that effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home.” “These research conclusions redefine the WUI fire problem as a home ignitability issue largely independent of wildland fuel management issues.”

(Cohen 1999)

Jack Cohen, *What is the Wildland Fire Threat to Homes?*

Pg 8-The term "wildland-urban interface" suggests that residential fire destruction occurs according to a geographical location. However, this misrepresents the physical nature of the wildland fire threat to homes. The wildland fire threat to homes is not where it happens related to wildlands but how it happens related to home ignitability. Therefore, to reliably map the potential for W-UI home fire loss, home ignitability must be the principal mapping characteristic. The information related to potential home destruction must correspond to the home ignitability spatial scale. That is, the information must relate to those characteristics of the home and its immediate site within a few tens of meters.

(Cohen 2000)

Jack Cohen, *Thoughts on the Wildland-Urban Interface Fire Problem*

P 2- The home ignition zone provides the scientific basis for developing actions that will prevent residential fire disasters. Since the home ignition zone principally determines home ignition potential, communities at risk of burning must be assessed and thereby identified based on the condition of the home ignition zones. For the same reason, mitigating home ignition potential during extreme wildland fires must focus activities within and immediate to the residential area, i.e. the home ignition zone. But the home ignition zone largely corresponds to private property. Thus, with minor exception, the authority for effectively reducing the home ignition potential belongs to homeowners. Public land management agencies can facilitate homeowner mitigations and these agencies may be able to reduce fire intensities and the extent of burning around communities. But these agencies cannot accomplish the necessary and sufficient actions necessary to prevent residential fire disasters during extreme fire conditions by treating beyond the home ignition zone.

As we discuss preventing home ignitions we should recognize that homes are but one of the societal values impacted by wildland fire. Our communities also derive many values from the ecosystems that burn. Fires directly and indirectly impact ecosystems at landscape scales as a complex interaction of biophysical processes over the long-term. In contrast, homes ignite based on meeting the requirements for combustion as determined by the site-specific fire conditions. The home ignition zone physically defines home ignition potential distinct and separate from the impacts of fire in ecosystems and thus allows us to address the risk of burning homes (one community value) separately from landscape fire concerns (multiple community values). This suggests that how we approach fire in our ecosystems and who takes such action should be different from how we prevent residential fire disasters and who must mitigate the home ignition zone. Given that wildland fires will occur under extreme fire conditions and that fire is an

ecological process, the home ignition zone indicates that we will have wildland fires and at the same time prevent residential fire disasters.

(Cohen 2003)

A recent study published in 2014 by the high-profile science journal PLOS ONE, an article, titled “Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America”, was co-authored by 11 scientists from various regions of the western US and Canada. Their study found that there is extensive evidence from multiple data sources that big, intense forest fires were a natural part of ponderosa pine and mixed-conifer ecosystems prior to modern fire suppression. These findings refute the claims frequently made by logging and biomass advocates that modern mixed-severity forest fires (erroneously called “catastrophic” fires) are an unnatural aberration that should be prevented through more logging (“thinning”) and that more biomass facilities should be built to take the resulting material from the forest. In contrast to these claims, logging done ostensibly to reduce fire severity now appears to be not only unnecessary, but also potentially detrimental when it is based on erroneous notions about historic forest conditions and fire regimes. These findings have big implications for biomass and forest policy. The full article in PLOS ONE is available at: <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0087852>

Abstract

*There is widespread concern that fire exclusion has led to an unprecedented threat of uncharacteristically severe fires in ponderosa pine (*Pinus ponderosa* Dougl. ex. Laws) and mixed-conifer forests of western North America. These extensive montane forests are considered to be adapted to a low/moderate-severity fire regime that maintained stands of relatively old trees. However, there is increasing recognition from landscape-scale assessments that, prior to any significant effects of fire exclusion, fires and forest structure were more variable in these forests. Biota in these forests are also dependent on the resources made available by higher-severity fire. A better understanding of historical fire regimes in the ponderosa pine and mixed-conifer forests of western North America is therefore needed to define reference conditions and help maintain characteristic ecological diversity of these systems. We compiled landscape-scale evidence of historical fire severity patterns in the ponderosa pine and mixed-conifer forests from published literature sources and stand ages available from the Forest Inventory and Analysis program in the USA. The consensus from this evidence is that the traditional reference conditions of low-severity fire regimes are inaccurate for most forests of western North America. Instead, most forests appear to have been characterized by mixed-severity fire that included ecologically significant amounts of weather-driven, high-severity fire. Diverse forests in different stages of succession, with a high proportion in relatively young stages, occurred prior to fire exclusion. Over the past century, successional diversity created by fire decreased. Our findings suggest that ecological management goals that incorporate successional diversity created by fire may support characteristic biodiversity, whereas current attempts to “restore” forests to open, low-severity fire conditions may not align with historical reference conditions in most ponderosa pine and mixed-conifer forests of western North America.*

The following opposing scientific data was submitted by the DCA and IVSC during scoping and not included in the analysis:

Odion, Dennis C. 2004. *Comments on the Biscuit Post-Fire Logging Draft Environmental Impact Statement.*

“However, all fire history studies that have been done in the region, based on scarred trees, have found a wide range in fire intervals, long fire free periods, and that the range in fire intervals is a more important property than the mean (summarized by Frost and Sweeney 2000). Agee (1991) found a pre-settlement fire free period greater than 100 years at nearby Oregon Caves. Over time scales beyond the last few centuries, there has not been any stationary amount of charcoal accumulation (Mohr et al. 2000), a measure of fire’s importance on the landscape over time. Fire has been both more and less common over meaningful time scales compared to recent centuries; there is no average tendency because of climatic variability. The description of historic fire intervals in the DEIS needs to be rewritten to accurately reflect high variability and non-equilibrium tendencies. These properties are associated with high levels of biodiversity (Odion et al. In Press).

The Tree-based fire history studies have ignored the longest fire intervals experienced by most trees, the one prior to the first fire scar on sampled trees, which can only be estimated (Baker and Ehle 2001). These fire history studies also use methods that extrapolate fire from a point location across space, which further over estimates fire frequency. Finally, areas sampled in fire scar studies cannot be assumed to represent the entire landscape; they are the locations where fire has operated in a way that has allowed for concentrations of trees scarred by low severity fires to develop. These may be unique locations where lightning and human ignitions were frequent, and fire size small.” ... “Most importantly the DEIS rationalizes timber harvest as a means to return a regime of relatively frequent fire at regular intervals. This fire regime would be unnatural, and would not allow for the landscape diversity that has existed historically.”

Frost, Evan J. and Sweeney, Rob. 2000. *Fire Regimes, Fire History and Forest Conditions in the Klamath- Siskiyou Region: An Overview and Synthesis of Knowledge*

“The current popular and frequently repeated hypothesis about fires in the Klamath Mountains is that – as a result of fire suppression and other human activities – large fires are occurring more frequently and are larger and more intense than they were in the past (Atzet et al. 1988, USDA Forest Service 1994, 1995, 1996, 1998b, Brookes 1996). This position is predicated on assertions, that, because of fire suppression: 1) the number of fires in the region has declined over time, 2) fires are substantially larger today than in the past, and 3) large, intense fires are the results of unnaturally high levels of fuels accumulation. However, none of these assertions have been supported with empirical data from the Klamath Mountains or by analysis demonstrating that a change in fire frequency, size or severity has occurred from historic to present. If this hypothesis is not true, it may lead to inappropriate forest management and adverse impacts to regional biodiversity.”

“Lastly, it is important to recognize that the insights offered here represent a poorly developed “state of the art” because we currently have a very incomplete understanding of the role of fire in these forests, how this role has changed over time, and the most effectual means for restoring forests degraded by past management. There are significant risks associated with decisions made in the face of this high level of uncertainty. While ecosystem management plans will be developed in the absence of complete understanding, widespread application of highly intrusive treatments under the auspices of restoration could lead to further damage of the Klamath-Siskiyou region’s forest ecosystems.”

(Frost, Sweeney 2000)

The above analysis provides support for less intrusive alternatives when implementing ecosystem based management plans, such as the Natural Selection Alternative. Less impacting and intrusive alternatives will be effective tools for meeting human community and natural community needs in the process of continuing to learn and understand complex ecosystem processes and dynamics such as fire and other disturbances. It is best to proceed with caution in the face of uncertainty rather than the hubris of assuming humans can completely understand and artificially create healthy ecosystems with “highly intrusive” mechanical treatments. These have not yet proven to be able to restore ecosystem health and resiliency and it is best to allow nature and all the species that sustain the biosphere, to keep doing what they have done for millennia. The Natural Selection Alternative leaves all options open for the future, while the proposed action alternatives would create irreversible damage. We and many in our community and throughout the scientific community are concerned about supporting these unwise and harmful relationships with our natural communities at the broad landscape scale, as is proposed in this project. We continue to request the BLM to take a “hard look” at the information being presented here and reconsider the basic assumptions driving this project.

Whereas natural fire plays an important role in our dry ecosystems, the attempt of humans to artificially introduce fire to specific areas and “mimic” a historically inaccurate fire regime is extremely problematic. Prescribed burning in the wet season is not mimicking natural processes and is creating negative impacts to our air and water quality, as well as the productivity of our natural ecosystems. The impacts of these mechanical “treatments” are also detrimental to water and soils.

Jonathan J Rhodes, 2007, *The Watershed Impacts Of Forest Treatments To Reduce Fuels And Modify Fire Behavior:*

This report examines the effects on watersheds and aquatic resources from forest fuel reduction treatments aimed at modifying wildland fire behavior on public lands. Such treatments have been promoted in some scientific assessments (e.g., Graham et al., 1999; Allen et al., 2002; Graham et al., 2004; Stephens and Ruth, 2005) and recent public forest policy and legislation (Associated Press, 2004) for extensive implementation on Western public lands in an attempt to reduce fire severity and size by altering fuel levels, character, and continuity. For instance, the U.S. National Fire Plan (U.S. Forest Service (USFS), 2002) and the Healthy Forests Restoration Act of 2003 encourage these treatments on a grand scale. Proponents assert that these treatments, when effective, benefit watersheds because higher-severity fire can sometimes trigger severe soil erosion and elevated peakflows (Allen et al., 2002; Graham et al., 2004). However, fuel treatments will not always provide these benefits to watersheds, because they are not

universally effective in reducing fire severity, restoring fire regimes, or reducing the ecological effects of higher-severity fire. As this paper discusses, in most forest systems such treatment benefits are unlikely, due to the transience of treatment effects on fuels, combined with the patchy and poorly predictable nature of fire behavior and occurrence. Mechanized fuel treatments also incur ecological costs by damaging soils, vegetation and hydrologic processes, as proponents of fuel reduction treatments have acknowledged (e.g., Allen et al., 2002; Graham et al., 1999; 2004; Agee and Skinner, 2005). Mechanical fuel reduction treatments typically involve the same suite of activities as logging, with the same set of impacts to soils, runoff, erosion, sedimentation, water quality, and stream structure and function. These effects, their mechanisms, and their aquatic impacts have been extensively and repeatedly documented across the West (e.g., Geppert et al., 1984; Meehan, 1991; USFS et al., 1993; Rhodes et al., 1994; CWWR, 1996, USFS and USBLM, 1997a; c; Beschta et al., 2004). Watershed damage ultimately translates into aquatic damage. The collateral impacts of fuel treatments are of considerable concern due to the existing aquatic context. Across the West, aquatic systems are significantly and pervasively degraded (Rieman et al., 2003; Beschta et al., 2004). As a result, many populations of aquatic species, including most native trout and salmonids, have undergone severe contractions in their range and number and remaining populations are now imperiled and highly fragmented (Frissell, 1993; USFS and USBLM, 1997a; Kessler et al., 2001; Behnke, 2002; Bradford, 2005). Additional damage to watersheds and aquatic systems reduces the prospects for the protection and restoration of imperiled aquatic species (USFS and USBLM, 1997c; USFWS, 1998; Karr et al., 2004).

(Rhodes 2007)

See attached comments from 19 conservation organizations on the 2015 BLM current Draft EIS for the Revised Management Plans (RMP) for western Oregon. The below is from their Aug 2015 administrative protest to the Final RMP EIS, Pg 105-107, and is relevant to the Pickett West Project:

The FEIS oversimplifies the relationship between logging and fire, claiming that lower density stands tend to have higher fire resistance. The FEIS also adopts the oversimplified notion that fire exclusion increases fire hazard. For example, the FEIS says: Uneven-Aged Timber Area [and] the Owl Habitat Timber Area ... Both of these management scenarios would result in the greatest reduction of low and moderate stand-level resistance and the largest increase in the mixed- and high-resistance acres. BLM failed to respond to public comments indicating that these assertions are not supported by the evidence from SW Oregon. The FEIS thus fails to reflect the best available science which indicates that open stands (such as those resulting from thinning) tend to have more surface and ladder fuels (over time), as well as greater wind penetration, lower humidity, dryer fuels, longer flame lengths, and higher fire intensity at the flame front. Forests with a dense canopy tend to have a more cool, moist, and less windy fire microclimate, and the canopy helps suppress the growth of surface and ladder fuels.

The FEIS also fails to reflect use of the best available information indicating that greater time-since-fire actually increases fire resistance. That is, fires are likely to burn more severely in forests that have been more recently logged or burned, and are likely to burn less severely in closed-canopy forests that have not been recently logged or burned. This may be related to the fact that

closed canopy forests maintain a cool-moist microclimate that helps retain higher fuel moisture and more favorable fire behavior. Canopy cover also helps suppress the growth of ladder fuels. The significance of this is that it may make sense to variably retain more canopy cover while thinning and limiting treatment of canopy fuels except to provide some well-spaced “escape hatches” for hot gases generated by surface fires. The FEIS/PRMP, however, does not address or consider this highly relevant issue.

Odion et al (2004) studied fire in the Klamath Mountains region and found: Long absence of fire predicts low severity fire effects. Absence of fire enables closed canopy forest vegetation to replace shrub and open forest vegetation through succession. Shade reduces available fuel below the canopy as well as its potential surface heat output during fire events, making canopy fires less likely to occur. Therefore, severe fire effects are not correlated with the age of woody fuels. Instead, weather and climate dictate canopy fire behavior in closed canopy forests.

Odion, D.C., E.J. Frost, J.R. Strittholt, H. Jiang, D.A. DellaSala and M.A. Moritz. 2004. Patterns of fire severity and forest conditions in the western Klamath Mountains, California. Conservation Biology 18(4): 927-936. http://nature.berkeley.edu/moritzlab/docs/Odion_etal_2004.pdf.

Raymond (2004) found that “A greater percentage of pre-fire fine wood was consumed in the thinned plots than in the unthinned plots during the Biscuit fire suggesting that fine fuel 2016 Western Oregon Plan Revision moisture may have been lower in the thinned plots.” And “the Biscuit Fire was observed to have more moderate fire behavior in stands with a sub-canopy tree layer compared to more open stands, suggesting that the sub-canopy trees did not function as ladder fuels. ... Higher foliar moisture of broad-leaved species could have dampened fire behavior, inhibiting rather than aiding crown fire initiation.” Crystal L. Raymond. 2004. The Effects of Fuel Treatments on Fire Severity in a Mixed-Evergreen Forest of Southwestern Oregon. MS Thesis. http://depts.washington.edu/nwfire/publication/Raymond_2004.pdf.

BLM says there is “compelling anecdotal evidence” that logging moderates fire behavior. It is widely recognized that anecdotal evidence is the least reliable and therefore the least compelling type of evidence, especially as compared to published and peer-reviewed scientific evidence. BLM cannot rationally rely on anecdotes to justify fuel reduction logging when more relevant scientific evidence is available. BLM must disclose the short-comings of anecdotal evidence. See V. Sit and B. Taylor, eds., Statistical methods for adaptive management studies. B.C. Ministry of Forests Research Branch, Victoria, B.C. <http://www.for.gov.bc.ca/hfd/pubs/docs/lmh/lmh42.htm>.

<http://www.for.gov.bc.ca/hfd/pubs/docs/Lmh/Lmh42.pdf>. (Chapter 9: Marcot, B. G. 1998. Selecting appropriate statistical procedures and asking the right questions: a synthesis. Pp. 129-142).

An excellent website that has a huge amount of data, research and photos: “Stop Thinning Forests”:
<http://stopthinningforests.org/fire-prevention.html>

Federal Forest Carbon Coalition, Modernizing Federal Forest Management To Mitigate And Prepare For Climate Disruption, Science-based Recommendations to The Obama Administration in Response to The President's November 1, 2013 Executive Order: Preparing the United States for the Impacts of Climate Change, 2014 p 3

Goal IV: Enhance, Consistent with Goals I, II, and III, The Resilience Of Federal Forests To Climate Change Related and Other Natural Disturbances , p: 3

Specific Recommendations:

- A. Use principles of conservation biology as the basis for increasing the resilience of federal forests, including restoration of more natural fire regimes in mesic and xeric forests, away from human habitation and infrastructure.*
- B. Where needed, prioritize forest thinning in the immediate vicinity of human habitation and infrastructure and avoid thinning elsewhere unless analysis shows net carbon benefits, over the midterm (i.e.20-40 years)*

(FFCC 2014)

Rogue Basin Cohesive Forest Restoration Strategy's "Ecosystem Resilience" and "Fuel Management Model" (FONSI p 3) hugely fail to follow these FFCC recommendations and are incongruent with science we cite in these comments and in our series of scoping (11/29/16) emails on these topics.

Pg 12 of FFCC above doc:

...recommendations made by the Climate Leadership Initiative at the University of Oregon ..2008, include:

- Reduce anthropogenic stress in anticipation of increased climate stress, wich means less logging, less roads, less weeds, etc.*
- In the face of uncertainty, "no regrets" decisions are preferable.*
- Maintain diversity of native species, genes, and ecosystem composition and structure.*
- Maintain self organized ecosystem resilience and resistance.*
- Maintain natural disturbance regimes such as recurrent wildfire and flood plain inundation.*
- Maintain connectivity for wildlife interaction with flood supply and migration to more suitable habitat under new climate conditions.*
- Complementarity–this concept captures the co benefits that climate change preparation strategies will create by improving wildlife habitat, biodiversity, water quality, carbon storage, scenic values, and other "ecosystem services."*
- Equity should be adhered to across generations, among human communities and between human and natural systems.*

P 13-14

"...and potentially high carbon costs to implement them suggest that fuel treatments are not an effective method for protecting carbon stocks at a stand level..."

(FFCC 2014)

Quote from Beverly Law about the study by Tara W. Hudiburg, Beverly E. Law, Christian Wirth & Sebastiaan Luysaert (2011). Regional carbon dioxide implications of forest bioenergy production. Nature Climate Change doi:10.1038/nclimate1264”

“If our ultimate goal is to reduce greenhouse gas emissions, producing bioenergy from forests will be counterproductive,” concludes OSU’s Beverly Law, a co-author of the study. “Some of these forest management practices may also have negative impacts on soils, biodiversity and habitat. These issues have not been thought out very fully.” The bottom line, the authors say, is that it appears that any increase in harvest volume on the West Coast, for any reason, will result in average increases in emissions. And they write that the study suggests that “energy policy implemented without full carbon accounting, and an understanding of the underlying processes, risks increasing rather than decreasing emissions.” – David Malakoff | October 23, 2011

(Hudiburg et al 2011)

DellaSala, D.A., and M. Koopman. 2015. Thinning combined with biomass energy production may increase, rather than reduce, greenhouse gas emissions. Geos Institute, Ashland, OR. P5

*The Chance That a Thinned Site Will Encounter A Fire When Fuels Are Lowest is Slim
The likelihood of thinning treatments and wildfire overlapping in time and space is quite low when the treatment is most effective (<20 yrs 6). In fact, the chance that thinning will influence fire behavior is based on a number of improbable factors that, in turn, affect emissions, including:*

- 1. Probability of a thinned site encountering a fire when fuels are lowest (<20 years) is only 5–8% based on computer simulations. Similarly, there is just a 2% chance that a thinned site will encounter a severe fire. Therefore, costly fuel treatments would need to be applied every decade or so over large areas in order to keep fuels at lowest levels and even then the thinned sites would have a very low probability of co-occurrence with fire. Repeating fuel treatments increases net carbon dioxide emissions over the life of a project.*

(DellaSala & Koopman 2015)

Joshua Clark, John Sessions, Olga Krankina, Thomas Maness, 2015 Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis, OSU May 25, 2011 p viii

Findings

- Forest carbon pools always immediately decreased as a result of a fuel reduction thinning, with larger differences in total carbon pools resulting from heavier thinning treatments.*
- After thinning, forest carbon pools (both total and standing live (aboveground) remain lower throughout a 50-year period for all simulated plots in eastern and western Oregon. The difference in total carbon pools between a thinned and unthinned plot is dependent on the level of live standing tree inventory reduction. A heavier thin tends to reduce carbon pools more than lighter thins throughout a 50-year simulated period.*

- *Carbon pool estimates for thinned stands were still lower than unthinned stands even after accounting for carbon transfer to wood products and avoided emissions from fossil fuels for energy production. After simulating growth Impacts of Thinning in the stands for 50 years the average difference in net carbon balance between unthinned and thinned plots for the three age groups ranged between 73.5--103.4 MgC/ha in Eastern Oregon to 121.8 –128.6 MgC/ha in Western Oregon. Carbon losses on site account for the bulk of the effect of thinning on carbon. Carbon retention in wood products and avoided emissions from fossil fuels tend to offset the equipment emissions and emissions from burning biomass for energy, but not the loss of carbon from forest on site. See Graph on attached document.*

(Clark et al 2010)

DCA submitted additional information and links during scoping via email. We include all of our scoping comments, including the series of email attachments A-H by reference. They have many links and additional information.

The incorporated references with these comments represent a fraction of the large body of literature and scientific reports that show how developments in landscape ecology has led to a new appreciation of the importance of disturbance agents such as fire and disease and insect outbreaks in maintaining forest health at the landscape level. Unfortunately, the EA is still using outdated assumptions that view forests as timber supply areas where fire and pathogens destroy (waste) valuable timber. The EA does not provide thresholds for what is determined as “unacceptable mortality from moisture stress, insects, and disease” (EA 11). The effects of drought, insects, and disease are natural processes that play important roles in ecosystem health and function. While there is an assumed fear in the EA of “unacceptable mortality” from natural causes, the EA fails to acknowledge the widespread mortality that will surely occur as a result of this project. To many members of the public and to a huge number of other species, this project if implemented would result in “unacceptable mortality”. Whereas the presumed threat of mortality from fire and other natural disturbances is speculative, this project would surely result in massive mortality of not just trees, but countless species that live in and depend on these natural ecosystems. Not to mention, the remaining trees will surely be weakened and more susceptible to insects, disease, and moisture stress due to drastic changes in the microclimate they are adapted to. Increased sun and wind exposure and increased soil compaction and water infiltration will undoubtedly increase moisture stress. Whereas insect and disease outbreaks are correlated with drought and moisture stress, these massive canopy reductions will contribute to increased mortality of remaining trees and the subsequent habitat degradation of countless species. This anticipated mortality will surely impact estimates of future sustained yield of timber, which has not been considered in this EA.

BLM must provide room for the entire suite of structures, functions, and processes that integrate to create and maintain healthy forest ecosystems. Natural disturbance agents such as fire, insects, and disease must be allowed to operate. The full suite of biodiversity must be preserved, including non-vertebrates that play such crucial roles in soil ecology and nutrient cycling.

The Natural Selection has a superior fire plan

The Natural Selection Alternative recognizes the important role that natural fire plays in our ecosystems, while encouraging measures that promote protection of homes and properties, such as building with fire resistant materials. In addition, the NSA addresses the need for immediate fire response, which is why each trustee that is entrusted with watching over a section of land will be required to have a water tank on site. The low impact, multi-use access systems described in the NSA will allow for prompt response to fire and the ability to access fire prone landscapes with fire equipment. This quick response is the most effective way to protect homes and property from being destroyed. Dennis Odion, Ph.D., and vegetation ecologist who specializes in fire and community and landscape ecology, supports implementing the NSA on public lands. He gave a “brief summary of the merits of the Natural Selection Alternative” in his August 6, 2005 comments on the BLM’s South Deer Landscape Management Project, stating that

- 1. The Natural Selection Alternative would retain and restore late successional forest ecosystems, which, as discussed above, have the lowest fire hazard conditions, but also have the greatest value for old-growth associated wildlife.*
- 2. The Natural Selection Alternative does not target the most important species and resources for wildlife.*
- 3. The Natural Selection Alternative would remove many of the same forest resources for products that alternatives 2 & 3 slash and burn without creating openings in the canopies that will increase shrubs and brush and heat up surface fuels.*
- 4. Stewards on site with fire tankers will increase immediate response to fire. This can have a greater effect in terms of fire safety than any type of fuel treatment.*
- 5. The Natural Selection Alternative recognizes and uses science and data backed studies for the region that support its practices.*
- 6. The Natural Selection Alternative recognizes that we currently have a very incomplete understanding of the role of fire in these forests and the significant risks to forest and community health associated with intrusive treatments in the face of this high level of uncertainty.*
- 7. The Natural Selection Alternative places more emphasis on protecting people and property by focusing on the home ignition zone.*
- 8. The Natural Selection Alternative eliminates the potential harm to wildlife, native seed banks, etc. from unnatural prescribed burning.*
- 9. The Natural Selection Alternative does not confuse the issues of fuel hazard reduction with forest product removal.*

The South Deer Watershed management could become a great example of collaboration between community and government stakeholders leading to sound management balancing

ecological and economic goals. I believe is in the best interest of BLM as a manager of public lands to seriously consider the well-informed and well-intentioned Natural Selection Alternative.

(Odion 2005)

The PW EA does not recognize the important role that insects play in ecosystem dynamics. We recognize that insects play a key role in ecosystem processes, especially with regards to natural selection. Not only do these beetles and insects provide food for woodpeckers and other species, these dead trees also provide homes and habitat for many species. Also, this mortality is part of the natural selection process that facilitates the weaker members to be naturally selected out. Perhaps the tree is weak because it was disturbed or affected by drought or cannot adapt to the changing climate. Therefore, the bugs select these individuals out, while the stronger, more compatible species on that site survive and reproduce. We do not see insect disturbance as a valid reason to enter our late successional ecosystems, but rather respect the important role insects play in restoring ecosystem balance and health.

Based on the overwhelming body of evidence of the harmful effects of these practices, we do not support “restoration thinning”, “density management”, “understory reduction”, or “hazardous fuels reduction maintenance” on our public lands. None of those management activities will contribute to the health or stability of our natural or human communities. Undisturbed natural late-successional ecosystems are rare across the landscape, while disturbed early successional ecosystems are prevalent. These undisturbed ecosystems provide us with many free ecological services such as high water quality and quantity, high fire resilience that protects our homes and property, visual and aesthetic values that optimize property values, species habitat, recreation, and quality of life, as well as cultural and spiritual values. All of these values will be severely impacted by the proposed Pickett West Project.

All of the “treatments”, including the “Hazardous Fuels Reduction Maintenance (HFRM)”, will not only contribute to the damaging of soils, watersheds, and aquatic systems and species, but these activities will also not achieve the desired resilience to severe fire. Vegetation density serves to shade the ground from sun exposure, which maintains higher moisture content, lower ground temperatures, and higher humidity. Opening up the vegetation with “slashing, hand piling, hand pile burning, chipping, lop and scatter, biomass removal, and/or understory burning” (EA 48), will dry out the ground and reduce available moisture by increasing the temperatures due to reduced canopy cover and increased sun exposure. This sun exposure will foster the growth of early successional species such as manzanita and other shrubs and grasses that are more fire prone. The open nature of these stands will then facilitate more rapid movement of intense fire through the landscape because the wind penetration will be much greater in a hotter climate with greater fuel loads. It will also encourage the propagation of invasive species that favor disturbance.

Furthermore, within the areas designated for HFRM, we request that you reevaluate the arbitrary spacing requirements where “Conifers would likely be spaced 16-20 feet apart while hardwoods would be spaced 25-45 feet apart” (EA 48). These spacing practices serve to create artificially designed landscapes that are based on agricultural tree farming values. Arbitrary spacing does not allow for the

species that are best adapted to each particular site to be retained, which is essential in ensuring productivity, whether it applies to trees or any other species. The EA failed to consider the role that natural selection plays in creating and sustaining productive ecosystems and please incorporate this well-known and documented natural process into your planning process. Furthermore, the EA failed to consider the process of photosynthesis, which is directly related to ecosystem productivity. By removing all this vegetation from the system, you are drastically reducing the ability of these green trees and vegetation to convert sun energy into living energy and effectively store carbon across the landscape. Also, by removing this vegetation from the system, the topsoil will severely suffer because the topsoil depends on recycling the nutrients from the dead plant material into new plant growth. If all this vegetation is removed from the system or burned up in slash piles, this will diminish the productivity of the soil over time and not allow for the sustainable production and sustained yield of these lands in the future. Valuable topsoil will be exposed to heat, rain, erosion, and compaction from fuels reduction activities and prescribed burning. A short burst of nutrient release from burning the ground does not ensure long term productivity and does not mimic natural fire patterns. The Natural Selection Alternative would facilitate the natural restoration of previously treated stands by allowing the most compatible traits to survive and reproduce over time, while extracting a portion of the dead, or naturally selected out, products to serve human economic needs. Shade and retaining low temperatures and high moisture content will be the primary defense against severe fire that threatens homes. Also, topsoil productivity is optimized by allowing the natural processes of converting dead vegetation into nutrients for new plant growth. Topsoil productivity is essential in ensuring the sustainable productivity of ecosystem goods and services.

G. Internal Inconsistencies related to the purpose and need and RMP transition phase

There are numerous internal inconsistencies within the EA and FONSI documents. It is unclear what the true purpose and need is based on differently worded descriptions between the EA and the FONSI. There appears to be a discrepancy in how the purpose and need is being framed. The FONSI states that “The purpose and need for the proposed treatments in the Pickett West project is to produce wood volume, improve stand resiliency, enhance or maintain northern spotted owl habitat, and reduce the long-term risk of catastrophic wildfire” (2). The FONSI purpose and need is different from the purpose and need in the EA. While the FONSI says “produce wood volume”, (2) the EA says “provide a sustainable supply of timber” (11). These two phrases carry very different implications and legal contexts and are not necessarily equivalent, yet are being used interchangeably in these documents. It is unclear and unexplained how the stated “wood volume” derived from the proposed actions would in fact be “providing a sustained yield of timber”. It was clear during scoping communications with BLM staff that this project was designed to produce timber volume to meet Medford District ASQ targets (See BLM/DCA April 2017 meeting minutes). It is unclear why the BLM is prioritizing timber volume at the expense of other legal mandates.

There is substantial confusion with many members of the public as to what RMP is being used for this project. The Purpose and Need section on pages 10-12 of the EA refers to, and lists objectives from, both the 1995 RMP and the 2016 RMP. It states that “Any alternatives that are to be given serious consideration as viable must meet the objectives provided for in the 1995 ROD/RMP” (EA 11). Then on

page 12 it says that “The inability to proceed with a given sale in the Medford District Sale plan for any particular fiscal year has the potential to prevent the Medford District from meeting Allowable Sale Quantity targets, as directed in the O&C Act and the 2016 ROD/RMP”. What is the basis for using the old RMP objectives and LUAs for meeting the ASQ targets in the new RMP? The new RMP was not intending for “Matrix” land to be harvested in order to meet ASQ targets.

2016 RMP p6 states:

The ASQ volume represents the sustained-yield volume of timber that the BLM can offer for sale from each sustained-yield unit; as such, the BLM offers this sustained-yield volume of timber only from the Harvest Land Base, which has specific objectives for sustained-yield timber production.

Considering over 80% of the units and acres proposed for commercial timber harvest (in the SW region) are within Reserves under the new RMP, it does not make any sense why BLM is treating these areas as if they are harvest land base. It is arbitrary and capricious to assume that this overwhelming majority of units can justifiably be degraded because internal scoping was initiated 6 weeks before the 2016 ROD/RMP was signed.

It appears that the EA is picking and choosing from both RMPs to attempt to justify this project, while ignoring important parts of both RMPs that would limit or prohibit the proposed activities in this project. The EA says that the “2016 ROD/RMP (p.10) allows the BLM to implement projects consistent with the management direction of either the 1995 ROD/RMP or the approved 2016 ROD/RMP, at the discretion of the decision maker” (13). The key words here are “either” and “or”. It does not say they can use both and pick and choose from both as they choose. The Purpose and Need section alternates between citing objectives from both RMPs, making it very unclear what RMP is being followed.

Priority in the 1994 NWFP, the 1995 RMP, and 2016 WORMP is placed on recovery of the NSO. PW EA and proposed Alternatives fail to meet those priorities and in fact cherry pick from each to adopt the least protective aspects for the NSO. For instance, the 2016 RMP has provided LSRs and large block reserves specifically to provide protections necessary to protect NSO; and PW is tiered to 2016 RMP (EA 16), yet chooses to use and interpret 1995 LUA’s for timber volume priority at the expense of NSO protections. And even more concerning, not only has the PW EA targeted the late successional natural ecosystems on matrix land (a designation under the 1995 plan for where timber may be harvested), the proposed alternatives violate the same 1995 minimal protections for “matrix” LUA’s (explained more later). RMP’s are not meant to be combined so that a plan may select the greatest opportunity for timber volume, while at the same time providing for the least protection of threatened and endangered species. This is a manipulation and distortion of BLM’s legal mandates. The purpose and need for the narrow range of proposed alternatives has failed to comply with either RMP by attempting to combine aspects of both, while failing to incorporate protections for watershed health and threatened species required by either.

One of the primary purposes of issuing a new revised ROD/RMP was stated that:

The BLM needs to revise existing plans to replace the 1995 RMPs' land use allocations and management direction because of new scientific information and policies related to the northern spotted owl.

The purpose of the RMP revision includes all of the following purposes:

- *Provide a sustained yield of timber.*
- *Contribute to the conservation and recovery of threatened and endangered species, including—*
 - o *Maintaining a network of large blocks of forest to be managed for late-successional forests; and*
 - o *Maintaining older and more structurally-complex multi-layered conifer forests.*
- *Provide clean water in watersheds.*
- *Restore fire-adapted ecosystems.*
- *Provide recreation opportunities.*
- *Coordinate management of lands surrounding the Coquille Forest with the Coquille Tribe.*

(2016 ROD/RMP p20)

The need to protect the NSO is central to the NWFP and both RMPs, which this project is failing to do.

The Purpose and Need Statement of the 1995 ROD/RMP offers valuable insight into the multitude of objectives and laws that must be balanced when implementing land use plans, which has not been accomplished in the planning of this Pickett West project.

The management of the O&C lands is governed by a variety of statutes, including the O&C Lands Act, Federal Land Policy and Management Act (FLPMA), the Endangered Species Act (ESA), and the Clean Water Act. The O&C Lands Act requires the Secretary of the Interior to manage O&C lands for permanent forest production, however, such management must also be in accord with sustained-yield principles. Further, that Act requires that management of O&C lands protect watersheds, regulate streamflow, provide for recreational facilities, and contribute to the economic stability of local communities and industries. The Act does not require the Secretary to harvest all old-growth timber or all commercial timber as rapidly as possible or according to any particular schedule. The Secretary has discretion to determine how to manage the forest on a sustained-yield basis that provides for permanency of timber production over a long-term period. The Secretary must necessarily make judgments, informed by as much information as possible, about what kind of management will lead to permanent forest production that satisfies the principle of sustained yield.

Lands administered under the O&C Lands Act must also be managed in accordance with other environmental laws such as the Endangered Species Act and the Clean Water Act. Some provisions of these laws take precedence over the O&C Lands Act. For instance, the Endangered Species Act (ESA) requires the Secretary to ensure that management of O&C lands will not likely result in jeopardy to listed species or destruction or adverse modification of critical habitat. The ESA directs the Secretary and all Federal agencies to utilize their authorities to carry out programs for the conservation and recovery of listed species. Section 5(a) of the Act also directs: "the Secretary, and the Secretary of Agriculture with respect to the National Forest System, shall establish and implement a program to conserve fish, wildlife, and plants, including those that are listed as endangered species or threatened species pursuant to Section 4 of this Act." 16 U.S.C. 1534(a). Although several northern spotted owl recovery plans have been proposed, the Secretary has not yet adopted final recovery plans for either the northern spotted owl or the marbled murrelet. The SEIS ROD's late successional and riparian reserve concepts are important building blocks in the development of recovery plans to achieve the conservation and recovery of those species.

One of the purposes of the Endangered Species Act is the preservation of ecosystems upon which endangered and threatened species depend. A forward-looking land management policy would require that Federal lands be managed in a way to minimize the need to list species under the ESA. Additional species listings could have the effect of further limiting the O&C Lands Act's goal of achieving and maintaining permanent forest production. This would contribute to the economic instability of local communities and industries in contravention of a primary objective of Congress in enacting the O&C Lands Act. That Act does not limit the Secretary's ability to take steps now that would avoid future listings and additional disruptions.

Protection of watersheds and regulating streamflows are explicit purposes of forest production under the O&C Lands Act. Riparian reserves including those established on O&C lands under the RMP are designed to restore and maintain aquatic ecosystem functions. With other components of the Aquatic Conservation Strategy, riparian reserves will provide substantial watershed protection benefits. Riparian reserves will also help attain and maintain water quality standards, a fundamental aspect of watershed protection. Both riparian reserves and late successional reserves will help regulate streamflows, thus moderating peak streamflows and attendant adverse impacts to watersheds.

(1995 RMP 17-18)

An additional question and concern is with regards to the current litigation on the 2016 ROD/RMP. This is incomplete or unavailable information (40 CFR 1502.22) that has an important bearing on this project, given that we understand from communications with BLM that if the new RMP is to be retracted due to litigation, this PW project would also be retracted because it is tiered to the 2016 analysis.

The EA has misinterpreted the Matrix LUA's to be primarily timber dominant and has set forth a narrow range of alternatives in an attempt to implement Matrix LUA objectives that do not comply

with land use direction under the 1995 RMP. While the stated purpose of the project encompasses all management direction for activities on the Medford District, the stated needs for the proposed alternatives are considerably narrower. The purpose and need statement says “Any alternatives that are to be given serious consideration as viable must meet the objectives provided for in the 1995 ROD/RMP” (EA 11) and goes on to list a portion of the Matrix LUA objectives outlines in the 95 RMP:

Within the Matrix LUA project objectives include but are not limited to:

- *The production of a sustainable supply of timber and other forest commodities to provide jobs and contribute to economic sustainability in the Matrix LUA (1995 ROD/RMP, p. 38);*
- *Contributing to local, state, national, and international economies through sustainable use of BLM-administered lands and resources and use of innovative contracting and other implementation strategies (1995 ROD/RMP, p. 80);*
- *Preserving or retaining the existing character of landscapes on BLM-administered lands allocated for visual resource management (VRM) Class I and II management (1995 ROD/RMP, p. 240). Class I is the congressionally-designated Rogue River Wild and Scenic River Corridor; Class II is “the seen area” from the Rogue National Wild and Scenic River (wild section) (1995 ROD/RMP, p.69).*

However, this list omits other crucial objectives outlined on page 38 of the 95 RMP:

Matrix (General Forest Management Area and Connectivity/Diversity Blocks)

Objectives:

- *Produce a sustainable supply of timber and other forest commodities to provide jobs and contribute to community stability.*
- *Provide connectivity (along with other allocations such as riparian reserves) between late-successional reserves.*
- *Provide habitat for a variety of organisms associated with both late-successional and younger forests.*
- *Provide for important ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as down logs, snags, and large trees.*
- *Provide early-successional habitat.*

This more complete description of Matrix Objectives illustrates how Matrix land should not be equated with timber harvest emphasis areas at the expense of ecological health. The omitted parts of the Matrix LUA objectives illustrate a much more ecosystem centered approach, rather than the tree centered approach inherent in the proposed action alternatives.

1995 Medford RMP pg 54:

Management Actions/Direction - Northern Spotted Owl (Federal threatened species)

In the Matrix, retain 100 acres of the best northern spotted owl habitat as close as possible to a nest site or owl activity center for all known (as of January 1, 1994) northern spotted owl activity centers.

It is also unclear why BLM has proposed such intense harvesting activities within 100 acres of known NSO activity centers. Matrix does not allow for the degrading and removal of habitat within these 100 acres, it says to *retain* the best habitat. It is unclear why this is being proposed.

It is clear when speaking with BLM staff during the scoping period and reviewing the intense timber harvesting activities proposed in the action alternatives, that Matrix land is being equated with harvest emphasis areas at the expense of other values. In our meeting minutes from April 13th with BLM staff working on Pickett West, it was explained to us that they do not have to fulfill every objective on every piece of land. They described how managers can choose to preserve an area for certain objectives and degrade an area for other objectives, and that the multiple use clauses do not have to be applied to every piece of land. DCA raised the point that it does not make sense to choose to implement an alternative that only achieves some objectives on a given piece of land, while the Natural Selection Alternative will achieve all objectives on all pieces of land. (see DCA/BLM minutes, 2017)

The above list of Matrix LUA objectives does not imply timber harvesting should come at the expense of environmental concerns. “The production of a sustainable supply of timber and other forest commodities to provide jobs and contribute to economic sustainability in the Matrix LUA” does not specify timber jobs over recreation jobs or that timber is more important than the other *forest commodities* mentioned. Also, sustainable supply should be interpreted in the context of sustained yield that was discussed at the beginning of this section. Converting more ancient virgin ecosystems into agricultural, artificially designed landscapes, as is being proposed, will not achieve the broad objectives outlined under the NWFP, the Matrix LUAs for the 1995 RMP, the mandates of the O&C Act, the Endangered Species Act, and likely numerous other legal mandates.

Specifically, the EA reveals that matrix lands are intended to provide for more than timber production. The Medford District is not committed to harvesting a minimum amount of timber volume irrespective of environmental consequences to be in compliance with the NWFP or meet ASQ targets. This narrow reading of the requirements of the RMP LUAs artificially leads the BLM to truly consider only those alternatives that propose significant harvesting activities. Timber production at all costs is not required by the NWFP or any relevant RMPs and should not be the principal focus of the BLM in choosing an alternative for the Pickett West Project.

The EA is in violation of the 2016 ROD/RMP by not meeting at least one of the 5 exemption criteria for the 2 year transition phase between RMPs.

PW EA p14:

This project meets the criteria described in the 2016 ROD/RMP that allows the BLM to implement projects that conform and are consistent with the 1995 ROD/RMP, with the exception of five categories of prohibited carry-over actions (2016 ROD, pp.10-11). The

Pickett West Forest Management Project does not include any actions that are exempted and therefore precluded from the 2-year transition period under the 2016 ROD/RMP. The following are the five categories of prohibited carry over actions:

- 1. Regeneration harvest (construction of roads or landings does not constitute regeneration harvest) within the Late-Successional Reserve allocated by this ROD that is inconsistent with the management direction for the Late-Successional Reserve contained within the approved 2016 ROD/RMP.*

This project does not propose regeneration harvest

Both RMPs have specific objectives for LSR Land Use Allocations.

1995 ROD/RMP page 31:

Late-Successional Reserves (LSRs)

The following material summarizes management direction for Late-Successional Reserves. Details regarding this direction are found in the SEIS ROD (appendix A).

Objectives

Protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth forest-related species including the northern spotted owl and marbled murrelet.

Maintain a functional, interacting, late-successional and old-growth forest ecosystem.

2016 ROD/RMP p70-71

Late-Successional Reserve Management Objectives

- Maintain nesting-roosting habitat for the northern spotted owl and nesting habitat for the marbled murrelet.*
- Promote the development of nesting-roosting habitat for the northern spotted owl in stands that do not currently support northern spotted owl nesting and roosting.*
- Promote the development of nesting habitat for the marbled murrelet in stands that do not currently meet nesting habitat criteria.*
- Promote the development and maintenance of foraging habitat for the northern spotted owl, including creating and maintaining habitat to increase diversity and abundance of prey for the northern spotted owl. Management Direction*

- *Manage for large blocks of northern spotted owl nesting-roosting habitat that support clusters of reproducing spotted owls, are distributed across the variety of ecological conditions, and are spaced to facilitate the movement and survival of spotted owls dispersing between and through the blocks.*

- *In stands that are currently northern spotted owl nesting-roosting habitat, maintain nesting roosting habitat function, regardless of northern spotted owl occupancy.*

- *Protect stands of older, structurally-complex conifer forest. Such stands are a subset of, and represent the highest value, northern spotted owl nesting-roosting habitat.*

Although regeneration harvest is not analyzed in the Pickett West project as prohibited in exemption #1, restoration thinning that reduces canopies to 30% are “inconsistent with the management direction for the Late-Successional Reserve contained within the approved 2016 ROD/RMP” (EA 14) to “*Maintain nesting-roosting habitat for the northern spotted owl and nesting habitat for the marbled murrelet*”, “*Manage for large blocks of northern spotted owl nesting-roosting habitat that support clusters of reproducing spotted owls*”, and “*Protect stands of older, structurally-complex conifer forest. Such stands are a subset of, and represent the highest value, northern spotted owl nesting-roosting habitat*” (2016 RMP 70-71). Perhaps most relevant to this project is the objective that states that “*In stands that are currently northern spotted owl nesting-roosting habitat, **maintain nesting roosting habitat function, regardless of northern spotted owl occupancy***” (emphasis added).

It is clear in these objectives that BLM is not supposed to take a tree-centered approach to management of LSRs, but rather an ecosystem centered approach that protects endangered species. The methodology used to determine the action alternatives is flawed in that it is inconsistent with the LSR management direction that says to maintain NSO habitat regardless of occupancy, which the PW IDT has not done. The action alternatives are extremely tree-centered and omit many critical processes, species, and functions of ecosystem dynamics that are crucial for protecting threatened and endangered species. Considering anything less than 30% has been determined to contribute to the ECA (Equivalent Clear-cut Area) (as discussed in DCA/BLM April 2017 meeting), it is logical to assert that one percentage point away from a clear cut is very similar to a clear cut and will produce many of the same adverse impacts. 30% canopy certainly would not maintain the existing Late-successional characteristics for which many of these units were included in the new RMPs LSRs. The EA states that “The intent of thinning is to open canopies enough to encourage regeneration of shade-intolerant pine species” (EA 341), which runs directly counter to the new RMP objectives for LSRs. Not to mention, “Openings of up to 2.5 acres may be created (not to exceed 30 percent of the unit total) to allow for pine and oak regeneration” (EA 373). These aggressive canopy reductions and mini clear-cuts within units are not consistent with the management direction of LSRs. Encouraging early successional species equates to ecosystem regression to early successional stages and would render the new LSRs incapable of providing the habitat for Late-successional dependent endangered species and other important ecological values as intended in the new RMP. This conversion of a

substantial portion of new LSRs to early successional, heavily logged landscapes would render the EIS analysis for the new RMP inaccurate as this new information would require additional analysis.

PW EA p15:

The Grants Pass Field Manger has elected to implement this transition project consistent with the management direction in the 1995 ROD/RMP (which does not involve any of the five exceptions described above); such projects may include features not consistent with the management direction in the approved RMP attached to the 2016 ROD. However, any differences in the specific effects resulting from implementation of timber sales not consistent with the management direction in the approved RMP would not alter the analysis of effects in the Preliminary Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) because of the limited geographic extent of such projects. Additionally, implementation of such projects would not alter the analysis effects in the PRMP/FEIS because of the limited difference between projects prepared in conformance with the 1995 RMPs and projects prepared in conformance with the approved RMP (2016 SO ROD/RMP, pp. 11-12).

Although this reveals that “*projects may include features not consistent with the management direction in the approved RMP attached to the 2016 ROD*”, it is questionable to assume that the intense logging in the LSRs under the 2016 RMP “*would not alter the analysis of effects in the Preliminary Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) because of the limited geographic extent of such projects*” (EA 15). A project area that spans 200,000 acres and directly impacts more than 17,000 acres of public lands across 3 major watersheds is not a “limited geographic extent”. The EA claims there is “*limited difference between projects prepared in conformance with the 1995 RMPs and projects prepared in conformance with the approved RMP*”, yet fails to acknowledge that there is significant difference between the LUAs in the 2 RMPs that would yield different management objectives, for instance between Matrix LUAs and LSRs.

While the EA claims a “limited geographic extent” the BLM spokesperson was interviewed for an article in the July 14th edition of the Daily Courier titled “Mixed Reactions on Pickett West project”, and he said that “What makes this one unique is the large planning area we started with, involving so many communities”... “We had to blanket one third or more of Josephine County. We were looking at chunks of ground near all these folks.”

Under the 4th exemption on page 14 of the EA, it prohibits “*projects within the District-Designated Reserve-Lands Managed for their Wilderness Characteristics allocated by the ROD that are inconsistent with the management direction for the District-Designated Reserve-Lands Managed for their Wilderness Characteristics contained within the approved 2016 ROD/RMP*” (EA 14-15). We are unsure why the Interdisciplinary team (IDT) was able to perform a “*GIS exercise to compare all of the proposed treatment units with the 2016 ROD/RMP District-Designated Reserve-Lands Managed for their Wilderness Characteristics GIS layers*” (EA 15) to show how they are not violating the #4 exemption, yet they did not mention doing the same GIS exercise to show the overlay between the

proposed units and the new RMP Late-Successional Reserves (LSRs). Table 1-2 is vague, only looking at the larger numbers and omitting a more watershed or region specific analysis. This gives very little information to the public or the decision maker in understanding the impact this project will have on the newly designated LSRs, which is relevant to the #1 exemption criteria discussed above.

Instead of being given the information in a readily accessible format in the EA, we had to look up what the new LSRs are and compare them to the proposed units, which yielded shocking results. Due to time constraints we were only able to complete a comparison of the Southwest Region of the project area, but we would assume based on our findings that they can be extrapolated to the other regions.

Our findings indicate that **55 of the 66 units** in the Southwest Region are designated as Reserves in the 2016 ROD/RMP (either LBR-LSR, LSR, LBR-DDR, or DDR).

This equates to an astounding 83% of the SW units.

Below is a breakdown by reserve category, number of units, acres, and percentages:

Large Block Reserve Late-Successional Reserves:

38 units out of the 66 units in the Southwest Region are designated within Large Block Reserve LSRs in the 2016 RMP. $38/66=58\%$ of the SW units

These 38 units consist of **1,470 acres** (about 25% of the total commercial harvest unit acres). There are 2,700 acres of total commercial harvest units in the Southwest Region (about 45% of the total 6,005). $1,470/2,700=54\%$ of SW acres

Unit numbers in LBR-LSRs (SW only): 27-12, 27-13, 27-14, 26-1, 26-2, 26-3, 26-4, 23-5, 14-1, 14-2, 35-9, 35-10, 35-11, 11-1, 11-3, 11-7, 11-9, 3-6, 3-7, 3-8, 33-4, 33-5, 33-6, 33-7, 33-8, 21-4, 21-5, 22-4, 23-2, 15-3, 15-4, 15-5, 15-6, 15-7, 5-4, 23-6, 21-6, 21-7.

Late-successional Reserves:

12 units out of the 66 units in the Southwest Region are designed within Late-Successional Reserves in the 2016 RMP. $12/66=18\%$ of the SW units

These 12 units consist of **614 acres** in the SW Region (about 10% of the total commercial harvest unit acres). $614/2,700=23\%$ of SW acres

Unit numbers in 2016 RMP LSRs: 21-9, 21-10, 21-11, 21-12, 3-5, 35-3, 35-4, 13-2, 7-5, 17-1, 4-1, 13-4.

There were 5 units consisting of 100 acres that appeared to be in the purple areas representing District Designated Reserve Lands and Large Block Reserve-District Designated Reserve Lands. We are unsure how this compares to the DDR Lands Managed for their Wilderness Characteristics in the #4 exemption. A few of the units in section 3-9, 3-10, and 3-11 were hard to tell if they were in the

DDR or not. 34-2 and 34-3 appear to be in a LBR-DDR. There also is a margin of error given a few of the units had some LSR and some other LUA divided within the unit, but that only applied to maybe 5 of the units. The rest were fully within the reserves. This would not significantly change the overall analysis.

There were **only 11 of the 66 units (consisting of 516 acres) in the SW region that were not designated in a Reserve category** under the new RMP. This means **that less than 17% of the SW units are designated in the “Harvest Land Base” that were intended to contribute to the ASQ targets under the new RMP.** However, at least 4 of those units (consisting of 185 acres) are 150 years old or more according to BLM stand age (however the genetic traits and topsoil communities in these natural ecosystems, that would be lost in Pickett West, are thousands of years old) and contain high quality habitat for NSO and other species. Only 2 of the units were identified by BLM as less than 80 years old.

Totals in 2016 RMP Reserves:

55/66 SW Units=83% SW units in Reserves

2,184acres/2,700acres in SW=81% SW acres in Reserves

2,184acres in SW/6,005acres total commercial harvest area=36%

If these percentages are true for the other 2 regions, then this whole project would have an extremely high percentage of units and acres within newly designated reserves. If each of the 3 regions represent a third of the total commercial harvest acres within 2016 reserves, then the 3 regions added together would equal almost the entire project area. We firmly assert that this comparison of units with 2016 RMP LSRs, in addition to all the other issues identified in these comments, make a compelling argument for why the FONSI has been reached in error and why this project requires an Environmental Impact Statement or Supplemental EIS.

It is important to note that while the Large Block Reserves are crucial for countless reasons, the 614 acres of LSRs outside of the Large Block Reserves play an extremely crucial role in maintaining habitat connectivity across the landscape. Most of these LSRs were islands in highly fragmented checkerboard of other land use allocations and ownerships. It seems suspect that in many cases, the exact shapes of the LSRs are identical to the exact shapes of the units. Almost as if a “GIS exercise” was done precisely to locate these specific areas of new LSRs, which would have required more protection if the project had waited a month and a half to initiate scoping, and “cherry pick” them out for harvest under the old RMP LUAs. This does not seem like a coincidence. More than 80% of the acres within the southwest region alone is not a coincidence. It appears that this EA was designed to attempt to make a last second “timber grab” project to log these areas under the old RMP Matrix LUAs before they were designated reserves in the new RMP. Whether intended or not, logging these islands of soon to be LSRs would have a significant impact on connectivity for NSO and other threatened and endangered species and would be extremely inconsistent with the management direction and intent of the LSR designations in the new RMP. The EA did not fully

disclose how the LUAs overlapped between RMPs in a way that would facilitate meaningful public participation, which has resulted in relevant and crucial information being concealed from the public and decision makers in the planning process.

The EA states that *“The 2016 Southwest Oregon ROD/RMP is the Medford District BLM’s RMP of record as of August 5, 2016. Therefore, all projects including transition projects such as Pickett West must conform to the 2016 ROD/RMP”* (EA 15). It is clear that Pickett West is not in conformance with the new RMP LUAs. (See RMPWO Interactive Map: Record of Decision)

The Natural Selection Alternative meets the ecosystem-based objectives consistent in all legal mandates. The NSA recognizes that ecosystems are interconnected and interdependent through time and space. The NSA allows species to restore natural late-successional biosphere ecosystems, but that can only be done if all of the species that created and sustained them are still available.

Hammond, Herb. 1991. Seeing the Forest Among the Trees, The Case for Wholistic Forest Use, p 209

*“Many foresters and timber managers would claim that it is not possible to develop broad principles for timber management—everything is site specific. In Part IV we discussed the current misuse of site specific management. However, the most important flaw in this argument is that a set of broad ecological principles exists which apply to virtually **all forests**, whether the temperate rainforest on the west coast of British Columbia, the boreal forests across northern Canada, or the Acadean forest of eastern Canada. With regard to timber management, the foremost principle is this: **we need to have forests to have trees**. Whole forests, from the largest tree to the smallest bacteria, from vibrant life to death and decay—all are required to produce the timber yields that humans desire and claim to sustain. The other important ecological principles which must be respected are not numerous, but from them we can derive ecologically responsible timber management practices for any forest stand: **The cutting and removal of even one tree is an unnatural event**. Large old trees require hundreds, perhaps thousands of years to grow. Once cut, you can’t stand them back up again. Orville Camp, well-known advocate of selection systems of timber management, says, “When in doubt, don’t!” Good advice for ensuring that both forests and human options are maintained. I am not suggesting here that we should not cut trees. However, I believe it is important to remember that nature never removes the bodies. If we intend to “mimic nature.” we must do it humbly and we must start here..*

Each forest stand needs old trees, snags, and fallen trees....

Disease and insects are essential parts of a fully functioning forest...

Over time, all forest phases must occupy every forest site..

Sustainable timber yields require sustainable forests...

H. The narrow scope of the stated need for the proposed action alternatives artificially bias the process against the full consideration of other reasonable alternatives, such as the Natural Selection Alternative.

While the stated purpose of the project encompasses all management direction for activities on the Medford District, the stated needs for the project are considerably narrower. To the extent that this statement of need forecloses other alternatives that would meet the purposes of the Medford District

Resource Management Plan (“RMP”) as amended by the Northwest Forest Plan (“NWFP”), the statement of need is too narrow.

Specifically, as discussed in further detail elsewhere in these comments and revealed by the EA, matrix lands are intended to provide for more than timber production. The Medford District is not committed to harvesting a minimum amount of timber volume irrespective of environmental consequences to be in compliance with the NWFP. This narrow reading of the requirements of the NWFP artificially leads the BLM to truly consider only those alternatives that propose significant harvesting activities. Timber production at all costs is not required by the NWFP and should not be the principal focus of the BLM in choosing an alternative for the Pickett West Project.

Additionally, the Federal Land Policy and Management Act (“FLPMA”) obligates the BLM to manage public lands for multiple use and sustained yield. 43 U.S.C. § 1701(a)(7). The term “multiple use” includes “the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people” Id. at § 1702(c). The term “sustained yield” means “the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.” Id. at § 1702(h). Similarly, the Oregon and California Railroads Act (“O&C Act”) requires that O&C lands “shall be managed . . . for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principle of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities.” 43 U.S.C. § 1181a.

The narrow scope of the stated needs for the project are particularly problematic in that they artificially bias the process against the selection of the Natural Selection Alternative (“NSA”), which more fully than the other alternatives most closely implements the RMP, as amended by the NWFP, and the multiple use/sustained yield objective of FLPMA. Only the NSA fully represents the five objectives for matrix lands, as described in the EA at 11-12. The NSA proposes to provide a much broader spectrum and sustainable supply of forest products from the project area. The ecological superiority of the NSA is revealed throughout the South Deer Landscape Management Project’s EA (BLM 2005), as the environmental impacts of the NSA are described as negligible. Similarly, the NSA is the only alternative that proposes to meet both of the principal objectives of the RMP, which are to conserve the ecosystem and provide a sustainable supply of raw materials. The NSA provides for a diversity of economic, recreational, educational and other benefits and proposes to provide a sustainable supply of a variety of forest products, an alternative that conforms to O & C Act requirements for permanent forest production under the principle of sustained yield to contribute to the economic stability of local communities and industries. The NSA will better meet the intended “need” to implement the O&C Act by meeting all the requirements of the O&C Act and all other legal mandates.

I. The BLM failed to consider the Deer Creek Association’s reasonable Natural Selection Alternative (NSA)

NEPA requires rigorous evaluation of all reasonable alternatives

NEPA requires agencies to “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives, which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” 40 C.F.R. § 1502.14(a). The alternatives section is the “heart” of the NEPA document. Id. § 1502.14. The Ninth Circuit has held that an agency must “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1120 (9th Cir. 2002).

In both an EA and EIS, NEPA requires the agency to “study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 102(2)(E). Agencies must “make every effort to disclose and discuss at appropriate points in the [NEPA document] all major points of view on the environmental impacts of the alternatives including the proposed action.” Id. § 1502.9(a). “‘NEPA requires that alternatives . . . be given full and meaningful consideration,’ whether the agency prepares an EA or an EIS.” *Ctr for Biological Diversity v. Nat’l Hwy Traffic Safety Admin.*, 538 F. 3d 1172, 1217 (9th Cir. 2008) (quoting *Native Ecosystems Council*, 428 F.3d at 1245). The “touchstone” for the Court’s inquiry is whether the “selection and discussion of alternatives fosters informed decision-making and informed public participation.” Id. at 767.

Reasonable alternatives are those that are viable, feasible, meet the stated goals of the project, or are reasonably related to the purposes of the project. *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992); *City of Carmel v. U.S. Dept. Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997) ; *Trout Unlimited v. Morton*, 509 F.2d 1276, 1286 (9th Cir. 1974). “The existence of a viable but unexamined alternative renders an [EIS] inadequate.” *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985).

The Ninth Circuit has counseled that courts should not accept conclusions in lieu of a reasonable discussion of alternatives. “A cursory dismissal of a proposed alternative, unsupported by agency analysis, does not help an agency satisfy its NEPA duty to consider a reasonable range of alternatives.” *Environmental Protection Information Center v. U.S. Forest Service*, 234 Fed. Appx. 440, 443, 2007 WL 1417163 (9th Cir. 2007).

Below are the reasons BLM cited for why the NSA was not analyzed in detail:

BLM PW EA p.26:

1.7 Issues and Alternatives Considered but not Analyzed in Detail

This EA explored and objectively evaluated a range of reasonable alternatives within laws, regulations and policy. Through the planning process several issues and alternatives were explored but eliminated from detailed analysis for various reasons. The Action Alternatives analyzed for an economically viable proposal with consideration to environmental effects that meets the purpose and need for the project. An issues or alternative would not be considered if:

- *It would not meet the purpose and need;*
- *It would be technically or economically infeasible; or*
- *It would be inconsistent with the basic policy or objectives for the management of the area.*

The following issues and alternatives were considered by the IDT, but not analyzed in detail.

Natural Selection Alternative (NSA)

The Deer Creek Association submitted the Natural Selection Alternative for consideration within the Pickett West project EA. The NSA was supported by public comments through the submission of unique letters and form letters. The Natural Selection Alternative has been previously submitted for consideration under the South Deer Landscape Management Project (EA# OR 110-05-10), the Deer North Vegetation Management Project (DOI-BLM-OR-M070-2009-0010-EA), and the 2016 Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS).

The South Deer Landscape Management Project considered the Natural Selection Alternative as Alternative 4. The South Deer Landscape Management Project EA analyzed the NSA and determined that the level of commercial timber removal for Alternative 4 was minute and the cumulative impacts to vegetation would be the same as those described for the No Action Alternative. Further, the NSA has been described as an opportunity to demonstrate the effectiveness of this approach in young stand development. The Pickett West project does not propose a demonstration of young stand development.

The NSA was subsequently submitted for consideration within the Deer North Landscape Management Project. The NSA is not compatible with projects when the primary purpose and need is to produce a sustainable supply of timber from lands allocated for timber production, such as the Pickett West project proposes. The Deer North Landscape Management Project did not select the NSA, and the decision was appealed to the Interior Board of Land Appeals (IBLA). The BLM prevailed with the IBLA, arguing that the extent of timber harvest under the NSA was inconsequential, and that the alternative was virtually the equivalent of the No Action Alternative. (Deer Creek Valley Natural Resources Conservation Association, et al., IBLA 2012-131, 2012-164, & 2012-173). A lawsuit was filed and the BLM, likewise prevailed in court (Deer Creek Valley Natural Resources Conservation Association v. BLM, 1:12-cv-1596-CL). That decision was appealed to the 9th Circuit Court, but the appeal was voluntarily dismissed.

Most recently, the NSA was submitted for consideration during the planning efforts for the 2016 Proposed Resource Management Plan/Final Environmental Impact Statement. In that EIS the NSA was an Alternative Considered but not Analyzed in Detail. The EIS concluded that the NSA does not meet the purpose and need and basic policy objectives described for developing the Alternatives because it would not make a substantial and meaningful contribution to providing a

sustained yield of timber. Limiting harvest to dead and dying trees would not reflect the annual productive capacity for O&C Lands. Additionally, volume from dead and dying trees from year to year is inherently unpredictable, thus would not support sustained-yield timber production due to the fluctuation and unpredictability of supply which would vary based on annual conditions. Limiting the harvest of timber to dead and dying trees would not be consistent with the requirements of the O&C Act and would not respond to the purpose for the action (PRMP/FEIS, p. 103).

In summary, the NSA was considered but not analyzed in detail for the Pickett West project because 1) it is substantially similar to the No Action Alternative, 2) it proposes young stand management development, which is not one of the purposes of the Pickett West project and 3) it does not meet the purpose and need to produce a sustainable supply of timber from O&C Lands.

The BLM Failed to Adequately Justify Why the Natural Selection Alternative Could Not Be Considered in Detail

Deer Creek Association hand delivered printed copies of the NSA as well as a second more recent and generic version of the NSA during scoping at the Pickett West BLM open house November 19, 2016 and was hand delivered and sent **via email November 30, 2016 as follows:**

DCA 2016 Email, Appendix H:

RE: Deer Creek Valley Natural Resources Conservation Association (DCA), et al 11/30/16 scoping comments on the Pickett West Forest Management Project (DOI-BLM-ORWA-M070-2016-0006-EA). Appendix H – Natural Selection Alternative

Please find attached two versions of the NSA (official BLM 2005 version; and recent 2015 RMP version). Copies of these documents were delivered to Don Ferguson at the November 19th scoping meeting in Grants Pass (along with other items).

1) *Natural Selection Alternative (NSA) for the Medford District BLM, South Deer Landscape Management Project (EA #OR 110-05-10)*

DCA entered into a MOU with BLM in 2004 to develop the NSA, the first community alternative included in a Medford District EA.

The NSA was selected in the DR for implementation in one section of the 7,400 acre project area. Construction of the Thompson Creek Overlook trail was included as a component.

OI Table is separate attachment on excel spread sheet

2) *Discussion and Supporting Documentation Regarding the Natural Selection Alternative for the BLM Draft RMP/EIS for Western Oregon (2015 public comments)*

This is a version of the NSA developed for the revised BLM RMP's; It is fundamentally the same Alternative as the 2005, but a generic version (and discussion written for DCA Draft EIS

comments in 2015) for all Western Oregon BLM lands. The NSA is a universal plan that is appropriate anywhere.

The Illinois Valley community has recently completed its 20/20 Strategic Plan which outlines the long-term vision, values, aspirations, and priorities for the Illinois Valley Community. The following is an excerpt from the *Executive Summary*:

Sustainable Development Approach

Sustainable development has been defined in many ways, but the most frequently quoted definition is from Our Common Future, also known as the Brundtland Report, 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The principle of the ‘three-legged stool’ has been attributed to Caring for the Earth, IUCN, UNEP, and WWF 1991, with the definition: “Sustainable development improves the wellbeing of people while not exceeding the carrying capacity of the supporting ecosystem.” The Illinois Valley has its own definition, taken from the forthcoming book on the Natural Selection Alternative, by Orville Camp, 2016. “We must retain a healthy, sustainable natural community ecosystem to achieve a healthy sustainable human community.”

DCA, IVSC, IVCDO, SCEC and others requested the NSA as a pilot project for all current and future BLM projects in the Deer Creek watershed during the scoping period. (see DCA 2016 IVM; DCA 2016 PW; IVCDO 2016; SCEC 2016) One such project is the Silviculture and Fuels Management Treatment Project to implement the Integrated Vegetation Management (IVM) Environmental Assessment.

DCA October 5, 2016 Comments on the Draft Decision Record (DR) for the Silviculture and Fuels Management Treatment Project to implement the Integrated Vegetation Management (IVM) Environmental Assessment in the Jumpoff-Joe Creek, Hellgate Canyon-Rogue River, Lower Applegate River, Williams Creek and Deer Creek watersheds on the Grants Pass Resource Area, of the Medford District (EA DOI-BLM-OR-M000-1201-1-EA):

The Deer Creek Watershed, Selma Oregon, is an excellent place to implement a pilot project for the NSA. It is home of the 240 acre, 50 year old demonstration of the NSA. A credible NSA pilot project on BLM lands would not only demonstrate a sustainable solution, it would also serve as a control to compare with other types of practices being implemented on public lands...The Deer Creek Watershed is part of the Klamath-Siskiyou, the most biodiverse region in North America. ...As new scientific information related to forest health and resiliency is discovered, NSA project areas will still have all options open, while other BLM projects will commit landscapes to very intrusive treatments that may close the door to new information regarding sustainable relationships with natural community ecosystems. The NSA would create a unique research asset that may generate revenue and increase research in the local region and contribute to creating a unique research environment which would benefit the local economy while providing important data to move toward a sustainable future. The Deer Creek Watershed’s environmental, aesthetic, recreation and tourism values would be retained and enhanced across the landscape.

(DCA 2016 IVM)

The Illinois Valley Community Strategic Plan outlines the long-term vision, values, aspirations, and priorities for the Illinois Valley Community. The Illinois Valley Community Development Organization's (IVCDO) October 1, 2016 letter of support for the NSA speaks to shared goals of the community plan and the NSA:

The Illinois Valley Community Development Organization (IVCDO) played a key role in obtaining funding to hire a third-party facilitator for development of a Community Strategic Plan, also known as the 20/20 Community Strategic Plan. Funding for this plan came from the Department of Agriculture, The Ford Family Foundation, and Josephine County Commissioners. The plan was published in early September of this year and efforts to implement key strategic goals are underway.

The development of this plan involved community input that was gathered during public meetings and online surveys. The outcome of public input indicates the rapidly changing demographics of the community are evolving away from a timber based economy and toward an amenity based economy.

The objective of this letter is to provide a recommendation that will help the Bureau of Land Management manage forest lands in Illinois Valley so they contribute to the goals of the Illinois Valley 20/20 Community Strategic Plan.

In this letter we give our support to the implementing the Natural Selection Alternative on public lands in the Illinois Valley based on the fact that this forest management option was included in the 20/20 Community Strategic Plan.

The Natural Selection Alternative Pilot Project has enormous potential for achieving the goals of the 20/20 Community Strategic Plan through development of sustainable resources that contribute to social, economic and environmental needs of the community to include retain or restore low fuel and fire hazard conditions and maximizing carbon sequestration. Some of the goals achieved include the following:

- 1. Long-term local economic opportunities are provided by responding to ever-changing environment; adapting protections for watershed health and critical habitats in ways that respond effectively to change and protect our shared resources.*
- 2. Conserve and protect water resources and the natural habitat; increase areas of conservation.*
- 3. Increase public education and awareness efforts about watershed, natural habitat health, and the impacts of climate change. Increase local understanding of unique biodiversity and interrelatedness of all natural communities.*
- 4. Support, promote, and expand nature-based organizations in the valley*
- 5. Support the Natural Selection Alternative for fire safety and a fire resilient natural community ecosystem*
- 6. Retain existing natural community ecosystems for ecosystem services*
- 7. Enhancement of the local tourism industry through the innovative approach of the Natural*

Selection Alternative which would contribute to the Illinois Valley as a worldwide tourist destination with the local residents providing an excellent tourist experience as trustees on BLM lands, and an amenity-based economy based on a sustainable relationship with the natural ecosystem.

8. Encouragement of community-building through volunteerism.

The Natural Selection Alternative Pilot Project produces timber while at the same time creating resources that the community can use to support business growth in other sectors of the economy and develop sustainable sources of cash flow into the community by attracting retirees, home-based entrepreneurs, and travel spending. This aligns with the economic needs of the community as identified in the 20/20 Community Strategic Plan and encourages volunteerism.

The BLM is currently proposing the Picket West Project, and the Integrated Vegetation Management Project (NEPA # DOI-BLM-OR-M000-2012-0001-EA, 9/13/16). We ask you to select the Natural Selection Alternative Pilot Project to be implemented in the Deer Creek Watershed portion of these proposed BLM projects instead of the Picket West Project, and the Integrated Vegetation Management Project (NEPA # DOI-BLM-OR-M000-2012-0001-EA, 9/13/16). We request the BLM implement the Natural Selection Alternative pilot project on lands in the Deer Creek Watershed where forest management practices, are or will be proposed.

(IVCDO 2016)

The EA underestimates the current and historical support of the NSA. The EA states that “There was a subset of comments received which supported 2 different community alternatives; the Natural Selection Alternative which is supported by members of the Deer Creek Association” (EA 24). This is inaccurate since the NSA is supported by far more than just DCA members. Scientists, economists, organizations, professors, PhDs, tourists, residents, and people from all walks of life and from different parts of the planet support the NSA and to relegate it to DCA members shows the IDT did not fully understand the broad level of support the NSA has. Due diligence was not taken by BLM staff to understand the historical role DCA has played in BLM projects over the years and the context of the NSA development, history, supporting literature and scientific data, and prevalent community support.

The 2005 NSA was designed to conform to and be consistent with the Medford District’s 1995 Record of Decision and Resource Management Plan (1995 ROD/RMP). The BLM signed a Record of Decision approving the Southwestern Oregon Resource Management Plan (2016 ROD/RMP) on August 5, 2016. The NSA is appropriate for both the 1995 and 2016 RMP’s. The NSA meets objectives and goals of both RMPs, and does not violate objectives, guidelines, regulations, and protections required by either plan. The Natural Selection Alternative addresses the goals of the 1995 and 2016 RMP’s, allowing for a transition from the old RMP to the new RMP, and has broad support from scientists, economists and the public.

BLM PW EA P 2

One of the primary objectives identified in the 1995 ROD/RMP is implementing the O&C Lands Act which requires the Secretary of the Interior to manage O&C lands for permanent forest production in accordance with sustained yield principles.

The purpose and need for the proposed treatments in the Pickett West project is to produce wood volume, improve stand resiliency, enhance or maintain northern spotted owl habitat, and reduce the long-term risk of catastrophic wildfire.

The NSA best meets the purpose and need objective to implement the O&C Lands Act requirement for permanent forest production in accordance with sustained yield principles.

The EA is misinterpreting the intent of the requirement to manage for “permanent forest production” (as explained in more detail earlier) and has not provided adequate methodology and data for determining and predicting productivity in the short and long term. Productivity in this context is not simply measured in harvested board feet. Productivity must be evaluated with relationship to all the other areas, not just timber volume. Productivity must be analyzed at an ecosystem scale and consider factors such as soil fertility, genetic diversity, natural selection processes, and photosynthesis by green plants and trees. Productivity must be evaluated on a long term rather than short term basis. And it should reflect the productivity of ecological services freely provided by natural processes and the mutually beneficial relationships inherent in ecosystem dynamics. By working with, rather than against, natural processes, managers can maximize the efficiency of management activities and keep costs down for tax payers.

The EA rejected the Natural Selection Alternative for detailed analysis, even though it is the only alternative that was considered that ensures “permanent forest productivity” because it measures productivity at an ecosystem scale and incorporates all species, products, and natural processes into the analysis. In doing this, the NSA externalizes benefits and minimizes negative externalities to communities that typically result from conventional forest management practices such as the proposed action alternatives.

The NSA not only better meets the O&C Act than the action alternatives (AAs), but the NSA also better addresses the restoration and resiliency “needs” outlined in the EA Purpose and Need. The NSA maintains ecosystem resiliency and protects from fire by preserving the most fire resilient areas, which are precisely the areas being targeted for commercial harvesting in this project. The units proposed for commercial timber harvest generally share the same fire resilient characteristics: lower summer peak temperatures, retained moisture in the ground and vegetation, high humidity, high canopy cover that reduces wind speed and sun exposure, large trees with thick bark and branches far from the ground, large downed wood that retains moisture, reduced volume of surface fuels and less proliferation of more fire prone early successional grass and shrub species. The proposed AAs will regress these high value ecosystems back to early successional communities, while the NSA would not regress these ecosystems and would retain these crucial fire resilient characteristics. (see unit photos Attachment on included DVD)

The NSA retains optimal photosynthesis and therefore optimal “wood volume” (FONSI p2). The NSA retains and restores natural ecosystem resiliency and northern spotted owl habitat, and reduces the long-term risk of catastrophic fire. The NSA provides for optimal wildlife habitat, a superior fire and fuels reduction plan, and optimal productivity across the landscape with no down time and is a superior alternative to meet the purpose and need for the Pickett West Project.

There is a long term conflict with ever growing evidence to support the Natural Selection Alternative over BLM proposed Alternatives. Controversy is high around the failure to include the Natural Selection Alternative, a full cost benefit accounting that analyzes externalized costs for each alternative in terms of human and natural environment; a data backed and full analysis of increased fire hazards and destruction of species habitats and natural ecosystems created as the outcome of BLM proposed treatments; relying on the SOFRC in the EA process; and the destruction of community values and way of life. These are just a few.

The rationale in the EA (1.7) for not analyzing the NSA in detail is incorrect and inaccurate

The Deer Creek Association's Natural Selection Alternative (Camp-DCA 2005) proposed for Deer North, 2016 PRMP (Camp 2015) and Pickett West (Camp-DCA 2005, 2015 & 2017) is an alternative that has been created over the course of decades, which also played a substantial role in the NEPA documentation for the South Deer Landscape Management Project. (BLM 2005). The Natural Selection Alternative is an alternative that was prepared by the Deer Creek Association in collaboration with the BLM. (BLM 2005). The Natural Selection Alternative "is based on DCA's 14 Criteria for Sustainability proposed for BLM's 1997 Deer Mom Project (Camp-DCA 2005 p 13-14) and proposes to "provide a variety of commodities and uses while allowing nature to retain and restore species, habitats, functions, and forest ecosystem health across the landscape." (BLM 2005 p 18). The cornerstone of the Natural Selection Alternative is that it would not harvest trees until those trees have been naturally selected.

DCA 2005 NSA p2 & BLM 2005 SD EA p. 19:

Since no trees are removed before they have been naturally selected, the volume of removal is restricted to what the forest is naturally able to produce. Retaining forest structure and functions at all times means no forest "down time" so the forest is always in full productivity. No down time, means no restoration costs. Forest resource volume is expected to increase over time.

Every part of the forested landscape including meadows, aquatic, and riparian areas, will remain or become a corridor for evolved species. The Natural Selection Alternative leaves habitats intact so early and late successional ecosystems can evolve to their natural conclusions.

In natural-selection-based practices, the term "restoration," or "recovery," means to restore original late successional communities to their original species and ecological functions.

DCA 2005 NSA p2 & BLM 2005 SD EA p. 22:

As young cut-over forests recover to late-successional conditions, they would produce more products with greater values.

The Pickett West states that "the NSA has been described as an opportunity to demonstrate the effectiveness of this approach in young stand development" and that "The Pickett West project does not propose a demonstration of young stand development" (EA 26). The BLM has described the NSA as "young stand development", however its statement is completely unfounded and illustrates the immense lack of understanding by the BLM of what the NSA actually is. The NSA was specifically designed to

address ecosystems as a whole and was the premise on which DCA developed the alternative for BLM South Deer Project and all applications of the NSA. Prior to entering into a MOU between DCA and BLM to include the community NSA as an Alternative for detailed analysis in the South Deer Project, BLM stated they would not ask us to compromise NSA principles in the development of the NSA and that we would not fail to meet NEPA/technical requirements. The NSA was accepted as an approach for inclusion for assessment in the South Deer EA and was included in the South Deer FONSI and Decision as the best alternative for a section of land. During the EA process we submitted the first draft of 100 pages and were asked to make it shorter and subsequently submitted a second draft of approximately 50 pages (Camp-DCA 2004). BLM next said that we needed to limit our alternative to 5 and finally 6 pages. We made it clear that the NSA would be addressing all resources, and that we did not know how to do that within those confines. We were encouraged that we could accomplish this in so few pages, by South Deer ID Team specialist, Mike Matthews and he assisted in working out a way to address all resources in this limited number of pages. We are proud of this accomplishment and consider the document to be a classic; a transformational document. We included many appendices and references/authorities to further explain the alternative. The NSA is not a young stand development alternative; it is a full ecosystem approach, which is clear from the first page of the Natural Selection Alternative:

DCA 2005 NSA p1 & BLM 2005 SD EA p. 18:

Ecosystem-centered Purpose and Need

The purpose and need of the Natural Selection Alternative is to provide a variety of commodities and uses while allowing nature to retain and restore species, habitats, functions, and forest ecosystem health across the landscape.

Philosophy and Vision of Natural-Selection-Based Practices and Natural Selection Alternative Resource Objectives and Actions

The Natural Selection Alternative recognizes that natural forests contain biological, ecological, economic, recreational, aesthetic, historical and spiritual values. It will sustain these values.

Natural-Selection-Based perspectives recognize 1) that other species create forests, 2) that many forest lands, especially non-entered late-succession forests, should be preserved as they are, 3) the need for natural recovery of forests damaged by human management, 4) that human needs require the extraction of resources from some forest lands, and 5) the total forest ecosystem must remain intact, with human activities in harmony with nature.

The NSA doesn't describe ecosystems in terms of stands. That is an agricultural perspective that does not address the natural community ecosystem (Camp 2015; Camp 2017). To say that the NSA proposes young stand management development, shows a complete misunderstanding of the NSA and failure of the BLM to take a "hard look" at all reasonable alternatives (40 CFR 1502.1). The NSA looks at the full ecosystem community of species, their relationships and functions as the best way to fulfill the Northwest Forest Plan's five Major Goals:

Camp-DCA 2005 p 13:

Northwest Forest Plan

On April 2, 1993 President Clinton asked at the Forest Conference in Portland:

*"How can we achieve a balanced and comprehensive policy that recognizes the importance of the forest and timber to the economy and jobs in this region, and **how can we preserve our precious old-growth forests** (emphasis added), which are part of our national heritage and that, once destroyed, can never be replaced?"*

The President set forth five principles to guide the federal interagency effort to develop a strategy to protect the old-growth related species and produce a sustainable level of timber:

*President Clinton said, "First, we must never forget the human and the economic dimensions of these problems. **Where sound management policies can preserve the health of forest lands, sales should go forward.** Where this requirement cannot be met, we need to **do our best to offer new economic opportunities for year-round, high-wage, high-skill jobs.** Second, as we craft a plan, **we need to protect the long-term health of our forests, our wildlife, and our waterways.** They are gifts from God, and we hold them in trust for future generations. Third, our efforts must be, insofar as we are wise enough to know it, **scientifically sound, ecologically credible, and legally responsible.** Fourth, the plan should **produce a predictable and sustainable level of timber sales and non-timber resources that will not degrade or destroy the environment.** Fifth, to achieve these goals, we will do our best, as I said, to **make the federal government work together and work for you.** We may make mistakes but we will try to end the gridlock within the federal government and we will insist on collaboration not confrontation."*

(Camp-DCA 2005)

The Pickett West EA and proposed Alternative are not congruent with the NWFP vision to focus on ecological principles, while the EA's focus is on stands and not ecological principles, making it incongruent with the NWFP. You will not see young stand development or any discussion of the kind in the NSA. The landscape approach is clearly described in the NSA; late successional community ecosystems are an integral and crucial component of the NSA. For example:

DCA 2005 NSA p2 & BLM 2005 SD EA p. 19:

Since no trees are removed before they have been naturally selected, the volume of removal is restricted to what the forest is naturally able to produce. Retaining forest structure and functions at all times means no forest "down time" so the forest is always in full productivity.^{2 3} No down time, means no restoration costs. Forest resource volume is expected to increase over time.⁴

Every part of the forested landscape including meadows, aquatic, and riparian areas, will remain or become a corridor for evolved species. The Natural Selection Alternative leaves habitats intact so early and late successional ecosystems can evolve to their natural conclusions.

In natural-selection-based practices, the term 'restoration,' or 'recovery', means to restore original late successional communities to their original species and ecological functions.

The Natural Selection Alternative will retain the few remaining small islands of natural late successional and legacy forests in South Deer to 1) sustain late successional species, 2) provide wildlife reservoirs for restoring early successional plantations that currently encompass much of the South Deer Project area, 3) moderate climate locally, regionally and globally, 4) store and filter high quality water, 5) provide wildlife corridors across the landscape, 6) understand the meaning of forest recovery by showing what they look like and how they function, and 7) serve human visual, spiritual, educational, natural history, recreation and tourism needs.5 6

Resource extraction will occur in early successional forests where past extraction has occurred and be such that young forests will be allowed to evolve to late successional community conditions. Legacy, and structurally intact late successional forests, will not have resource extraction. (See map-Exhibits 1 and 2; OI Unit Table-Exhibit 8)

The Natural Selection Alternative will address climate change issues through optimal green plant and carbon storage, and reducing fire risk without burning.7

The fact that the NSA does not remove products from these last remaining islands of late successional natural community ecosystems merely means that timber harvest will be in earlier, recovering ecosystems. The Deer Creek Watershed Assessment acknowledges that *"remaining mature and old-growth habitats are widely scattered and do not provide adequate dispersal paths for many low mobility species. In addition, a large percent of the remnant old-growth stands are too small to serve as quality habitat for interior forest late-successional species."* (BLM 1997 p 7). The WA continues to say, *"Nevertheless, remnant stands of older forest provide habitat for animals with small home ranges, some level of dispersal for old-growth species, thermal cover for big-game, habitat for soil organisms, refugia for bryophytes and fungi (mycorrhiza), and are anchor locations for expanding this habitat type in the watershed."* The Natural Selection Alternative addresses the need to retain and expand these few, scattered islands of "anchor locations" of late successional (or old-growth) forests to perform these and other essential functions to restore and retain natural healthy ecosystems (DCA 2005 NSA p2 & BLM 2005 SD EA p. 20)

The Deer Creek Watershed Analysis documents there are few areas of existing late-successional forest; therefore, focusing on early successional forests leaves the vast majority of the BLM lands available for logging under the Natural Selection Alternative.

The NSA takes a holistic approach by maintaining the health and integrity of the last natural late-successional ecosystems, while extracting products from the cut-over lands as they naturally recover. Without the late-successional reservoirs of species and high functioning ecological processes, the cut-over lands will never be able to fully recover. It is crucial to not log these irreplaceable ecosystems.

The PW EA pg 26 rationale for rejecting the NSA for full consideration referred to the South Deer Landscape Management Project, in which the NSA was considered as Alternative 4. The PW EA states

that “The South Deer Landscape Management Project EA analyzed the NSA and determined that the level of commercial timber removal for Alternative 4 was minute” (26). However, this statement is not true and is based on faulty assumptions made by the South Deer team. The DCA was not included in the SD EA analysis process, nor had an advocate to help BLM ID team to understand the innovative concepts of the NSA well enough to make an informed analysis of the volume issue.

The South Deer EA p58 states:

In order to quantify the amount of removal proposed under alternative 4, several assumptions were made proposed action under this alternative is to remove only the smallest, least vigorous trees (low crown ratio) which do not contribute to the upper canopy, thus resulting in no microclimate changes in the understory.

SD p59 goes on to state that:

The premise behind natural selection is that nature decides the weakest individuals through the process of succession. Those trees proposed for removal are the ones with extremely low crown ratios (less than 20%), which occupy the suppressed crown class. If not removed these trees would be thinned out by “natural selection”. No canopy cover reduction occurs because all trees removed are from the lower stratum. Understory brush, grasses and forbs are shaded out as succession advances.

These assumptions are false and represent a lack of understanding of what the NSA is and how natural processes function. The NSA provides a framework for the potential removal of trees from a full range of sizes and species, and does not have a size or diameter limit or requisite canopy layer as implied in these statements. The NSA recognizes that ALL TREES DIE EVENTUALLY. This means that natural selection occurs in the upper canopy as much as it occurs in the lower ecosystem layers. Some species have a shorter life span than others, dependent on their trait-environment compatibility with that particular site. “Low crown ratio” may be an indication that a tree will be naturally selected out and is one method of selecting candidates for removal (conditional on meeting other species needs), but that is not the only factor to consider. Extreme weather events such as heavy rain and snow, flooding, drought, wind, fire, insects, disease, etc. are other factors that play into what is naturally selected out and when. (See the photos in attachment 4 “Camp Ecostery Tree Harvest” for proof that the NSA does not only harvest small diameter products. Many large trees have been harvested from Camp Ecostery in the last 50 years and have provided high value products for many different purposes and a diversity of customers)

The NSA respects that natural processes are much better at sustaining healthy ecosystems than the attempt by humans to artificially design and manage them. For example, this last winter we had extreme snow events that have not occurred in decades and many trees and other species were naturally selected “out” and died as a result. Some of these could never have been guessed by humans to be candidates for natural selection mortality, but nature knows better. In the process of natural selection, natural canopy openings occur as large trees in the upper canopy die, which refutes the ideas that “No canopy cover reduction occurs because all trees removed are from the lower stratum” and “no

microclimate changes in the understory” would occur. Nature creates meadows and openings based on natural selection for trait-environment compatibility and natural processes such as extreme weather, fire, insects, and disease, which provide natural early seral habitat diversity across the landscape. However, the SD EA says that “Assuming that no disturbance to the landscape occurs, the level of removal under the natural selection alternative would be consistent through time, producing a steady level of products to the community”(59). Although it is true that the NSA would provide a steady stream of products to the community in perpetuity, it is not accurate to assume that no disturbance to the landscape occurs on a yearly basis. Some years things will die and be naturally selected out in groups and more products will be candidates for products compared to background levels. For example, the snow storms this year produced higher than average levels of mortality. Every year there are peak conditions in summer and in winter and these are important factors for ecosystems as they evolve and naturally select the best traits for survival in a given environment. Humans cannot replicate this critical process through thinning or attempts to “mimic” fire across the landscape.

Based on the faulty assumptions used in the analysis of the SD EA, the decision to assume a “minute” timber volume is unfounded. Computer models such as ORGANON, which is “an individual tree growth and yield model” (SD EA 58), does not begin to represent an ecosystem centered model for determining ecosystem productivity or natural selection practices. The methodology is therefore inadequate for this analysis and other methods must be developed to truly evaluate ecosystem values as required by BLM legal mandates for ecosystem management of public lands.

BLM South Deer EA analysis was flawed because it did not compare or analyze a long term sustainable level of timber volume to high, short term (unsustainable) volume with down time. Computer models have inherent limitations and cannot produce reliable information in all situations, and this is one of those situations. The output is limited by what information is put in. There is no computer that can assess all of the components of the NSA vs BLM Alternatives, consider the functions of thousands of species present and returning and evolving over time in the NSA and few remaining after BLM Alternatives would be implemented; consider unpredictable impacts of climate change drought and fire. Using data backed empirical analysis and the components of the different alternatives to determine which align better with best science and economic data, would produce a more accurate analysis. Relying on earlier flawed analysis without taking a hard look as required by NEPA has resulted in flawed analysis for BLM subsequent decisions.

The NSA generates hugely more timber on a sustainable basis than any BLM proposed Action Alternative simply because it retains optimal photosynthesis across the landscape at all times. Because BLM proposed Alternatives reduce photosynthesis they could not achieve the volume of timber production on a sustainable basis as the NSA does.

The Natural Selection Alternative is an innovative community alternative developed in collaboration with the BLM. It was the first community alternative to be included in a Medford District BLM Environmental Assessment as a reasonable alternative. It was the first community alternative to be included in the Decision to be the best alternative for a section of land.

The Natural Selection Alternative was carefully crafted by community and agency collaboration to satisfy or exceed the prescriptions contained in the Medford District RMP: “The Natural Selection Alternative would meet or exceed the Medford District Resource Management Plan objectives and actions/directions requirement for down wood, snags, and riparian reserves (p. 26-28) including ACS objectives (p. 22), and for Matrix lands (p. 38-40).” (BLM 2005 SD EA p 19). The Natural Selection Alternative ensures economic stability over the long run: “Long term economic health would have priority over short-term economic health.” (BLM 2005 SD EA p 22). This long-term economic stability would be carried out by “forest stewardships” that are “created and tailored for local, small (one- or two-person), sustainable operations (BLM 2005 SD EA p 23). Unlike most alternatives submitted by the public, the Natural Selection Alternative is replete with scientific studies in support of its logging prescriptions. (BLM 2005 SD EA p 23-24) The Natural Selection Alternative has been endorsed by fire and vegetation ecologists, including Dr. Dennis Odion, PhD in Jan 6, 2005 letter attached to the NSA as Exhibit 9 and the following South Deer EA comment letter submitted August 6, 2005:

I prefer the Natural Selection Alternative that has been developed by the local community over the other action alternatives. . . . The natural selection approach to extracting timber in this case appears to be a means of minimizing further damage and disturbance in the watershed while still providing sustainable levels of timber harvest. Further, the timber selection approach is said to produce minimal activity fuels over time, so it does not create the immediate slash management problems associated with more traditional timber harvests. The natural selection alternative would also not create fire hazards associated with the other action alternatives. . . . There is no need to further increase landscape level fire risk by opening forests and promoting more combustible understory vegetation.

The natural selection alternative would also not create fire hazards associated with the other action alternatives. This alternative recognizes that the project area is a fire prone environment, especially with the residual effects of past timber harvests. The alternative’s threefold strategy of maintaining remaining closed forest, treating areas where fire severity is most elevated due to human impacts (dense plantations or second growth), and focusing on the home ignition zone for protecting property from fire is a logical approach to fire hazards. There is no need to further increase landscape level fire risk by opening forests and promoting more combustible understory vegetation.

(Odion 2005)

The South EA, FONSI and Decision Document not to include the NSA on the entire project and the decision to implement Alternative 2 was opposed through an administrative protest on September 22, 2005 by the Deer Creek Valley Natural Resource Conservation Association, Klamath-Siskiyou Wildlands Center, Siskiyou Regional Education Project, Illinois Valley Section of the Rogue Group Sierra Club and Rogue Group Sierra Club. The protest was eventually declared moot January 2017, some 12 years later, as the BLM preferred alternative did not meet with USFW approval and no parts of the project were implemented. The South Deer Project area is now included as part of the Pickett West Project and many

of the units are identical to those proposed in South Deer Timber Sale. See attached photos of these units.

The BLM arbitrarily refused to consider the Natural Selection Alternative in the Deer North Vegetation Management Project EA

The Pickett West EA references the Deer North Project Decision as one of the reasons why the NSA is not included in the Pickett West EA. However, in the Deer North Vegetation Management Project EA, the BLM completely failed to consider the Natural Selection Alternative. **The EA did not reference the Natural Selection Alternative a single time.** When an alternative is not considered as part of the proposed alternatives the agency must briefly address alternatives that were not considered or analyzed in detail, explaining why the alternatives were not considered in detail. The Deer North Project EA Appendix F does not reference or explain why the Natural Selection Alternative was not considered in detail. This omission alone, within the EA, is clear error, and it is puzzling that despite being invited to and visiting Camp Ecostery (aka Camp Forest), the model for the Natural Selection Alternative, the Deer North Project EA is silent about the Natural Selection Alternative.¹ *“At the invitation of the commenter, the BLM visited Camp Forest, the model for the NSA alternative. The areas BLM were shown were regenerated clearcut lands tractor yarded in the mid 1900s.”* (BLM 2011 DN DD p 16)

Not until the Decision Documentation did the BLM even acknowledge that the Natural Selection Alternative was submitted by the Deer Creek Association. The BLM purported to address the Natural Selection Alternative in the Response to Comments. (BLM 2011 DN DD p 15). In comment 38, **the BLM does not maintain that the Natural Selection Alternative is not a reasonable alternative.** Instead and somewhat misplaced, the BLM maintains that the Deer North timber sale would not violate RMP standards related to soil compaction and degradation. (BLM 2011 DN DD p 15).

BLM 2011 DN Decision Document p 15

Natural Selection Alternative

Comment 38: *Tractor logging will degrade forest floor communities that will likely take hundreds .of years to restore. The impacts to these communities by tractor logging is unacceptable and avoidable under the NSA.*

Response: *The Medford RMP direction is "in previously unentered stands, use designated skid roads to limit soil compaction to less than 12 percent ofthe harvest area" (p. 166). The Deer North Project EA provides the following PDFs (p. 16) regarding tractor logging:*

In Comment 39, the BLM finally purports to explain why the Natural Selection Alternative was not considered as a proposed alternative. (BLM 2011 DN DD p 16-17). **Because the BLM’s explanation is critical to resolving BLM’s assertions about the Natural Selection Alternative already having been**

¹“At the invitation of the commenter, the BLM visited Camp Forest, the model for the NSA alternative. The areas BLM were shown were regenerated clearcut lands tractor yarded in the mid 1900s.” ER-22 (Decision Documentation).

considered in Deer North Landscape Management Project as a reason not to analyze it for Pickett West Forest Management Project, Deer Creek Association's Comment and the BLM's rationale is set forth in full:

Comment 39: *The Natural Selection Alternative (NSA) is a legal alternative and has met the BLM's Purpose and Need. The NSA should have been considered as an addition [sic] alternative or actually been included in the Deer North EA as Alternative 4. In the South Deer EA, BLM accepted the Natural Selection Alternative as part of the decision. To now reject the Natural Selection Alternative for consideration in the Deer North EA is arbitrary and capricious.*

Response: *The NSA Alternative does not meet the purpose and need of the Deer North Vegetation Management Project. The NSA Alternative was considered under the No Action Alternative. Literature provided by the Deer Creek Association (Ecostry) indicates the NSA supports extracting naturally selected dead/dying trees as opposed to extracting green trees. The EA states that Alternatives should be "designed to address each of the needs and achieve each of the associated objectives which would assist in moving the current conditions found on the Deer North Planning Area toward desired forest conditions for lands within the Matrix land allocation" (p. 156).*

The Medford ROD/RMP assumed an annual harvest of 1,140 acres of regeneration harvest (RH) and overstory removal (OR) the first decade (ROD/RMP P 9). However, the actual amount offered for sale on the Medford District from 1995 to 2004 fell far below this amount, as it was less than 500 acres of regeneration harvest and overstory removal per year. The RMP identified that the general prescription would be one of modified even-aged management within the Northern General Forest Management Area ([NGFMA], RMP, p 187). For the Southern General Forest Management Area (SGFMA) the prescription would be one of structural retention (ibid, 192).

The EA considered a separate "Citizen's Alternative" that provided more detail. Appendix F "Alternatives and Issues Considered, but not Analyzed in Detail" (pp 155, 156) determined that "The Citizen's alternative was adequately addressed in the analysis for the No Action and action alternatives."

The South Deer Decision Record acknowledged that Alternative 4 was prepared by the Deer Creek Valley Natural Resource Conservation Association (DCVNRCA). At that time the BLM and DCVNRCA signed a memorandum of understanding (MOU) that included providing a purpose and need. However, the South Deer Decision Record noted on page 23 for Alternative 4 (Natural Selection Alternative) that "Other than trail and road locations, the project relied heavily on philosophy, making a side by side evaluation problematic." The purpose and need of the Deer North EA is not the same as that for the South Deer Project. The South Deer EA addressed the need to promote a wide variety of non-commodity outputs.

The South Deer EA analyzed the Natural Selection Alternative (alternative 4) and determined that "The level of removal for this alternative is inconsequential which allows current stand trajectories to progress. The cumulative impacts to vegetation would be the same as those described for the no-action alternative" (South Deer EA, p. 60). The Decision Record for the South Deer Landscape

Management Project identified Alternative 2 as the selected alternative for the management themes. Alternative 2 was selected for the young stand management theme except for “stands in 39-7-3 [T39S, R07W, Section 3] that were identified for young stand management.... Young stands are a priority for treatment under Alternative 4 [NSA] and implementing this alternative in section 3 will allow an opportunity to demonstrate the effectiveness of the approach of the NSA in young stand development” (DR, p. 12).

South Deer considered the NSA (Alternative 4) and disclosed “the general support for Alternative 4 as evidenced by the public comments received, and given the desire by the BLM to demonstrate the NSA alternative, the BLM has decided to blend Alternative 2 and 4 into a proposed action by choosing to implement NSA on 501 acres of land in 39-7-3. And, although BLM planners requested anticipated or potential timber volume produced by the NSA, no information was made available.”

Because the South Deer Project was enjoined indirectly by a court ruling affecting another regulatory agency, the effectiveness of the NSA on young stand development was never evaluated. The Deer North Timber Sale does not propose to demonstrate young stand development.

(BLM 2011 DN DD p 16).

The Deer North Decision Document also provides another reference to the Natural Selection Alternative, though it reiterates much of what was presented above:

Comment 25: *The purpose and need statement is consistent with the goals and objectives identified in the Medford RMP. Two action alternatives in addition to the No Action Alternative were analyzed. The NSA Alternative was considered under the No Action Alternative. Literature provided by the Deer Creek Association (Ecostry) indicates the NSA supports extracting naturally selected dead/dying trees as opposed to extracting green trees. The EA states that alternatives should be designed to address each of the needs and achieve each of the associated objectives which would assist in moving the current conditions found on the Deer North Planning Area toward desired forest conditions for lands within the Matrix land allocation (p. 156).*

The EA considered a separate Citizens Alternative that provided more detail. Appendix F “Alternatives and Issues Considered but not Analyzed in Detail” (pp 155, 156) determined that The Citizens alternative was adequately addressed in the analysis for the No Action and action alternatives. The purpose and need was broad enough to analyze a range of alternatives.

(BLM 2011 DN DD p 11).

The Natural Selection Alternative could not be considered under the No Action alternative because the Natural Selection Alternative proposes an action. The NSA proposes human (including stewards/trustees as described in the NSA) relationships to natural ecosystems in a way to meet human needs for all ecosystem related products and uses, including wood products and natural ecosystems are retained restored and regenerated across the landscape. Clearly, an alternative that proposes logging is fundamentally different than action that proposes no logging.

The BLM argues generally that the Natural Selection Alternative would not move “the Deer North Planning Area toward desired forest conditions for lands within the Matrix land allocation.” (BLM 2011 DrN DD). The Deer North EA provides the “following objectives for Matrix lands”:

- *Produce a sustainable supply of timber and other forest commodities to provide jobs and contribute to community stability.*
- *Provide connectivity (along with other allocations such as Riparian Reserves) between late-successional reserves.*
- *Provide habitat for a variety of organisms associated with both late-successional and younger forests.*
- *Provide for important ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as down logs, snags, and large trees.*
- *Provide early-successional habitat.*

(BLM 2011 DN EA).

First, as noted by the BLM in the South Deer EA, the “*Natural Selection Alternative would meet or exceed the Medford District Resource Management Plan objectives and actions/directions requirement for down wood, snags, and riparian reserves (p.26-28) including ACS objectives (p. 22), and for Matrix lands (p. 38-40).*” (BLM 2005 South Deer South EA p 19).

Second, a cornerstone of the Natural Selection Alternative is to provide for sustainable supply of timber and other forest commodities: “*As young cut-over forests recover to late-successional conditions, they would produce more products with greater values.*” (BLM 2005 South Deer EA p 22). In other words, “[r]etaining forest structure and functions at all times means no forest ‘down time’ so the forest is always in full productivity.” (BLM 2005 South Deer EA p 19).

Third, the Natural Selection Alternative provides connectivity because “[e]very part of the forested landscape including meadows, aquatic, and riparian areas, would remain or become a corridor for evolved species.” (BLM 2005 South Deer EA p 19).

The Natural Selection Alternative allows nature to determine when and where early successional communities naturally occur. The Natural Selection Alternative retains and restores habitat for all naturally evolved species associated with early and late-successional natural community ecosystems by retaining and restoring those habitats. “*The Natural Selection Alternative would retain all naturally evolved successional habitats across the landscape, including riparian reserves.*”(BLM 2005 South Deer EA p 19). The natural selection process retains and restores habitats and ecological functions of organisms and structural components. In other words, the Natural Selection Alternative retains biological equity and maximum productivity across the landscape while removing trees.

98 Acres of the Deer North Project Area were logged pending court hearings. The remaining Deer North timber sales and EA were dropped by BLM just prior to the 9th Circuit Court of Appeals hearing, which was scheduled on the docket to hear DCA’s legal challenge within a week or so, thus further legal proceedings were declared moot.

The Decision to Not Analyze the NSA in the 2016 RMP was arbitrary and capricious

BLM PW EA p.26:

1.7 Issues and Alternatives Considered but not Analyzed in Detail

...

Most recently, the NSA was submitted for consideration during the planning efforts for the 2016 Proposed Resource Management Plan/Final Environmental Impact Statement. In that EIS the NSA was an Alternative Considered but not Analyzed in Detail. The EIS concluded that the NSA does not meet the purpose and need and basic policy objectives described for developing the Alternatives because it would not make a substantial and meaningful contribution to providing a sustained yield of timber. Limiting harvest to dead and dying trees would not reflect the annual productive capacity for O&C Lands. Additionally, volume from dead and dying trees from year to year is inherently unpredictable, thus would not support sustained-yield timber production due to the fluctuation and unpredictability of supply which would vary based on annual conditions. Limiting the harvest of timber to dead and dying trees would not be consistent with the requirements of the O&C Act and would not respond to the purpose for the action (PRMP/FEIS, p. 103).

Incorrect BLM Premises

1. *“The EIS concluded that the NSA does not meet the purpose and need and the basic policy objectives described for developing the Alternatives because it would not make a substantial and meaningful contribution to proving a sustained yield of timber.” (PW EA 27)*

DCA response: The issue of sustained yield as it relates to basic policy objectives, the O&C Act, and how the NSA meets legal mandates has been discussed in detail in other parts of this document. The BLM did not provide adequate methodology to explain the rationale for how they came to this conclusion that the NSA “would not make a substantial and meaningful contribution to providing a sustained yield of timber”.

The NSA is based on the same relationships that life on Earth evolved from and is currently sustained by. It is the only alternative that can meet BLM’s long term Purpose and Need goals. It is also the only alternative that would provide a sustainable yield of timber. An environmental assessment of how much photosynthesis (relative to timber production) occurs under each alternative, demonstrates why the Natural Selection Alternative is a huge winner over other BLM alternatives. Green tree extraction can’t achieve the same sustainable level of timber volume as the NSA does on a sustainable basis because it destroys photosynthesis that produces timber.

2. *“Limiting harvest to dead and dying trees would not reflect the annual productive capacity for O&C lands.” (PW EA 27)*

DCA response: This incorrect premise shows a lack of understanding of how natural community ecosystems produce dead trees. You can't have dead trees without living trees, you can't have living trees without photosynthesis and you can't have either when natural community ecosystems that produce them are destroyed as all typical BLM alternatives would do. Every tree needs a certain amount and kind of habitat area. Dead trees are key indicators of tree production capacity at any given point in time. The NSA limits harvest of timber to dead and dying trees because it can generate better wood; it has hugely less impact on habitats compared to green tree removal; it retains optimal photosynthesis and tree productivity; and it retains species trait-environment compatibility and the sustainability of species and natural ecosystems through natural selection. Green tree extraction destroys these species sustaining essentials. Green tree extraction hugely reduces ecological diversity, the NSA doesn't. Green tree extraction hugely reduces natural biosphere community ecosystem energy transformation and recycling needs, the NSA doesn't. Green tree extraction causes natural biosphere community ecosystems to revert to earlier successional stages, the NSA doesn't.

3. *"Volume from dead and dying trees from year to year is inherently unpredictable, thus would not support sustained-yield timber production due to the fluctuation and unpredictability of supply which would vary based on annual conditions." (PW EA 27)*

This statement doesn't support BLM's preferred alternatives. Being able to predict no timber sale volume for decades because of BLM preferred alternative practices is a powerful reason to reject them. The NSA retains natural community ecosystems, photosynthesis and timber production across the landscape. The average volume of timber production across the landscape under the NSA is hugely greater than BLM's preferred alternatives because it doesn't produce areas with little or no production. This BLM statement supports the NSA and does not support BLM's proposed actions. The NSA provides for far greater reliability of timber production than BLM action alternatives by retaining life sustaining processes across the landscape. Eliminating natural community ecosystems that sustain trees and humans, as all the BLM action alternatives do, "would not be consistent with the requirements of the O&C Act and would not respond to the purpose for the action" (PW EA 27).

Talberth 2015 CSE BLM RMP DEIS Comments:

A reasonable price for BLM timber that offsets agency costs and internalizes the negative externalities of logging would too high at current market prices to attract timber sale purchasers. But the law, DOI policy, and BLM guidance all require such a reasonable price. Nor can the BLM justify its timber sale program in the face of markets that are not normal but severely distorted by negative externalities, subsidies, missing markets, and other well-known sources of market failure. Nor can the BLM demonstrate that its timber sale program meets Congressionally imposed sideboards designed to ensure that the timber sale program protects watersheds, water flow, economic stability, and recreation. Because of this, BLM's decision to reject the no harvest and natural selection alternatives is groundless. Overcutting on adjacent state and private lands underscores not only the need to consider in detail, but need to select one of these reasonable alternatives.

(Talberth 2015).

The Deer Creek Valley Natural Resources Conservation Association requested documentation relative to the analysis and determination that was made with regards to the Natural Selection Alternative (NSA) for the BLM RMP DEIS for Western Oregon included under Alternatives Considered but not Analyzed in Detail, including the rationale and ecological basis used to determine that the NSA does not “reflect the annual productive capacity for such lands”; and how BLM accounts for the other purposes and needs set forth, relative to the NSA.

When asked, the BLM would not provide any substantive rationale as required by NEPA (40 CFR 1502.24) for not including the NSA. The BLM, regarding the decision to reject it, promised further information in an open house, only to change their mind upon DCA’s follow up. When requested by FOIA the reply was that there was basically no information that could be provided because it either did not exist or because it was withheld due to “attorney-client privilege”. (BLM 2015- FOIA file) We have yet to receive the rationale for the NSA’s rejection in the new RMP as requested and required by NEPA.

In summary, BLM exclusion of the Natural Selection Alternative in the Deer North Vegetation Management Project (DOI-BLM-OR-M070-2009-0010-EA), and the Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) were erroneous. The NSA was included in both the EA and Decision as the best alternative for a section of land in the South Deer Landscape Management Project (BLM 2005). The NSA was the first community alternative in the Medford District BLM to be included in an Environmental Assessment and it was also included in the Decision as the best alternative for a section of land.

Simply put, the BLM has not provided an adequate or reasonable justification for eliminating the Natural Selection Alternative from detailed consideration. Therefore, the BLM's rejection of the Natural Selection Alternative for consideration in the Pickett West EA is arbitrary and capricious, and it precluded the BLM from considering a reasonable range of alternatives.

J. DETERMINATION OF SIGNIFICANCE

We disagree with the FONSI. An EIS is needed.

PW FONSI p2:

II. DETERMINATION OF SIGNIFICANCE

The discussion of the following significant criteria applies to the intended actions and is within the context of local importance. Chapter 3 of the EA describes the effects of the Action Alternatives. None of the effects identified, including direct, indirect, and cumulative effects, are considered to be significant and do not exceed those effects described in the 1995 Medford District Resource Management Plan/Final Environmental Impact Statement or the Southwestern Oregon Resource Management Plan/Final Environmental Impact Statement. The environmental effects of the Action Alternatives do not meet the definition of significance in context and

intensity as defined in 40 CFR § 1508.27. Therefore, an environmental impact statement is not necessary and will not be prepared.

Context. *The Pickett West Forest Management project analyzes the treatment of approximately 6,005 acres in the Matrix, Matrix Adaptive Management Area, and Riparian Reserve Land Use Allocations. Treatments include Restoration Thinning, Density Management, Understory Reduction prescriptions, and 11,102 acres of Hazardous Fuels Reduction maintenance treatments. The planning area is located within the Hellgate-Rogue River, Deer Creek, and Lower Applegate watersheds in Josephine County including a small portion of Jackson County of Oregon. The Action Alternatives do not have international, national, region-wide, or state-wide importance.*

Intensity. *The following discussion is organized around the Ten Significance Criteria described in 40 CFR § 1508.27(b) as they pertain to the context of the Pickett West Forest Management project Action Alternatives.*

A. Context:

We disagree that the intended action are only “within the context of local importance” and that the “Action Alternatives do not have international, national, region-wide, or state-wide importance” (FONSI 2). The following sections on mass species extinctions, global climate change, and the growth of the recreation and tourism economy will give some insight into why the context of this project is beyond the local scope and done in fact have regional, state-wide, national, and international importance.

PW EA p23-24:

Substantive versus Non-Substantive Comments

The National Environmental Policy Act Handbook (section 6.9.2.1, p. 66) describes substantive comments as doing one or more of the following: 1) question, with reasonable basis, the accuracy of the information contained within the EA, 2) question the adequacy of the methodology for, or assumptions used in the analysis, 3) present new information relevant to the analysis, 4) present reasonable alternatives other than those described in the EA, or 5) cause changes or revisions in one or more of the alternatives.

New Information Relevant to the Pickett West Analysis

There are many sources of new and relevant information that have bearing on the decision issued in this large Pickett West project. The urgent issues of global species extinctions, global climate change, and the knowledge and understanding of the role of fire in ecosystem dynamics around the world are constantly evolving as new science is conducted. These crucial issues are rapidly evolving bodies of knowledge that must be kept up with due diligence in order to understand the changes that are occurring and the processes involved. It appears obvious that the EA analysis has been done without fully evaluating and giving a “hard look” as required by NEPA at the emerging science on these urgent

topics. Industry will not provide us the answers to the ecological disasters we are facing and we are in desperate need of revolutionary and out of the box solutions to quell the negative impacts humans are producing at a rapid rate. We are living in very uncertain times and need to err on the side of caution before committing actions with crucial resources that are irreversible and unequivocally harmful. We are asking BLM to recognize its public duty to this need to seek less intrusive alternatives to meet human and natural community needs.

Global Context:

Planet Earth is Experiencing the 6th Mass Extinction

'Sixth extinction' of wildlife faster than feared: Scientists

AFP | Updated: Jul 11, 2017, 11.33 PM IST

PARIS: The sixth mass extinction of life on Earth is unfolding more quickly than feared, scientists have warned.

More than 30 percent of animals with a backbone -- fish, birds, amphibians, reptiles and mammals -- are declining in both range and population, according to the first comprehensive analysis of these trends.

"This is the case of a biological annihilation occurring globally," said Stanford professor Rodolfo Dirzo, co-author of a study published on Monday in the peer-reviewed US journal, Proceedings of the National Academy of Sciences (PNAS).

Around a decade ago, experts feared that a new planetary wipeout of species was looming.

Today, most agree that it is underway -- but the new study suggests that the die-out is already ratcheting up a gear.

It provides much-needed data about the threat to wildlife, mapping the dwindling ranges and populations of 27,600 species. For 177 mammals, researchers combed through data covering the period 1900 to 2015.

The mammal species that were monitored have lost at least a third of their original habitat, the researchers found.

Forty percent of them -- including rhinos, orangutans, gorillas and many big cats -- are surviving on 20 percent or less of the land they once roamed.

The loss of biodiversity has recently accelerated.

"Several species of mammals that were relatively safe one or two decades ago are now endangered," including cheetahs, lions and giraffes, the study showed.

Globally, the mass die-off -- deemed to be the sixth in the last half-billion years -- is the worst since three-quarters of life on Earth, including the non-avian dinosaurs, were wiped out 66 million years ago by a giant meteor impact.

On average, two vertebrate species disappear every year.

Tropical regions have seen the highest number of declining species. In South and Southeast Asia, large-bodied species of mammals have lost more than four-fifths of their historical ranges.

While fewer species are disappearing in temperate zones, the percentage is just as high or higher.

As many as half of the number of animals that once shared our planet are no longer here, a loss the authors described as "a massive erosion of the greatest biological diversity in the history of Earth."

There is no mystery as to why: our own ever-expanding species -- which has more than doubled in number since 1960 to 7.4 billion -- is eating, crowding and polluting its planetary co-habitants out of existence.

By comparison, there are as few as 20,000 lions left in the wild, less than 7,000 cheetahs, 500 to 1,000 giant pandas, and about 250 Sumatran rhinoceros.

The main drivers of wildlife decline are habitat loss, overconsumption, pollution, invasive species, disease, as well as poaching in the case of tigers, elephants, rhinos and other large animals prized for their body parts.

Climate change is poised to become a major threat in the coming decades, with some animals -- most famously polar bears -- already in decline due to rising temperatures and changing weather patterns.

"The massive loss of populations and species reflects our lack of empathy to all the wild species that have been our companions since our origins," said lead author Gerardo Ceballos of the National Autonomous University of Mexico.

Beyond any moral imperative, there are practical reasons to rue the eclipse of animals, whether megafauna or smaller and less "charismatic" creatures, the researchers cautioned.

The vanishing of a top-level carnivore or herbivore can have a cascading effect down the food chain, disrupting entire ecosystems.

Other species directly provide "services" to humans, such as honeybees that pollinate crops or birds that ensure pest control.

Previous studies show that ecosystems under stress, while resilient, have a breaking point -- rapid change can lead to collapse.

Printed from The Times of India: <http://timesofindia.indiatimes.com/home/environment/flora-fauna/sixth-extinction-of-wildlife-faster-than-feared-scientists/articleshowprint/59550919.cms>

In this new study published in the journal *Proceedings of the National Academy of Sciences*, the researchers said billions of populations of animals have disappeared from the Earth, amid what they called a "biological annihilation." They said the findings were worse than previously thought. **scientists say main causes of the mass extinction of wildlife include the destruction of animals' habitats and climate change. The report also warns that humans will be impacted by this mass extinction, writing, "The resulting biological annihilation obviously will have serious ecological, economic and social consequences. Humanity will eventually pay a very high price for the decimation of the only assemblage of life that we know of in the universe."**

Gerardo Ceballos, Paul R. Ehrlich, Anthony D. Barnosky, Andrés García, Robert M. Pringle, Todd M. Palmer, 2015, Accelerated modern human-induced species losses: Entering the sixth mass extinction

<http://advances.sciencemag.org/content/advances/1/5/e1400253.full.pdf>

Abstract

The oft-repeated claim that Earth's biota is entering a sixth "mass extinction" depends on clearly demonstrating that current extinction rates are far above the "background" rates prevailing between the five previous mass extinctions. Earlier estimates of extinction rates have been criticized for using assumptions that might overestimate the severity of the extinction crisis. We assess, using extremely conservative assumptions, whether human activities are causing a mass extinction. First, we use a recent estimate of a background rate of 2 mammal extinctions per 10,000 species per 100 years (that is, 2 E/MSY), which is twice as high as widely used previous estimates. We then compare this rate with the current rate of mammal and vertebrate extinctions. The latter is conservatively low because listing a species as extinct requires meeting stringent criteria. Even under our assumptions, which would tend to minimize evidence of an incipient mass extinction, the average rate of vertebrate species loss over the last century is up to 100 times higher than the background rate. Under the 2 E/MSY background rate, the number of species that have gone extinct in the last century would have taken, depending on the vertebrate taxon, between 800 and 10,000 years to disappear. These estimates reveal an exceptionally rapid loss of biodiversity over the last few centuries, indicating that a sixth mass extinction is already under way. Averting a dramatic decay of biodiversity and the subsequent loss of ecosystem services is still possible through intensified conservation efforts, but that window of opportunity is rapidly closing

Discussion excerpt:

The evidence is incontrovertible that recent extinction rates are unprecedented in human history and highly unusual in Earth's history. Our analysis emphasizes that our global society has started to

*destroy species of other organisms at an accelerating rate, initiating a mass extinction episode unparalleled for 65 million years. If the currently elevated extinction pace is allowed to continue, humans will soon (in as little as three human lifetimes) be deprived of many biodiversity benefits. **On human time scales, this loss would be effectively permanent because in the aftermath of past mass extinctions, the living world took hundreds of thousands to millions of years to rediversify. Avoiding a true sixth mass extinction will require rapid, greatly intensified efforts to conserve already threatened species and to alleviate pressures on their populations—notably habitat loss, overexploitation for economic gain, and climate change** (31–33). (emphasiis added) All of these are related to human population size and growth, which increases consumption (especially among the rich), and economic inequity (6). However, the window of opportunity is rapidly closing.*

(Ceballos et al 2015)

Excellent supporting information may be found in: **Call of Life: Facing the Mass Extinction**, Film Produced by Species Alliance; Ulansey, David, Executive Producer:

Today, scientists believe that we are entering the 6th Mass Extinction. But unlike the previous five, this one will not take centuries to unfold—in fact, it will take place in our lifetimes. As scientists begin to realize the severity of the crisis and new worldwide assessments are made, the news is difficult to believe. At least half of all plant and animal species are likely to disappear in the wild within the next 30-40 years, including many of the most familiar and beloved large mammals: elephants, polar bears, chimpanzees, gorillas and all the great apes, all the big cats, and many, many others. Bird species are similarly imperiled, songbird populations have declined by 50% in the last 40 years. One out of every eight species of plant life worldwide and almost one third of the plant species within the United States already face extinction. Populations of large ocean fish have declined by 90% since the 1950s. All around the world, birds, reptiles, mammals, amphibians, fish, and invertebrates, as well as trees, flowering plants, and other flora, are all in steep decline. The rate of extinction today could be as much as 10,000 times greater than the expected natural or background extinction rate. Scientists estimate that tens of thousands of species are vanishing every year, including many that have yet to be discovered or named.

We depend on many species directly for our basic human needs such as food, clothing, fuel, shelter, and medicine, but the complex network of all species is necessary to support those species that we depend upon directly. Ecosystems are intricately interdependent—species depend on each other for survival in complex and subtle ways that science is only beginning to understand. Biologically diverse ecosystems provide indispensable ecosystem services that we often take for granted, including purification of the air and water, climate regulation, nutrient cycling in the soil, disease control, pollination, seed dispersal, biological pest control, and prevention of erosion, to name just a few. We cannot live without these essential services that healthy ecosystems provide.

Land animals populations down 28% since 1970; marine bird populations down 30% since 1995; big ocean fish populations down 90% since 1950; freshwater fish populations down 50% since 1987; marine animals populations down 28% since 1970; songbirds populations down 50% since 1965. If

current trends continue, within decades HALF or MORE of all plant and animal species will disappear forever.

(www.SpeciesAlliance.org)

Global Climate Change

Luysaert et al, 2008, *Old-growth forests as global carbon sinks* -- Sebastiaan Luysaert E. -Detlef Schulze, Annett Börner, Alexander Knohl, Dominik Hessenmöller, Beverly E. Law, Philippe Ciais & John Grace

Abstract

Old-growth forests remove carbon dioxide from the atmosphere at rates that vary with climate and nitrogen deposition. The sequestered carbon dioxide is stored in live woody tissues and slowly decomposing organic matter in litter and soil. Old-growth forests therefore serve as a global carbon dioxide sink, but they are not protected by international treaties, because it is generally thought that ageing forests cease to accumulate carbon. Here we report a search of literature and databases for forest carbon-flux estimates. We find that in forests between 15 and 800 years of age, net ecosystem productivity (the net carbon balance of the forest including soils) is usually positive. Our results demonstrate that old-growth forests can continue to accumulate carbon, contrary to the long-standing view that they are carbon neutral. Over 30 per cent of the global forest area is unmanaged primary forest, and this area contains the remaining old-growth forests. Half of the primary forests (6X10⁸ to 8th hectares) are located in the boreal and temperate regions of the Northern Hemisphere. On the basis of our analysis, these forests alone sequester about 1.3 plus or minus 0.5 gigatonnes of carbon per year. Thus, our findings suggest that 15 per cent of the global forest area, which is currently not considered when offsetting increasing atmospheric carbon dioxide concentrations, provides at least 10 per cent of the global net ecosystem productivity. Old-growth forests accumulate carbon for centuries and contain large quantities of it. We expect, however, that much of this carbon, even soil carbon, will move back to the atmosphere if these forests are disturbed.

(Luysaert et al 2008)

(PRN Newswire 2015) **CORVALLIS, Ore. – Stephensen et al 2014 *Rate of tree carbon accumulation increases continuously with tree size.***

In a finding that overturns the conventional view that large old trees are unproductive, scientists have determined that for most species, the biggest trees increase their growth rates and sequester more carbon as they age.” (emphasis added)

In a letter published today in the journal Nature, an international research group reports that 97 percent of 403 tropical and temperate species grow more quickly the older they get. The study was led by Nate L. Stephenson of the U.S. Geological Survey Western Ecological Research Center. Three Oregon State University researchers are co-authors: Mark Harmon and Rob Pabst of the College of Forestry and Duncan Thomas of the College of Agricultural Sciences.

The researchers reviewed records from studies on six continents. Their conclusions are based on repeated measurements of 673,046 individual trees, some going back more than 80 years.

This study would not have been possible, Harmon said, without long-term records of individual tree growth. "It was remarkable how we were able to examine this question on a global level, thanks to the sustained efforts of many programs and individuals.

Extraordinary growth of some species, such as Australian mountain ash – also known as eucalyptus – (Eucalyptus regnans), and the coast redwood (Sequoia sempervirens) is not limited to a few species, the researchers said. 'Rather, rapid growth in giant trees is the global norm and can exceed 600 kg (1,300 pounds) per year in the largest individuals,' they wrote.

'In human terms, it is as if our growth just keeps accelerating after adolescence, instead of slowing down," said Stephenson.' By that measure, humans could weigh half a ton by middle age, and well over a ton at retirement.

The report includes studies from the Pacific Northwest. Harmon and his colleagues worked in forest plots – some created as early as the 1930s – at the H.J. Andrews Experimental Forest east of Eugene and Mount Rainier National Park. Researchers measured growth in Douglas-fir, western hemlock, Sitka spruce, western red cedar and silver fir. The National Science Foundation and the Pacific Northwest Research Station of the USDA Forest Service provided funding.

The following quote came from the book titled ***Temperate and Boreal Rainforests of the World***, GEOS Institute: <http://www.geosinstitute.org/maps/TemperateRainforests/index.html>)

Temperate and boreal rainforests are biogeographically unique. Compared to their tropical counterparts, they are rarer and at least as endangered. Because most temperate and boreal rainforests are marked by the intersection of marine, terrestrial, and freshwater systems, their rich ecotones are among the most productive regions on Earth. Many of them store more carbon per hectare than even tropical rainforests, contain some of the oldest and largest trees on the planet, and provide habitat for scores of rare and unique species including some with affinities dating back to the supercontinent Gondwanaland and when dinosaurs were king.

In spite of their global significance, however, protection levels for these remarkable rainforests are far too low to sustain them under a rapidly changing global climate and ever expanding human footprint. And because they have been ignored in recent efforts to curtail greenhouse gas pollutants from deforestation, they are destined to become the world's forgotten rainforests in global efforts to stem global warming pollution. Fortunately, a global campaign is underway to step up conservation of these remarkable rainforests ranging from an end to logging of native forests in Tasmania to new restrictions on logging designed to protect up to 70% of the Great Bear Rainforest in British Columbia.

(DellaSala 2012- *Temperate and Boreal Rainforests of the World: Ecology and Conservation*)

Edited by Geos Institute Chief Scientist, Dominick A. DellaSala, Ph.D. This book was awarded 2012 national award, naming it ["best of the best" for academic excellence.](#)

As scientists warn 2015 is on pace to become the Earth's hottest year on record, President Obama has unveiled his long-awaited plan to slash carbon emissions from U.S. During a speech at the White House, Obama said no challenge poses a greater threat to future generations than a changing climate.

President Barack Obama, August 3, 2015:

Climate change is no longer just about the future that we're predicting for our children or our grandchildren; it's about the reality that we're living with every day, right now. The Pentagon says that climate change poses immediate risks to our national security. While we can't say any single weather event is entirely caused by climate change, we've seen stronger storms, deeper droughts, longer wildfire seasons. Charleston and Miami now flood at high tide. Shrinking ice caps forced National Geographic to make the biggest change in its atlas since the Soviet Union broke apart. Over the past three decades, nationwide asthma rates have more than doubled, and climate change puts those Americans at greater risk of landing in the hospital. As one of America's governors has said, we're the first generation to feel the impact of climate change and the last generation that can do something about it. And that's why I committed the United States to leading the world on this challenge, because I believe there is such a thing as being too late.

An email received by Mary Camp from Jeff Merkley on July 14, 2017 states:

We must take on the challenge of climate disruption for the sake of our children and our children's children. That is why today, I [joined parents and kids](#) from all across America to fight for a cleaner, brighter future for our children and our children's children.

Today, we can already see climate change's impact in [disappearing glaciers and shrinking ice sheets](#), increased risk of asthma from hotter temperatures, migrating animals and insects (spreading mosquito-borne diseases like Zika), more powerful storms, and record temperatures and heat waves that are [threatening the lives of the most vulnerable](#). If we don't take bold, immediate action, our agriculture, forests, fisheries, and health will pay the price.

Bill Moomaw PhD and Danna Smith, JD 2017 THE GREAT AMERICAN STAND, US FORESTS AND THE CLIMATE EMERGENCY, Why the United States needs an aggressive forest protection agenda focused in its own backyard; Research assistance provided by Sam Davis, PhD

EXECUTIVE SUMMARY (p3-4)

P3- Standing forests are the only proven system that can remove and store vast amounts of carbon dioxide from the atmosphere at the scale necessary to keep global temperature rise below 1.5 degrees Celsius this century. It is therefore essential to not only prevent further emissions from fossil fuels, deforestation, forest degradation, and bioenergy, but also to expand our forests' capacity to remove carbon from the atmosphere and store it long-term.

If we halted deforestation, protected existing forests, and expanded and restored degraded forests, we could reduce annual emissions by 75 percent in the next half a century. If fossil fuels were rapidly phased out during this same time period, we could reduce the amount of carbon in the atmosphere, meet the goals of the Paris Agreement and avoid catastrophic climate change. But, we cannot solve the climate crisis without a major scale-up in forest protection and restoration across the planet.

We must not only protect remnant primary, intact forests, but also conserve and restore less pristine landscapes. Yet, to date, forest protection commitments and funding are too narrowly focused on tropical forests.

p-4 Over the span of more than a century, an estimated 99 percent of the nation’s “frontier forests”—large, contiguous virgin forests with all species intact— have been lost across the lower forty-eight states. During the same period, the United States has emerged as the world leader in commercial logging, currently producing and consuming more wood products than any other country. Though trees can live to be hundreds, even thousands, of years old, less than 15 percent of U.S. forests are older than one hundred years. Tens of millions of acres of natural forests have been replaced with monoculture commercial tree plantations. Meanwhile, as the threat of catastrophic climate change grows, the value of old, intact, standing natural forests and the climate-stabilizing services they provide are more critical than ever.

(Moomaw and Smith 2017)

This section was heavily drawn from the following and incorporates by reference: Public Comments submitted for the BLM’s: **Resource Management Plans for Western Oregon Draft Environmental Impact Statement by 18 environmental conservation organizations. August 20, 2015**

Carbon and Climate Change, Pgs 193-210:

The Federal Land Policy & Management Act Requires BLM to Take Action on Climate Change

BLM has a duty to prepare a current and up-to-date inventory of public lands and their new and emerging resource values (43 USC § 1711). This requires BLM to carefully inventory all the carbon stored in forests and soils on BLM lands and the value of BLM lands to store more carbon if allowed to recover into late successional natural ecosystems.

BLM must give priority to identifying current late successional communities where alternatives such as the NSA are needed to prevent irreparable damage and protect life and safety from safety from natural hazards. This requires BLM to identify all late successional natural ecosystems because they must be

conserved in order to avoid and mitigate climate change which is a natural hazard predicted to cause irreparable harm to important natural systems that need protection.

BLM must consider “potential uses of public lands” (43 USC § 1711). This requires BLM to consider an alternative such as the Natural Selection Alternative that uses BLM lands for carbon storage and climate mitigation, arguably the highest and best use of the highly productive forest lands in western Oregon. The analysis will reveal significant complementary benefits for water quality, quality of life, fish & wildlife habitat, community stability, etc.

FLMPA requires BLM to consider scarcity of values and available alternatives (43 USC § 1711). This requires BLM to recognize that western Oregon BLM lands are capable of growing very high levels of biomass per acre and such places are relatively rare. This also requires BLM to consider and compare the carbon consequences of various alternatives including the Natural Selection Alternative.

Some natural ecosystems are far better at sequestering carbon than others. And BLM’s Medford District’s Grants Pass Resource Area has some great ones —low elevation forests with long growing seasons and mild winters and disturbance regimes that allow longer periods of growth and carbon accumulation. Forests on the westside of the PNW (where BLM’s western Oregon holdings are located) are twice as productive as forests in other parts of the country. Western Oregon ecosystems can grow 100 cubic feet of wood per acre per year, while ecosystems of the NE, SE, and mid-west generally produce half or less than that. (Powell et al 1992 132+map). In addition to prodigious growth, westside forests are able to store that carbon for long periods. The “carbon density” of Westside forests exceed that of any forests in North America², possibly the world. This means that BLM lands are uniquely suited for sequestering carbon.³ These highly productive forests of the northwest are losing carbon due to short-rotation forestry. From 1990 to 2010 western Oregon and western Washington are expected to lose 97.4 million tons of carbon under business-as-usual forest management.³⁷¹ There is a great

² Carbon density is a measure of the carbon in live and dead vegetation plus soil carbon measured on a per-acre basis. The westside of the Pacific Northwest is uniquely suited to growing and storing carbon in forests. See Figure 6 in Ingerson, Ann L. 2007. U.S. Forest Carbon and Climate Change. Washington, D.C.:The Wilderness Society. <http://www.wilderness.org/Library/Documents/upload/ForestCarbon-ClimateChange.pdf>

³ See Christine L. Goodale, Michael J. Apps, Richard A. Birdsey, Christopher B. Field,

Linda S. Heath, Richard A. Houghton, Jennifer C. Jenkins, Gundolf H. Kohlmaier, Werner Kurz, Shirong Liu, Gert-Jan Nabuurs, Sten Nilsson, And Anatoly Z. Shvidenko. 2002. Forest Carbon Sinks In The Northern Hemisphere. *Ecological Applications*, 12(3), 2002, pp. 891–899q 2002. http://www.whrc.org/resources/published_literature/pdf/GoodaleEcolAppl.02.pdf

(“Over 80% of the estimated sink occurred in one-third of the forest area ...”)

potential to adopt new forest practices to reverse this trend. In fact, the Northwest Forest Plan reserves have already recognized as a step toward wise management of forest carbon. “Federal forest management policies are already contributing significantly to this goal with the extensive series of forest reserves established in the Northwest Forest Plan.”⁴ Tens of thousands of acres of cutover federal forest land have been designated to be managed for late-successional forest conditions and, coincidentally, much higher levels of carbon stocks.” 372 The 2016 RMP has designated Late Successional Reserves and Large Block Reserves that are targeted for timber extraction in the Pickett West EA action alternatives which are not in keeping with the ecosystem protections intended by either the 1995 or 2016 RMP because they would reduce the extent of the reserves. It would reduce protection of the carbon in large trees, and reduce the ability to meet goals for recovery of previously logged sites, and these recognized carbon storage values would be lost. The EA must address the impacts of this on climate, ecology, and social systems.

As documented earlier in these comments (Moomaw & Smith 2017), there is “scarcity” of natural ecosystem sites with high potential to store carbon and the failure of providing alternatives to storing carbon on BLM lands. Scientists and policy-makers recognize that natural ecosystems can play a significant role in mitigating climate change by storing more carbon. The UN says that 35% of the global opportunity to store carbon in natural ecosystems is outside the tropics. Late successional and old-growth on BLM land a potentially very rare and valuable reserve in terms of carbon storage. Compared to other sectors, the “forestry” sector has a high benefit/cost ratio for carbon mitigation actions. That means that carbon storage in natural ecosystems is a relatively efficient way to mitigate climate change. BLM must consider this in the EA. The BLM must consider the reasonable NSA for detailed analysis. BLM must consider long-term vs short-term benefits. (43 USC § 1712) This requires BLM to recognize that the benefits of logging are very short-term, while the benefits of climate mitigation through conserving and restoring late successional natural community ecosystems are both short-and long-term. The No Action and Natural Selection Alternative would provide these benefits, the short sighted, timber volume prioritized, Alternatives 2 and 3 would not.

BLM Must Manage for Complementary Multiple Uses

⁴ LAURIE A. WAYBURN, JERRY F. FRANKLIN, JOHN C. GORDON, CLARK S. BINKLEY, DAVID J. MLADENOFF, NORMAN L. CHRISTENSEN, JR. 2007. Forest Carbon in the United States: Opportunities & Options for Private Lands. Pacific Forest Trust.

<http://www.pacificforest.org/publications/pubpdfs/ForestCarbonReport-07Update.pdf>

The O&C Act's mandate to correct market failures and sell timber only at "reasonable prices on a normal market" is an implicit acknowledgement of the multiple use concepts in the Federal Land Policy and Management Act. The O&C Act does not conflict with multiple use or FLPMA because Congress sought to further the public interest by normalizing markets. FLPMA requires that BLM produce appropriate amounts of public goods like watersheds, fish & wildlife, scenery, and scientific values. FLPMA's multiple use mandates require consideration of future generations and harmonious management of the multiple values, without any one use impairing the others.(43 USC § 1702(c)) This is accomplished in part by correcting market failures so that appropriate amounts of public goods are produced and prices reflect the full costs of production (including the cost of mitigating climate change and impaired water quality, and the cost of replacing old growth habitat where it has been lost).

O&C Act Requires BLM to Take Action on Climate Change

BLM views the forest as just trees and they view the O&C Act as a simple mandate to cut them down as fast as they grow. This grossly over-simplified view of the forest is inconsistent with the current understanding of forests and inconsistent with the O&C Act itself.

The O&C Act of 1937 provides: "*[T]imberlands ... shall be managed ... for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities ... [T]imber from said lands ... shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market.*" 377

*Forests are not just trees, but part of ecosystems that underpin life, economies and societies. ...[A]ll forests provide a wide range of ecosystem services. These services include prevention of soil erosion, maintenance of soil fertility, and fixing carbon from the atmosphere as biomass and soil organic carbon. Forests host a large proportion of terrestrial biodiversity, protect water catchments and moderate climate change. Forests also support local livelihoods, provide fuel, traditional medicines and foods to local communities, and underpin many cultures. The harvesting of forest products is putting severe stress on the world's forests. ... {Ecosystem} services have been reduced by the decline in total forest area and by continued forest degradation, especially in production and multipurpose forests ... Greater emphasis on conservation of biodiversity may lead to increased benefits in terms of resilience, social relations, health, and freedom of choice and action.*378 (Dent, David)

The best way to safely store carbon and mitigate climate change to achieve permanent "forest" production, sustained yield, regular water flow, protect watersheds, and community economic stability is to protect all mature & old-growth ecosystem communities and allow young ecosystem communities to recover back to natural late successional conditions. This can only be achieved if the species that create and restore natural ecosystems are allowed to naturally evolve to late successional conditions

increasing their diversity through trait-environment adaptation through natural selection. The Natural Selection Alternative should have been considered for detailed analysis as an option.

BLM Must Help Mitigate Climate Change to Regulate Water Flow and to Protect Watersheds

“Forest ecosystem services are threatened by increasing human demands. Exploitation of forests has been at the expense of biodiversity and natural regulation of water and climate...” 379(Dent, David)

Logging late successional and old-growth ecosystems will exacerbate climate change and cause altered precipitation patterns, reduced snow pack, and increased evaporative demand which will violate the O&C Act's mandate to regulate water flow and protect watersheds. Logging late successional and old-growth natural ecosystems will tend to make water flow less regular and watersheds less protected from hydrologic extreme hydrologic events. If BLM protects late successional and old-growth ecosystem communities and allows those previously cut to recover, water flow will be more regular and watersheds will be more protected.

Climate change is expected to increase winter precipitation and more of that precipitation will fall as rain instead of snow. This will increase peak flows in the winter and spring. Peak flows that exceed the natural pattern are harmful to watershed values. Peak flows cause erosion of stream banks and bottoms and cause landslides by undercutting slopes.

Natural ecosystem communities and watersheds have had 2 million years to adapt to the climatic swings between glacial and interglacial periods, but now climate change threatens to push the pendulum beyond the normal interglacial into new territory that is warmer than the earth has experienced for millions of years. Both the rate and magnitude of climate change are unprecedented.

Warming will increase evaporative water demand and soil water deficit, which will decrease late summer stream flow. Low stream flow harms not only fish but also agriculture, communities, and industries that rely on summer water supply.

BLM Must Help Mitigate Climate Change to Stabilize Communities And Industries

The economic and social impacts of climate change are widely recognized. “Global warming could have impacts right here in the Rogue Valley, boosting the number and size of wildfires, harming salmon and reducing the snowpack people rely on for drinking water and irrigation.” The Oregon Legislature passed a bill (HB 3543) in 2007 with the following findings:

(3) Global warming poses a serious threat to the economic well-being, public health, natural resources and environment of Oregon.

(4) Oregon relies on snowpack for summer stream flows to provide energy, municipal water, watershed health and irrigation. Also, a potential rise in sea levels threatens Oregon’s coastal communities. Reduced snowpack, changes in the timing of stream flows, extreme or unusual weather events, rising sea levels, increased occurrences of vector-borne diseases and impacts on forest health could significantly impact the economy, environment and quality of life in Oregon.

(5) Oregon forests play a significant role in sequestering atmospheric carbon, and losing this potential to sequester carbon will have a significant negative effect on the reduction of carbon levels in the atmosphere.

(6) Global warming will have detrimental effects on many of Oregon's largest industries, including agriculture, wine making, tourism, skiing, recreational and commercial fishing, forestry and hydropower generation, and will therefore negatively impact the state's workers, consumers and residents.

(7) There is a need to ... take necessary action to begin reducing greenhouse gas emissions in order to prevent disruption of Oregon's economy and quality of life and to meet Oregon's responsibility to reduce the impacts and the pace of global warming.

Governor Kulongoski's Advisory Group On Global Warming says:

Absent decisive actions across the globe of the sort proposed in this report, the warming already underway is expected to lead to changes in the earth's physical and biological systems that would be extremely adverse to human beings, their communities, economies and cultures. ... The impacts of such changes on Oregon citizens, businesses and environmental values are likely to be extensive and destructive." The Governor of Oregon is being urged by a broad cross-section of advisors to think of the economic costs of addressing climate change as "investments" that result in net gains relative to the economic costs of failing to make those investments, or the costs of addressing climate change can be thought of as buying an insurance policy that reduces future expenses related to coping with climate change. Forest conservation is among the committee's recommendations for addressing the climate problem: "The Advisory Group recommends actions to increase the amount of carbon that can be captured and fixed in new or restored forest and field growth and in the soil beneath. ... While we will continue to work the lands that must feed, clothe and shelter us, there are still land management choices that will restore much of this natural sequestration capability. (Oregon Strategy for Greenhouse Gas Reductions, 2004)

The West Coast Governors' Global Warming Initiative Report says:

The world's scientists are clear: Global warming is happening, and the world must act now to reduce greenhouse gas emissions. Global warming will have serious adverse consequences on the economy, health and environment of the West Coast states. While these consequences are not entirely predictable, the effects of global warming are already evident in the form of higher temperatures, reduced snow pack, insect infestation and increased fire danger in our forests, and rising sea levels on our ocean shores. These impacts will grow significantly in coming years if we do nothing to reduce greenhouse gas emissions.

The costs and impacts of continued use of conventional forestry management as proposed in Pickett West are highly uncertain and unpredictable in the face of global climate change. Direct economic, social and environmental benefits result from retaining natural ecosystem communities, and also hedges against the risks posed by global warming itself. The economic costs of unchecked global

warming and timber sales such as Pickett West are projected to be immense. Logging that exacerbates climate change will violate the O&C Act's mandate to foster stability of industries and communities in many other ways as well.

O&C Act - BLM Alternatives must help mitigate climate Change to Ensure Permanent Forest Production and Sustained Yield.

Alternative 2 and 3 would exacerbate climate change thereby violating the O&C Act's requirement to maintain permanent forest production. Optimal photosynthesis produces optimal carbon storage and productivity. The NSA does both and should have been included in detailed analysis. BLM should have analyzed the reasonable NSA in detail.

O&C Act – BLM Must Help Mitigate Climate Change to Achieve “Reasonable Prices on a Normal Market” for its Timber Sales

The O&C Act requires sale of timber at reasonable prices in a reasonable market. BLM cannot argue that O&C Act requires them to cut and sell trees in today's market because doing so would be adverse to the other goals of the O&C Act (permanent forest production, regulate water flow, protect watersheds, and community economic stability). The way the O&C Act is structured, BLM may only sell timber sales if they take steps to correct market failures by among other things internalizing market externalities. Unfortunately, the market has many imperfections that remain unaddressed.

Due to various economic externalities, prices are not reasonable and markets are not normal. A normal market requires that all costs and benefits involved in the transaction are internal to the buyer and seller. If costs of the transaction are externalized and born by someone other than the buyer and seller (such as CO2 emissions and water pollution that are borne by the public), then the price will not reflect the full costs of production and consequently the price will be artificially low. Prices are supposed to reflect all costs and benefits because we rely on prices to send accurate signals to the market about rational investments in capacity and how much of any given product to produce or consume relative to substitutes.

Since the price of wood products derived from late successional and old-growth ecosystems is artificially low, then investors are receiving bad signals from the market and are maintaining excess capacity which produces an irrationally high level of wood products from late successional and old-growth ecosystems relative to market substitutes such as wood products from early successional ecosystem communities. In other words, externalities lead to market failure, unreasonably low prices, and abnormal markets. These externalities must be factored into the methodology used to determine value of wood practices for analysis of all alternatives to determine if they meet the reasonable prices required by the O&C Act part of the purpose and need. BLM failed to do so, and needs to do to do so and to also consider the superior climate option, the reasonable NSA.

The UK's Stern Report said:

*“When people don’t pay for the consequences of their actions we have market failure. [Climate change] is the greatest market failure the world has seen.”*⁴⁰⁴ The Stern Report states, “human-induced climate change is at its most basic level an externality. Those who produce greenhouse-gas emissions are bringing about climate change, thereby imposing costs on the world and on future generations, but they do not face directly, neither via markets nor in other ways, the full consequences of the costs of their actions. ... [GHG] emitters do not have to compensate those who lose out because of climate change. In this sense, human-induced climate change is an externality, one that is not ‘corrected’ through any institution or market, unless policy intervenes.” (Stern Report)

Stern warns that the externalities of climate change are unique because the consequences of climate change are long-term and potentially irreversible.

Other externalities that contribute to market failure and unreasonably low prices for large logs include: degraded water quality, loss of wildlife habitat, loss of ecosystem services like pollination, nutrient cycling, etc. The economic costs of addressing climate change due to the release of carbon caused by logging mature & old-growth forests are not reflected in the prices of BLM timber sales, and the costs of addressing the climate change caused by such logging are not born by the buyers and sellers of those logs but rather they are born by the public at large and by other industries that are harmed by climate change.

“[Climate change] is the greatest and widest-ranging market failure ever seen. ... policy must promote sound market signals, overcome market failures and have equity and risk mitigation at its core.” (Stern Report)

The ecosystem services provided by BLM lands are “public goods” that present another economic problem that leads to unreasonable prices and abnormal markets for BLM timber sales. Water quality, livable climate, and wildlife habitat are public goods which have undisputed value to people and communities, but because no one can be excluded from enjoying those resources when they fail to pay, the market fails to provide investors with incentives to produce rational and necessary quantities of those services. As a result the market provides too little of those ecosystem services.

The climate is a public good: those who fail to pay for it cannot be excluded from enjoying its benefits and one person’s enjoyment of the climate does not diminish the capacity of others to enjoy it too. Markets do not automatically provide the right type and quantity of public goods, because in the absence of public policy there are limited or no returns to private investors for doing so: in this case, markets for relevant goods and services (energy, land use, innovation, etc) do not reflect the consequences of different consumption and investment choices for the climate. Thus, climate change is an example of market failure involving externalities and public goods.

The impacts [of climate change] are likely to have a significant effect on the global economy if action is not taken to prevent climate change, so the analysis has to consider potentially non-marginal changes to societies, not merely small changes amenable to ordinary project appraisal. (Stern Report)

The total social and economic return on carbon storage in mature & old-growth forests is higher than the total social and economic return on logging those forests, but the abnormal market does not reflect this reality. BLM's plans to increase logging of older forest represents rational behavior only from the perspective of the internal returns to BLM and the timber industry, but BLM is not behaving rationally when one considers total social welfare. In a normal market the interests of the timber industry, the public and the BLM would converge. The market failures described above (externalities and public (goods) cause the interests of the public and the BLM to diverge. The O&C Act requires BLM to intervene to correct market failures and sell timber only when the market is normalized, when prices are reasonable, and when the market sends accurate price signals that further the public interest.

ESA – BLM Must Help Mitigate Climate Change To Conserve Listed Species

Climate change is a threat to listed species because all the cascading effects of warming: drought, peak flows, low flows, fire, insects, disease, etc. will alter the quality and quantity of habitat, predator prey interactions, plant/pollinator relations, plant/herbivore interactions, etc. The stress of these cascading impacts is added to the existing stresses that lead each species to be listed. The cumulative impacts will be significant and must be fully disclosed and require an EIS or Supplemental EIS.

Spotted Owl new information includes the potential effect of climate change on regional vegetation patterns. Under a new climate regime, we may not be able to regrow new owl habitat in the reserves as assumed in the NW Forest Plan and the 2016 Revised Plan. Existing old forests are relatively resilient to climate change. It is risky to be conducting the high level canopy reduction and ecological equivalent for regeneration types of harvests proposed for Pickett West and expect to be able grow new owl habitat in the reserves under an uncertain climate regime.

The FWS 5- Year Review of the Status of the Northern Spotted Owl says:

*The Northwest Forest Plan was adopted in 1994, and significantly altered management of Federal lands. The substantial increase in reserved areas and associated reduced harvest (approximately 1 percent per year to 0.24 percent per year) has substantially reduced this threat to northern spotted owls. However, the plan allows some loss of habitat and assumed some unspecified level of continued decline in northern spotted owls. The SEI panel noted that many, but not all of the scientific building-blocks of the Northwest Forest Plan have been confirmed or validated in the decade since adoption, though one major limitation appears to be the inability of a reserve strategy to deal with invasive species. Reserves provide no protection against viruses, fungi or invasive owls. **Climate change is an additional threat to northern spotted owls that was not explicitly addressed in the Northwest Forest Plan and, more generally, is not readily addressed by a reserve-based conservation strategy. Neither of these issues reduces the important contribution of the Northwest Forest Plan to northern spotted owl conservation**"408 (FWS Status Review)*

Jerry Franklin summarized the "findings" of the Northern Spotted Owl Status Review scientific review panel as follows:

*... in view of current uncertainties, such as the eventual outcome of the Spotted Owl/Barred Owl competition, West Nile Virus, and Sudden Oak Death, and whatever else comes along -- such as global change and other kinds of introductions -- existing suitable habitat could be important to the persistence of the Northern Spotted Owl. [repeated with emphasis] Existing suitable habitat could be important to the persistence of the Northern Spotted Owl, i.e., risk to Northern Spotted Owl may increase if additional suitable habitat is removed. It is not clear where the Spotted Owl may find the refuge or refuges from new threats within existing suitable habitat. Barred Owl intrusions do not negate the need for structurally complex forest habitat to sustain Northern Spotted Owl based on existing knowledge.*⁴⁰⁹ (USFW Service Scientific Review Panel for the NSO 2004)

ESA – BLM Must Help Mitigate Climate Change to Take Steps to Avoid Future Listings

Scientists predict that a large fraction of species are potentially imperiled by climate change. And, as discussed at the beginning of this section, we have extinction rate that surpasses anything on Earth for millions of years including the last great extinction 65 million years ago. BLM must consider not only the species within western Oregon, but those all over the world that could be adversely impacted by climate change. The IPCC's 4th Assessment Report synthesis says that "Climate change is likely to lead to some irreversible impacts. There is medium confidence that approximately 20- 30% of species assessed so far are likely to be at increased risk of extinction if increases in global average warming exceed 1.5-2.5oC (relative to 1980-1999). As global average temperature increase exceeds about 3.5oC, model projections suggest significant extinctions (40-70% of species assessed) around the globe. {3.4}"⁴¹⁰ (IPCC 2007)

*The more average global temperatures rise, the more species will be threatened with extinction.*⁴¹¹ (Thomas, C.D et al 2004)

A report published in the *Natural Areas Journal* in 2012 by David Olson, Dominick A. DellaSala, Reed F. Noss, James R. Strittholt, Jamie Kass, Marni E. Koopman and Thomas F. Allnutt, titled "**Climate Change Refugia for Biodiversity in the Klamath-Siskiyou Ecoregion**" offers valuable information relevant to Pickett West. http://wildcalifornia.org/wp-content/uploads/2014/07/ksclimatechangerefugia_olson-et-al_2012-copy.pdf

ABSTRACT: The Klamath-Siskiyou Ecoregion has been a refuge for species during past climate change events, but current anthropogenic stressors are likely compromising its effectiveness as a refugium for this century's projected changes. Reducing non-climate stressors and securing protection for large, complex landscapes are important long-term actions to alleviate climate change impacts on biodiversity. Equally important is the immediate protection of a network of climate change microrefugia, particularly old growth and intact forests on north-facing slopes and in canyon bottoms, lower- and middle-elevations, wetter coastal mountains, and along elevational gradients. Such areas provide local opportunities for vulnerable species to persist within the ecoregion. We identify a provisional set of 22 highest-priority and 40 high-priority microrefugia that occur mostly outside of existing protected areas and along wetter and lower elevations of the ecoregion. Proposed reserve designs, if fully implemented, would capture most of the recommended

microrefugia, although we found 11 important gaps. Most of the region's biodiversity, endemic species, and species vulnerable to climate change are invertebrates, non-vascular plants, and fungi that are largely restricted to persistently cool and moist late-successional forests. Opportunities for climate change response for vulnerable taxa will necessarily be local due to a limited capacity of many species to move to new habitat, even over relatively small distances where land use practices create inhospitable conditions. The ecoregion's distinctive and endemic serpentine-substrate flora also is at risk and possible refugia are sites that will retain wet soil conditions, such as seeps and bogs.

The Pacific Northwest's Growing Recreation and Tourism Economy: Local to Global Implications

The global and local economies are inexplicably interconnected in today's modern world. What happens at a global scale affects our local environment and economy, while what we do at a local scale has implications for global issues such as climate change and species extinctions. To assume that our local management of public lands, which serve as crucial carbon sinks for the whole planet, do not have an impact outside of our county is simply not true.

BLM FAILED TO USE SCIENCE BASED ECONOMIC ANALYSIS

May 11, 2015 Forest Service and BLM issued their **20-year assessment of the Northwest Forest Plan**. <http://www.reo.gov/monitoring/reports/20yr-report/> . The following are key findings not reflected in the BLM's EIS:

- *Total employment in forest products industries, including logging, primary and secondary wood manufacturing has been variable and has declined overall by forty percent since 2001 (figure 2-2). However, employment in forest products industries related to Forest Service and BLM harvests increased between 2001 and 2012.*
- *From 2005 to 2009, timber harvest levels declined sharply. Timber harvested from federal forests increased nearly 70 percent between 2009 and 2012. Most of this decline can be attributed to reductions in timber harvests on non-federal lands. After 2009, timber harvests levels increased. Timber harvested from federal forests has reached volumes not seen since shortly after the adoption of the NWFP. However, timber harvested from non-federal forests remains below the 1995 to 2005 average.*
- *Recreation visitor spending is the largest single source of economic activity associated with NFS and BLM management in the NWFP area. (Regional Interagency Executive Committee (RIEC)-USDA Forest Service (Elizabeth Grinspoon, Delilah Jaworski, and Richard Phillips), May 11, 2015, Northwest Forest Plan-The First 20 Years [1994-2013], Socioeconomic Monitoring.)*

We have provided the video *Oregon's Forest Economy— For This and Future Generations*, of a presentation given by Ernie Nieme, November 2016. This presentation contains data, fact based economic analysis of the RMP DEIS. We have also included the presentation notes in our attached references.

Ernie Niemi referenced the following document in his presentation:

Summary of Federal Forest Carbon Coalition's "Accounting for Climate-related Risks In Federal Forest-Management Decisions

Actions that reduce the amount of carbon stored in federal forests contribute to disruption of the global climate by increasing atmospheric concentrations of carbon dioxide. The climate disruption raises the risk of economic harm—locally, nationally, and globally—from extreme weather events, higher temperatures, changes in precipitation, rising sea levels, acidification of oceans, and changes in ecosystems. Laws and executive orders require managers of federal forests to account for these risks. This paper describes the recent failure of the Bureau of Land Management (BLM), to satisfy the requirements. It also describes the steps the BLM must take to meet its obligations, and illustrates the method the BLM and other federal forest management agencies should use to account for carbon-related risks in the future.

The BLM failed to account for climate-related risks when it selected its Preferred Alternative for managing federal forests in western Oregon. If implemented, this alternative would yield more timber but less forest carbon than another alternative. Using old data and a conservative view of risk, the BLM provided information that indicates the additional climate-related costs may:

- *Outweigh the additional timber-related benefits by 2-to-1.*
- *Equal \$91,000 per additional timber-related job.*
- *Equal \$4 for every \$1 of additional timber-related payments to local counties.*

Current data, plus a widely accepted view of risk indicates the additional climate-related costs may:

- *Outweigh the additional timber-related benefits by more than 30-to-1*
- *Equal \$1.6 million per additional timber-related job.*
- *Equal \$68 for every \$1 of additional timber-related payments to local counties.*

The BLM disregarded this information when choosing its Preferred Alternative. To satisfy its legal and administrative requirements, the BLM should fully and clearly describe the climate related risks that accompany the Preferred Alternative, and explain its justification for imposing these risks on the individuals, households, businesses, and communities that would bear them. This justification should address both the reduction in overall economic wellbeing that would result from implementing the

Preferred Alternative and the moral issues that arise from imposing climate-related risk on those that would not enjoy the timber benefits.

(FFCC 2015)

The following is from page 24 the Natural Selection Alternative:

The Natural Selection Alternative Promises to be a Beneficial Alternative for the Tourism Economy in the Highway 199 Travel Corridor

Roger Brandt, Highway 199 Traveler (highway199traveler.com)

2004

The Highway 199 corridor has more to see than any other road through the coast range of Oregon, California and Washington and for this reason offers one of the most important tourism development opportunities in the state of Oregon and California. Forest management planning can contribute to the recreational, educational or scenic resources that strengthen the sustainability and diversity of economic opportunities communities can gain from public lands. Management objectives that create a diversity of economic opportunities through tourism can cast a positive influence that brings international dollars into this country and creates jobs that cannot be exported or outsourced to other nations. The Highway 199 travel corridor is very important to the overall tourism development strategy of Oregon and state administrators are placing increasing emphasis on developing regional cooperative markets to attract national and international travel in Oregon (Davidson, 2004). All public lands within the Highway 199 corridor have the potential to contribute to this state goal as well as benefit communities along travel corridors that feed into Highway 199 from both California and Oregon.

The following information assesses the economic potential of tourism along the Highway 199 travel corridor, reviews local strategic goals for business development in Illinois Valley, assesses travel industry trends and target audiences who are most likely to use the Highway 199 travel corridor and the resources that motivate them to travel. These will be compared to the objectives of the Natural Selection Alternative (NSA) to predict how this plan may contribute to increasing the sustainability of the travel industry, meet strategic planning goals for Oregon's lowest income community and assess how these resources will influence a positive travel experience that increases the potential of future travel clientele through positive word of mouth promotion.

The Economic Potential of Tourism in Illinois Valley

The Illinois Valley is bisected by Highway 199, a popular travel route between Redwood National Park and Crater Lake National Park as well as a corridor for visitors who travel from the

cultural center of Ashland to visit the coast and Oregon Caves National Monument. Most visitors traveling this route come from the metropolitan communities of Portland or San Francisco (Rolloff, 1995). Visitors commonly travel from the metropolitan areas along the coast to Redwood National Park and then follow Highway 199 inland to Crater Lake before returning home. The Highway usually has an annual traffic load of about one million vehicles. In 1992, the state estimated that 289,000 vehicles, about one third of the vehicles traveling on Highway 199, represent tourist traffic (Wetter, 1994). An estimate of tourist spending in Illinois Valley can be obtained from surveys conducted at Oregon Caves National Monument, an attraction that gets almost all its visitor traffic from Highway 199. Surveys conducted at Oregon Caves National Monument in 1995 indicate the average daily spending per group to be \$90 (Stynes, 2001). Assuming that each group travels together in one vehicle and the average spending per group is \$90, the approximate potential tourism dollars traveling on Highway 199 through the Illinois Valley would be about 26 million dollars annually. Considering that daily spending in adjacent California counties is higher (Del Norte=\$131, Siskiyou-Trinity=\$124, Humboldt=\$153) the estimate obtained from the Oregon Caves survey is low but is nevertheless adequate to illustrate that there is a high potential for making money if tourism attractions can be developed to encourage visitors to spend more time in Illinois Valley. Note: A survey conducted at Oregon Caves in 2003 produced a daily average spending estimate of \$135/day (Hogar et al, 2004).

Tourism is an important industry and contributes an annual income of about \$95 million dollars to Josephine County and about six billion annually to the Oregon economy. Tourism is extremely important along the Highway 199 corridor because this route has more to see than any other coast mountain travel corridor in Oregon, California and Washington and this makes it one of the most important tourism development opportunities in Oregon as well as California because travel from metropolitan areas in both states benefit communities in the Highway 199 corridor as well as communities in travel routes that feed into and out of Highway 199. Forest management on public lands in the Highway 199 corridor will make larger economic contributions to local and state communities if land management practices can be used to contribute to tourism resources that create diversified and sustainable business opportunities.

Tourism identified as the number one business opportunity in Illinois Valley

Over the past five years, a significant movement has taken place to establish a destination tourism environment in the Illinois Valley. Several positive things have happened as a result. The Bureau of Land Management is working to install a wheelchair accessible botanical trail in an area of botanical interest at the foot of Eight Dollar Mountain. The Oregon State Parks Department is planning to construct a large campground at the Forks State Park near Cave Junction. The town of Cave Junction has begun a project to decorate the fronts of buildings and

make flowerbeds using rocks representative of the Eight Dollar Mountain Botanical Area and Kalmiopsis wilderness. The intention of this and other projects is to spur visitor interest in the area and provoke visitors to explore and spend more time in the area. A one hundred page Action Plan for Sustainable Tourism in the Illinois Valley was completed in June, 2003 to help identify how a destination environment that retains visitor spending can be created.

Tourism development and preservation of resources are both goals of the *Illinois Valley Strategic Plan for Community Development*, a plan that was generated as a result of this community being Federally designated as an Enterprise Community. Federal grants were provided to develop the plan which contains strategies that the community has been slowly working to attain. A large element of these strategies focuses on tourism and education and include:

Business development:

Produce new jobs in the Illinois Valley by creating a viable destination (tourism) industry. Increase visitor length of stay, develop Ecotourism attractions and market the area's unique combination of rugged charm and character.

Quality of life:

Educate the community and newcomers about the importance of healthy riparian zones for the maintenance of water quality and aquatic habitat.

Restore and protect the natural environment and the ecologically significant areas that maintain the quality of life that attracts visitors and residents to the Illinois Valley.

Tourism planning and development in Illinois Valley has focused on experiences and opportunities that appeal to the Geotourism and senior traveler market. Tourism constitutes a sustainable, multimillion dollar industry for the communities of Illinois Valley, Josephine County and the state of Oregon. Projections by tourism organizations indicate that tourism will experience a pronounced increase over the next two to three decades. It is important that land management agencies work with the community to assure that scenic values, educational experiences and opportunities to see nature are both preserved and accessible.

Illinois Valley Travel Industry History and Performance

Visitors driving through the valley on Highway 199 have traditionally slipped through the fingers of business owners and other travel oriented businesses in the Illinois Valley. This is illustrated in a 1995 survey at Oregon Caves that revealed the majority of visitors to be “drive through”

travelers who are coming from one destination and traveling to another (Rolloff, 1995). A typical traveler spends about three to four hours at Oregon Caves National Monument and then departs without spending any time in other areas of the valley. Few indicate they are repeat visitors. About five percent of the visitors going to Oregon Caves in 1995 stayed in Illinois Valley lodging and another five percent stayed at local campgrounds.

Community members of Illinois Valley are aware that very little of the traffic on Highway 199 stops in the Illinois Valley and understand that there needs to be more to attract visitors to stop and spend time. Since Oregon Caves is considered to be the premiere tourism site in the valley, many business owners often discuss how to increase visitor travel to the monument as a way to increase tourism spending in Illinois Valley. However, the ability of the monument to support increased tourism must be balanced with resource protection issues and safety issues associated with tours becoming too crowded. For this reason, tourism proponents are looking to other parts of the Illinois Valley for tourism attractions that can be used to capture tourism dollars and to position Illinois Valley as a destination environment. To be effective at selecting the right kind of attractions, planners need to understand the traveling public.

Recent research indicates a growing interest among travelers in local culture and history (Stueve 2002). For this reason, discussion on tourism development in Illinois Valley has focused increasing attention on preserving cultural resources such as the wood products industry, which has been a significant part of the Valley's cultural heritage for decades. This idea could be widely embraced because most residents and environmental groups and wood product advocates recognize fuel reduction for forest health, community safety and productivity to be common ground. The proponents for tourism development are among the people who feel there is an opportunity in the Selma area where forest management on BLM land can accomplish several positive goals to include: our wood product industry is retained as a cultural resource in the community, residents get the forest thinned while at the same time preserve the scenic values that contribute to their quality of life and the tourism industry gets a resource that helps stop visitor traffic in Josephine County. Tourism development also provides the BLM with an additional benefit of collaboratively educating the public about forest management objectives with examples that the public can visit. This has the potential of educating a large segment of residents from communities and metropolitan areas in western states and is an opportunity to mitigate misunderstandings about forest management and build public trust. I personally anticipate that all parties in Selma area and Illinois Valley would want to cast a positive light on management goals supporting an economy that benefits the wood product industry, local community residents and travel businesses. There would also be a strong support from the State Tourism Council because it supports themes that build a compelling tourism resource for attracting interstate and international travel and meets Oregon State Economic Development Department goals for creating a diversity of sustainable jobs in Oregon.

Visitor Profiles for Southwestern Oregon

Understanding travel industry trend, behavior of the traveling public and resources that motivate the public to travel are essential to making sound decisions about travel industry development strategies. A survey conducted in 1995 at Oregon Caves provided the following information about visitors traveling in southwestern Oregon (Rolloff, 1995);

Visitor Education: 42% of visitors have a college education and half of these had a graduate degree.

Visitor Income: The average annual income for visitors to Oregon Caves was \$50,000.

Reasons for Travel: The top reasons for travel were viewing scenery, doing something with the family, and to learn more about nature.

The 1994 Tourism Assessment for Illinois Valley cited a Siskiyou National Forest District-Four Recreation Survey that indicated the primary reasons for tourism activity included visitor interest in viewing scenery, auto travel and hiking/walking (Wetter, 1994). Similar interest is also seen in Oregon state travel profiles which states, "people come to Oregon to indulge their interest in outdoor recreation, nature experiences and historic sites". They also noted many Oregon travelers are engaged in a family oriented trip (Longwood, 1997).

A recent survey conducted by the National Geographic Society in conjunction with the Travel Industry Association of America (TIAA) indicates that a large sector of the travel and tourism industry will be influenced by a growing public interested in the human and natural attributes that make one place distinct from another (Stueve, 2002). The survey grouped these individuals into a travel class they label as Geotourism. This group represents about 55 million Americans, which is greater than one third of the total 154 million American travelers. The survey indicated Geotourists share a general agreement that their travel experience is better when the destination preserves its natural, historic, and cultural sites. Over half (53%) of Geotourist agree that their travel experience is better when they have learned as much as possible about their destination's customs, geography and culture. The majority of these travelers are Baby Boomers (43%) and Senior Matures over 65 years (27%) comprising together 70% of the Geotravel sector, a total of about 38 million Americans. About 45% of Geotourists have a college education.

The age of travelers is an important consideration and the large number of retired now entering the travel market gives reinforcement to the need for accessible, low impact recreation. There are 50 million disabled in the United States and 60-70% of these individuals are "Senior Matures" who are 65 years or older. Senior Matures comprises 16% of all domestic trips in America. "Junior Matures", age 55-64, comprise 15% of domestic trips and 45% are "Baby Boomers" whose first members reached age 55 in 2001 (Rhoades, 2001). There is a large sector

of the traveling population who are entering the age where disabilities will become an issue and accessibility to recreation resources will become increasingly important. The senior market is approaching explosive proportions and, in order to capture this market in Illinois Valley, it will be important for land management agencies such as the USFS to support local communities by planning and preparing to serve the needs of mature travelers.

An insight to activities that might appeal to seniors can be found in a survey conducted by the Outdoor Recreation Coalition of America (Marwick, 1997), which identified activities such as walking and observing nature as being important senior activities. They also noted that walking was the top activity in the United States with bicycling, hiking and bird watching close behind. Hiking footwear ranked as the highest growth area among outdoor recreation retailers. An interesting component of the survey noted there is an increasing interest in American society to reunite families and participate in activities that allow for group participation. As this trend becomes established, the growing senior market will also have the potential to bring younger sectors of society into the travel market as part of the national trend to reunite families and do family oriented activities. Trails and accessible nature experiences will be important in attracting these visitors to the Illinois Valley.

Projections for nature-based tourism and travel by seniors and their families comprise a large segment of the traveling population. Surveys indicate these individuals are interested in nature and want to have opportunities for healthful exercise such as walking and hiking. The unique, natural resources of Illinois Valley have a tremendous potential for attracting the nature-based tourism travel sector. Surveys of visitors in the Illinois Valley disclose a high interest in viewing scenery, hiking/walking, family oriented activities and educational experiences so this trend may already be underway. If resources can be made accessible and appealing to the interest and needs of this sector of traveling Americans the Illinois Valley could enjoy a sustained, nature-based tourism economy for a minimum of three to four decades.

The Natural Selection Alternative

The Natural Selection Alternative (NSA) has objectives and implementation planning that contributes to tourism development goals and strives for outcomes that are attractive to the nature-based travel audience such as educational opportunities, attractive recreational resources and scenic integrity along the Highway 199 travel corridor.

Contour access route: The “concentric contour loop access system” has the potential of being used for recreational activities such as family oriented mountain biking, equestrian, or fitness walking. Accessibility for mobility impaired may be more feasible on a network of roads designed under this system. Alternative recreational uses of the contour loop system has the

potential to increase quality of life, property value, and the potential for entrepreneurial enterprise on public lands.

Preservation of cultural lifestyles: Preservation of the forest extraction culture in a locally managed environment creates a travel resource especially attractive to the Geotourist travel sector according to a recent survey conducted by the Travel Industry Association of America (TIAA) and the National Geographic Society. The NSA vision includes income from forest management by individuals selected under this program as well as the potential for making additional income through conducting tours or educational programs.

Scenic values: The Natural Selection Alternative is likely to have little to no perceptible impacts on visual resources.

Educational opportunities: A wide variety of forest management topics can be offered as educational experiences for the nature-based travel sector, an audience who values and seeks family oriented educational opportunities. The educational opportunities that could be provided in the NSA will enjoy a certain charm because the educational programs will be provided by ecological oriented resident foresters who can put a face on forestry and give travelers a chance to interact with local personalities.

The NSA contributes to the resources that help to build tourism infrastructure and attain goals for creating a destination environment in the Illinois Valley. Cottage Industry entrepreneurs, artists, crafters, and host/service businesses will benefit from tourist retention. The NSA preserves or creates resources that are important to the nature-based travel audience, the fastest growing travel sector with the strongest potential for long-term sustainability. The management of public land that will bring the greatest benefit to the local community includes actions that preserve our local cultural wood products heritage, scenic values, and increase the opportunity for educational and recreational activities that bring families together and promote personal health.

Conclusion

The Highway 199 corridor has more to see than any other travel corridor through the coast range of Oregon, California and Washington and for this reason offers one of the most important tourism development opportunities in the state of Oregon and California. Forest management on BLM lands should consider ways to increase the number of tourism resources as a measure to have public lands contribute to a more diversified economy. With this approach it will be possible to get wood fiber and provide jobs, reduce fire hazards at the forest/community interface, create educational and recreational opportunities for capturing tourist dollars on Highway 199 and increase the quality of life and property value for residents. The NSA moves in the direction of accomplishing these objectives.

The Oregon State Tourism Commission is currently focusing on the development of regional cooperative markets to create new business opportunities that attract both national and international travel in Oregon. For this reason, it is important that tourism planning in Illinois Valley be circumspect about creating or preserving resources that are relevant to the stories of potential partners in Oregon and California. Partnering across state and county borders will provide a more interesting and compelling attraction for visitors who want to experience unique scenic and natural areas. A variety of exemplary educational nature and cultural experiences are the foundation of nature-based tourism. The NSA moves in the direction of accomplishing these goals.

Experts in tourism and tourism economies acknowledge nature-based tourism and nature education to be the fastest rising sectors in the travel industry (Powers, 2004). Surveys indicate that more than 55 million Americans are interested in this type of experience giving credence to the substantial and sustainable future that nature-based tourism can bring to a community. Forest management practices that support central tourism themes will help to galvanize stories on geocology, fire ecology and forest management into a high value visitor experience. High value experiences meet Oregon state goals for tourism development and will move Illinois Valley closer to community goals for establishing a destination environment for the valley. The economic benefits of working today to manage public lands with goals for community quality of life, fiber extraction, tourism and education will benefit the Illinois Valley and Josephine County for decades. The NSA offers a strategy for accomplishing these management goals.

(Camp-DCA 2005)

Pickett West commercial harvest units within the Deer Creek watershed are adjoining residents of many DCA members and many IVSC members. We rely on these natural communities to sustain our nature-based economy, to moderate climate extremes, provide clean water, air and countless other life-sustaining essentials. These lands contribute directly to residents' quality of life, including scenic values, recreation opportunities, fire safety, protection from noise and trespass onto our adjoining lands by off road vehicles. Our members visit and use these lands for recreation, hiking, bicycling, mushroom hunting, berry picking, observing wildlife and other values such as visual, spiritual well-being, peace of mind and much more. These lands have some of the oldest and rarest natural community ecosystems remaining in the Deer Creek and Illinois Valley watershed and in other watersheds. Recreational opportunities on BLM lands are especially important due to their rarity among heavily logged private lands. Our members have plans to continue visiting these areas throughout our lifetime because the location is convenient to our community and we are cherish the multitude of species in these natural communities.

Rare low elevation natural community ecosystems in Deer Creek and much of the Illinois Valley watershed on BLM checkerboard public land, provide critical east-west habitat connecting blocks to mountainous Siskiyou National Forests for terrestrial species, especially late successional dependent species such as northern spotted owl, red tree vole, and bald eagle; and aquatic ecosystems that

native salmonid species depend upon. These BLM lands are home to some of the most biodiverse, rare and threatened environments on Earth. Only a very small fraction of the original botanical heritage of our region remains intact. Preventing its extinction is all of our responsibility. Yet the very last of the rich diversity of the Deer Creek Watershed and the Illinois Valley is being increasingly severely degraded. These interconnected and interdependent natural systems are being destroyed and lost forever.

Deer Creek is one of the major tributaries of the Illinois River. Important spawning habitat for Illinois and Rogue River Basin's wild salmon and steelhead populations are among the most genetically intact of any major populations remaining in the Pacific Northwest.

We have been consistently requesting over the years a pilot project of the NSA within the Deer Creek Watershed, including in our October IVM comments, our November PW scoping comments, and our January IPM comments. IV Community Development Organization, Selma Community Education Center, and many members of the community also requested the NSA pilot project. We incorporate by reference the 2016 letters from IVCDO and SCEC, as well as our "white paper" proposal titled "**Natural Selection Alternative Deer Creek Watershed Pilot Project**". The following is an excerpt from the white paper:

WHY A PILOT PROJECT IN DEER CREEK WATERSHED

The Deer Creek Watershed is an ecologically important area. It is part of the Klamath-Siskiyou, one the most biodiverse and threatened regions in North America. Deer Creek is a major tributary to the Wild and Scenic Illinois River. The watershed is a critical east-west corridor between the Siskiyou Mountains and the Kalmiopsis Wilderness. It provides rare and essential habitat for species key to the recovery of natural ecosystems following disturbance, habitat refugia for threatened and endemic species, aquatic strongholds for salmonids, undisturbed habitats, remaining pockets of natural old-growth ecosystems, overwintering birds and other animals, and dispersal "stepping stones" for wildlife movement across fragmented landscapes.

Notable aspects of the watershed include exceptionally rare, low-elevation late successional



ecosystem communities that represent some of the last low elevation old-growth habitat in Oregon. These include

important recreation and research areas, such as Thompson Creek Overlook Trail with low elevation easy walking to higher elevation majestic views overlooking the watershed; and the historic Anderson West Lone Pine Trail located in a rare roadless area adjacent to the Siskiyou

Thompson Ck Overlook Trail included in proposed Pickett West Timber Sale

Field Institute's esteemed education and research site. The Watershed is on HWY 199 tourism route,

one of the only cutover routes to the world renowned Wild and Scenic Smith River, Redwoods, and Highway 101 along the Oregon coast. Other local attractions include Lake Selmac, at the heart of the Watershed, which is on the way to the nearby Oregon Caves National Monument, two of the most popular tourist destinations in the Illinois Valley. **Deer Creek Watershed's prized environmental, aesthetic, recreation, research, and tourism values would not only be retained, but enhanced under the NSA.**

The Deer Creek Watershed, including Thompson Creek Overlook and Lone Pine Trail areas, is part of the **BLM Pickett West Forest Management Project, which is in planning stages. This timber driven proposal includes clearcutting and targets rare natural late successional ecosystems.** Because not many exist anymore, it is imperative to maintain the integrity of these healthy ecosystems, while fostering restoration of degraded lands. The NSA pilot project would provide such an opportunity. The community is requesting the NSA rather than the BLM's land-stocked-with-trees management.

A pilot project of the NSA for the Deer Creek Watershed is a logical next step in moving the NSA solution forward largely because it is where ecostry was developed and is **home to Camp Ecostry, the 50 year, 240 acre demonstration site of this method.** Because Deer Creek Watershed is the home of the NSA, there is already a tremendous amount of local knowledge and support to contribute to its success.



Natural ecosystem that has never been logged, and visited by people from all over the world. It is included in the proposed BLM Pickett West Timber Sale.

The NSA requires a land base large enough to provide an infrastructure for this new paradigm and relationships,

to demonstrate how successful this light touch removal program can be in products, added value products, local business enterprises, long term sustainability, and local economic stability.

B. Intensity

PW FONSI p3-4:

Intensity. The following discussion is organized around the Ten Significance Criteria described in 40 CFR § 1508.27(b) as they pertain to the context of the Pickett West Forest Management project Action Alternatives.

1. Impacts that may be both beneficial and adverse. The most noteworthy predicated environmental effects of the Action Alternatives include

a) Vegetation. Restoration Thinning prescriptions have been developed with the Rogue Basin Cohesive Forest Restoration Strategy's "Ecosystem Resilience" and "Fuel Management" models in mind. Restoration Thinning and Understory Reduction prescriptions would reduce stand density, fuel loadings, increase vigor, and reduce insect and disease mortality similar to levels found in stands that have an intact fire regime. The desired condition is an open growing, structurally diverse stand with openings that allow the natural regeneration or planting of primarily early seral trees such as pines and oaks as well as retaining dense, shaded refugia for wildlife. Underburning would be considered after mechanical operations are completed to further reduce fuel loadings, recycle nutrients, and stimulate plant growth.

Density Management and Understory Reduction treatments would control stand density, influence species dominance, maintain stand vigor, and place stands on developmental paths so that the desired stand characteristics would result in the future. These treatments break up the continuity of fuels, can slow or stop the spread of active crown fire across the mosaic, and can develop high-quality habitat conditions by keeping a cohort of large trees.

The No Action Alternative would not promote the development of late-seral open or closed canopy forest, which is lacking at the landscape, BLM-administered lands, and proposed unit levels. No action is not expected to contribute to the recovery of the northern spotted owl as described in the Recovery Plan and Critical Habitat Rule, or to the resiliency of stands to environmental changes, including drought and catastrophic fire. There would be a cumulative adverse effect of not meeting improved conifer growth and habitat development objectives as described in the 2011 Revised Recovery Plan, the relevant Watershed Analysis, or the 1995 Medford District ROD/RMP, Chapter 3.1 Silviculture.

b) Fire and Fuels. Alternative 2 and 3 would help restore, maintain, and enhance fire-adapted ecosystems by reducing fire hazard within the Pickett West planning area. Implementation of treatments would trend more towards the historical low to mixed severity fire regime enhancing fire-adapted ecosystems by reducing fire hazard. The proposed Hazardous Fuels Reduction maintenance treatments would re-evaluate past Hazardous Fuels Reduction acres within the planning area for potential maintenance treatments. Continuation of maintenance treatments would provide long-term benefits by maintaining and/or reducing fire hazard on 11,102 acres (EA, p. 141).

The implementation of forest thinning under Alternatives 2 and 3 involving thinning from below to remove suppressed and/or over crowded intermediate and co-dominant trees while retaining the larger co-dominant and dominant trees which would promote fire resilient forest stands. Forest structure alteration that would occur from the thinning prescriptions would result in a reduction in ladder fuels, an increased crown base height, and the reduction of crown bulk density. Treatments would reduce the likelihood of tree-

to-tree crown fire; maintaining and promoting large diameter trees with thick fire resistant bark; and improving spatial heterogeneity. This would result in disrupting fuel continuity, uniformity and structure, a reduction to fire hazard, fire size, and potential loss of high value ecosystem components (EA, p. 142).

A short-term increase of fine fuels deposited on the forest floor would result in an immediate increase in fire hazard until activity fuels are treated. Activity fuels treatments are proposed that would reduce this immediate deposition of fuels as described in Chapter 2.4, Best Management Practices and Project Designs Features, and Chapter 3.2 Fire and Fuels Analysis (EA, p. 112).

Under the No Action Alternative, the current trend would continue for surface, ladder, and aerial fuels. Crown base height would decrease due to continued increases in understory density, increasing the potential for crown fire initiation. Crown bulk density and crown continuity would increase, as would the potential for active crown fire events. With the expected increase in flame length, significant torching, crown fire activity, and tree mortality would generally result in the extensive mixed conifer forest (EA, p. 136).

(FONSI 3-4)

1. Impacts that may be both beneficial and adverse.

Considering the impacts, both beneficial and adverse, to Vegetation, Fire & Fuels, Soils, Hydrology, Northern Spotted Owl, and Botany, as discussed in #1 a-g, are inexplicably interconnected; we have grouped our responses as best we could to attempt to separate topics. However, many points relate to multiple, if not all of the areas of concern. Some topics have already been explained in greater detail in other sections, as well as in other incorporated by reference documents such as DCA Pickett West 2016 Scoping Comments and DCA IVM 2016 DR Comments. The below discussion is therefore not a comprehensive discussion of all relevant information, but is intended to provide a summary of why the FONSI has been issued in error.

- a) Vegetation and**
- b) Fire and Fuels**
- c) Soil Compaction & Productivity**
- d) Soil Sedimentation & Erosion**
- e) Hydrology**
- f) NSO (See #9)**
- g) Botany**

The EA proposed action alternatives are based on flawed assumptions about historical fire regimes and ecosystem resiliency resulting in undisclosed adverse impacts and failure to meet the Purpose and Need.

Overestimation of Beneficial Impacts & Underestimation of Adverse Impacts

The impacts to vegetation from commercial timber harvest, “hazardous fuel reduction”, and prescribed burning were consistently assumed to be largely beneficial throughout the EA, while the negative impacts were consistently greatly underestimated and largely absent the analysis.

EA is not in compliance with NEPA Handbook p 54: 6.8 Environmental Effects

6.8.1 Effects Analysis

6.8.1.1 Defining Environmental Effects

6.8.1.2 Analyzing Effects

*Section 6.8.1.2 Analyzing Effects Methodology: A NEPA document **must describe** (emphasis added) the analytical methodology sufficiently so that the reader can understand how the analysis was conducted and why the particular methodology was used (40 CFR 1502.24). This explanation **must include** (emphasis added) a description of **any limitations inherent in the methodology** (emphasis added). If there is substantial dispute over models, methodology, or data, **you must recognize the opposing viewpoint(s) and explain the rationale for your choice of analysis** (emphasis added) ”(Chapter 6, Section 6.8.1.2 “Analyzing Effects” BLM NEPA Handbook (H-1790-1) (BLM. 2008, p. 70). 40 CFR 1502.24. Methodology and Scientific Accuracy. Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.2a*

6.8.2 Direct and Indirect Effects

6.8.3 Cumulative Effects

6.8.3.1 Cumulative Effects Issues

6.8.3.2 Geographic Scope of the Cumulative Effects Analysis

6.8.3.3 Timeframe of the Cumulative Effects Analysis

6.8.3.4 Past, Present, and Reasonably Foreseeable Actions

6.8.3.5 Analyzing the Cumulative Effects

EA did not describe the analytical methodology sufficiently so the reader can understand how the analysis was conducted and why the Rogue Basin Cohesive Restoration Strategy was used to develop the prescriptions in the proposed action alternatives, and why the contrary empirical studies presented during scoping and in these comments, were not used.

The Rogue Basin Cohesive Forest Restoration Strategy’s “Ecosystem Resilience” and “Fuel Management” models the EA Team has relied on to develop both proposed action alternatives are controversial, based on flawed assumptions, and would not achieve the goals laid out in the Purpose and Need. The basic assumptions in the EA promoted by SOFRC are not sustainable, and are contradicted by science for our region, and emerging science. These controversial practices are no longer widely supported, although used to guide the development the EA.

Both Action Alternatives are proposing “Restoration thinning prescriptions [that] have been developed with the Rogue Basin Cohesive Forest Restoration Strategy’s ‘Ecosystem Resilience’ and ‘Fuel Management’ models in mind” (FONSI 3). The term “restoration thinning” is in itself controversial considering it implies that the prescription is designed to have beneficial impacts. However, there is considerable scientific data that shows how restoration thinning and the other prescriptions put forth from the RBCRS are based on flawed science and assumptions and undisclosed adverse impacts. (See attached letter from several local scientists dated February 4, 2016)

Several local scientists drafted a letter to the SOFRC regarding the Rogue Basin Cohesive Restoration Strategy in a 22 page letter dated February 4, 2016:

*What was clearly revealed at this meeting is that our respective views on fire ecology and forest restoration in the Rogue Basin differ greatly. In the wake of this meeting, we are even more seriously concerned that the existing RBCS proposal fails to acknowledge numerous scientific uncertainties and alternative but increasingly validated perspectives regarding the current state of fire and forests in our region. **As articulated in our presentations and comments during the meeting, in our view the RBCS presents a biased perspective on fire and forest management, and if used to guide future land management, is likely to have significant and long-term adverse environmental consequences that have not been acknowledged or evaluated. Many of the approaches in the RBCS are neither based on legitimate ecological restoration or ecosystem resilience as claimed.*** (Emphasis added)

Given these overarching concerns, we would like to follow up from the January 27 Applegate meeting by further elaborating on some of the major problems we have with the RBCS document in its current form, not the least of which includes:

- 1. Lack of protection for roadless areas, Late-Successional Reserves, and other areas of high conservation value from aggressive thinning likely to degrade these valuable ecosystems; (e.g. Deer Creek Watershed Units 27-12, 27-13, 21-12, 21-10, 21-11, 26-1,26-2,26-3,26-4,22-5, 35-9, 35-10, 35-11, 4-1, 3-9, 3-10, 3-11, 3-5, and many more within the project area)*
- 2. Erroneous assumptions about effects of fire and thinning on Northern Spotted Owl and owl territories (outside the core) along with other closed-canopy species (e.g., Pacific fisher);*
- 3. Inappropriate assumptions and utilization of fire models in evaluating treatment scenarios;*
- 4. Overestimating forest canopy openness as a reference and underestimating maintenance problems and costs in keeping forest canopies artificially open; and*
- 5. Numerous adverse impacts that can result from aggressive thinning and canopy reduction treatments.*

2016 (DellaSala 2016 p1).

A 6th deficiency is the risk of exacerbating or creating summer streamflow deficits due to removal of more than 50% of existing mature forest canopy in restoration units. The 1995 RMP is the appropriate basis for forest restoration, not the Rogue Basin Cohesive Restoration Strategy.

The FONSI describes how “The No Action Alternative would not promote the development of late-seral open or closed canopy forest, which is lacking at the landscape, BLM-administered lands, and proposed unit levels” (FONSI 3). It is curious and concerning that the EA would assume that late-seral forests cannot develop without aggressive thinning programs implemented by humans. How did late-seral ecosystems develop before humans had the technology to harvest and extract from them? They did so naturally through processes such as photosynthesis, succession, natural selection, energy transformation and recycling functions, trait-environment testing and genetic diversification, and with natural disturbances such as fire, insects, and disease. It is safe to say that the No Action Alternative, as well as the Natural Selection Alternative, would in fact yield the development of late-seral open and closed canopy ecosystems. The FONSI says that these types of lands are lacking at the landscape and unit levels, yet has included many ecologically valuable late-seral habitats within the project with proposals for aggressive canopy reductions that will regress them to early successional stages. The assumed risks of choosing the No Action Alternative are greatly exaggerated throughout the EA.

Greater depth on vegetation, fuels, and fire have already been outline in great detail in other areas on this document. (See Purpose and Need)

The EA has not fully analyzed the impacts of the proposed actions on soil productivity and the loss of fungal diversity.

The following are excerpts from an August 2005 South Deer Project comment from Joe Cerecedes of Mycosphere, the full document is incorporated by reference.

Old Growth Forest Biological Potential

We have to realize that within old growth forests there lay an ancient genome that has spent its whole existence in development of new species and specialized strains to ensure its survival throughout the ages. As I was saying earlier about indicator species, for each succession there are a host of successional organisms. Fungi and anthropods are the best of indicator species. For instance, Fomitopsis officinalis is a resident of our old growth forests of the Pacific Northwest. It only grows on conifers over 300 years old. This is a late-successional, old growth indicator species. It is extinct, or nearly so, in Europe and Asia due to deforestation. The Illinois Valley's last old growth forest's harbors Fomitopsis officinalis. This very species of fungi has recently earned its place in the press, and should lend credence to the productivity of our last remaining old growth forests.

Research, funded by a \$5 million grant from the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health and the US Army Medical Research Institute of Infectious Diseases (USAMRIID), in their joint biodefense antiviral screening program, have tested over 200,000 samples in the last several years and seeks to develop potent antiviral therapeutics that could be easily administered to exposed individuals to curtail or eliminate the disease.

...

While several strains of extract generated strong anti-pox activity, other strains were less potent. This underscores the importance of conserving mycodiversity. More potent strains may yet be discovered.

"The ecological niche for these unique mushrooms is increasingly jeopardized as humans destroy old-growth habitats. As this happens, the pool of available strains will be further reduced. Acquiring as many strains as possible should be an international priority so that preventive or curative medicines against pox and related viruses can be developed. Personally, I believe we should be saving our old growth forests as a matter of national defense." Paul Stamets

*Disturbing the successional development within the recuperating matrix lands will impede old growth forest characteristics such as *Fomitopsis officinalis* late-successional old growth indicator species. This is not only a good reason to protect the last of our old growth, it is a good reason to allow cut-over lands to become old growth natural forests as opposed to tree plantations. Alternative 4 is the only action alternative which addresses this issue and the use of other forest products as a means of sustainability. With thousands of fungal strains available and cell culture techniques, a community lab can be set up to educate the public of these new developments and potential to combat bioterrorism from our own old growth forests.*

Conclusion:

*The E.A. states on page 111 that the Bureau Sensitive Species (BSS) fungi are present in southwestern Oregon, but that "special status fungi species have not been completed for proposed treatment areas within all of the project area." These surveys must be completed to assess which species are within the project area before any action alternative is implemented in the landscape, and to allow the decision maker with accurate data on the proposed landscape management project's special status fungi species locations, populations, and interspecies dispersal & habitat. The South Deer Watershed contains habitat for special status fungi species and cannot be overlooked. The only action alternative that is suited to address the concerns which I have stated in this response is action alternative 4: Deer Creek Valley Natural Resource Conservation Association. The Natural Selection Alternative, conceived by Orville Camp in the 1950's, was far beyond its time. Mr. Camp has persevered throughout the years, developing these concepts and practices on his own land within the South Deer Creek Watershed. Camp Forest, on the cover of this document, was clear-cut in the early 1960's. It is now a productive, recuperating forest. Given another 60 years, it will actually take on its first signs of old growth dependent nitrogen fixing lichen species such as *Lobaria oregana*. This species can fix up to 22 lbs. of nitrogen per acre of old growth forest each year. The forest needs roughly 5 lbs. of nitrogen per year to maintain itself (Denison 1970). Tree stands under 100 years of age do not support these essential nitrogen fixers, thus are doing nothing to restore the nitrogen bank, continually depleting the bank until these young stands come of the age where they can produce the late-successional, nitrogen fixing lichen, *Lobaria oregana*. Furthermore, what is shocking*

about the overhead picture of Camp Forest, is that Mr. Camp harvests timber regularly from this site, and has been doing so since the mid 80's. Using his land as a model for the potential of the South Deer Creek Valley Watershed, I think that anyone with vision can clearly see that this is the answer to our problem of dwindling resources. Allowing our forest's natural resources to grow back, without disturbing its natural species successions, will provide my children and all of our future generations, an opportunity to manage their wealth of resources without depleting them. This of course must initially begin across a sizable landscape so that the effectiveness of this alternative may properly be evaluated. I would like to thank the Medford District B.L.M for working so closely with the Deer Creek Valley Association, and in taking this unprecedented opportunity and step forward, to add a community designed alternative to the action alternatives set forth in the E.A. for the South Deer Creek Landscape Management Project.

Jonathan J Rhodes, 2007, *The Watershed Impacts Of Forest Treatments To Reduce Fuels And Modify Fire Behavior:*

This report examines the effects on watersheds and aquatic resources from forest fuel reduction treatments aimed at modifying wildland fire behavior on public lands. Such treatments have been promoted in some scientific assessments (e.g., Graham et al., 1999; Allen et al., 2002; Graham et al., 2004; Stephens and Ruth, 2005) and recent public forest policy and legislation (Associated Press, 2004) for extensive implementation on Western public lands in an attempt to reduce fire severity and size by altering fuel levels, character, and continuity. For instance, the U.S. National Fire Plan (U.S. Forest Service (USFS), 2002) and the Healthy Forests Restoration Act of 2003 encourage these treatments on a grand scale. Proponents assert that these treatments, when effective, benefit watersheds because higher-severity fire can sometimes trigger severe soil erosion and elevated peakflows (Allen et al., 2002; Graham et al., 2004). However, fuel treatments will not always provide these benefits to watersheds, because they are not universally effective in reducing fire severity, restoring fire regimes, or reducing the ecological effects of higher-severity fire. As this paper discusses, in most forest systems such treatment benefits are unlikely, due to the transience of treatment effects on fuels, combined with the patchy and poorly predictable nature of fire behavior and occurrence. Mechanized fuel treatments also incur ecological costs by damaging soils, vegetation and hydrologic processes, as proponents of fuel reduction treatments have acknowledged (e.g., Allen et al., 2002; Graham et al., 1999; 2004; Agee and Skinner, 2005). Mechanical fuel reduction treatments typically involve the same suite of activities as logging, with the same set of impacts to soils, runoff, erosion, sedimentation, water quality, and stream structure and function. These effects, their mechanisms, and their aquatic impacts have been extensively and repeatedly documented across the West (e.g., Geppert et al., 1984; Meehan, 1991; USFS et al., 1993; Rhodes et al., 1994; CWWR, 1996, USFS and USBLM, 1997a; c; Beschta et al., 2004). Watershed damage ultimately translates into aquatic damage. The collateral impacts of fuel treatments are of considerable concern due to the existing aquatic context. Across the West, aquatic systems are significantly and pervasively degraded (Rieman et al., 2003; Beschta et al., 2004). As a result, many populations of aquatic species, including most native trout and salmonids, have undergone severe contractions in their range and number and remaining populations are now imperiled and highly fragmented (Frissell, 1993; USFS and USBLM, 1997a; Kessler et al., 2001; Behnke,

2002; Bradford, 2005). Additional damage to watersheds and aquatic systems reduces the prospects for the protection and restoration of imperiled aquatic species (USFS and USBLM, 1997c; USFWS, 1998; Karr et al., 2004).

(Rhodes 2007)

The BLM lands are some of the most important and intact forestlands remaining in the Deer Creek watershed. In the natural state the entire Deer Creek watershed was heavily forested in both the riparian and upland areas. As such, those BLM have taken on an increased importance in the Deer Creek watershed for wildlife habitat and stream flow regulation because the function of the private lands have been severely degraded.

Deer Creek has been severely degraded in terms of high summer time water temperatures and low flows, and high winter time flows and bank erosion due to poor land use practices. Increased winter storm runoff, caused by loss of forest cover, reduces infiltration and lowers water tables levels that can reduce domestic well production. The eroded soil also settles in the stream bottoms and clogs the salmon spawning beds.

Proposed logging to within 50 ft. of stream channels on steep and unstable slopes would likely result in sediment entering stream channels. Statements in the EA that logging and log haul would not adversely affect coho salmon are not supported with the analysis of sediment producing activities and our field observations of slope instability within units. BLM must consult with NMFS on this project because 25 coho salmon streams are potentially affected by sediment producing activities.

The EA failed to provide quantitative analysis about likely persistent summer streamflow deficit in 7th field and smaller watersheds as described in Perry and Jones 2016. While the action alternatives do not propose regeneration harvest, we are concerned about restoration thinning that removes in excess of 50% of the mature canopy that could exacerbate or cause persistent summer streamflow deficit. Perry and Jones 2016:8 report that “summer deficits did not emerge over time in treatments involving shelterwood (50% thinned,COY1) and very small openings (0.6-to 1.3ha patch cuts, COY2: Figure 7f,h), however, alternative 2 could thin mature forests down to 30% with subsequent growth of young trees that are known to reduce summer streamflows. For example, the 285 acre unit 3-5 currently provides a closed canopy of mature and old growth forest for the headwaters of Clear Creek. This type of mature forest is known to maintain summer streamflows (Perry and Jones 2016). A viable population of coho salmon is found in Clear Creek downstream of the proposed logging. Extensive private land logging adjacent BLM lands has put Clear Creek at risk for summer streamflow deficit. We strongly recommend that where summer streamflow deficit is a concern, such as unit 3-5, the unit be dropped. Once summer streamflow deficit is caused by excessive removal of mature forest and replacement by young trees, streamflow recovery will take >50 years (Jones and Perry 2016).

All of the proposed “treatments”, from restoration thinning, to density management, to understory reduction and hazardous fuel reduction maintenance will have significant impacts on watershed health, as described below:

Jonathan J Rhodes, 2007, *The Watershed Impacts Of Forest Treatments To Reduce Fuels And Modify Fire Behavior*:

This report examines the effects on watersheds and aquatic resources from forest fuel reduction treatments aimed at modifying wildland fire behavior on public lands. Such treatments have been promoted in some scientific assessments (e.g., Graham et al., 1999; Allen et al., 2002; Graham et al., 2004; Stephens and Ruth, 2005) and recent public forest policy and legislation (Associated Press, 2004) for extensive implementation on Western public lands in an attempt to reduce fire severity and size by altering fuel levels, character, and continuity. For instance, the U.S. National Fire Plan (U.S. Forest Service (USFS), 2002) and the Healthy Forests Restoration Act of 2003 encourage these treatments on a grand scale. Proponents assert that these treatments, when effective, benefit watersheds because higher-severity fire can sometimes trigger severe soil erosion and elevated peakflows (Allen et al., 2002; Graham et al., 2004). However, fuel treatments will not always provide these benefits to watersheds, because they are not universally effective in reducing fire severity, restoring fire regimes, or reducing the ecological effects of higher-severity fire. As this paper discusses, in most forest systems such treatment benefits are unlikely, due to the transience of treatment effects on fuels, combined with the patchy and poorly predictable nature of fire behavior and occurrence. Mechanized fuel treatments also incur ecological costs by damaging soils, vegetation and hydrologic processes, as proponents of fuel reduction treatments have acknowledged (e.g., Allen et al., 2002; Graham et al., 1999; 2004; Agee and Skinner, 2005). Mechanical fuel reduction treatments typically involve the same suite of activities as logging, with the same set of impacts to soils, runoff, erosion, sedimentation, water quality, and stream structure and function. These effects, their mechanisms, and their aquatic impacts have been extensively and repeatedly documented across the West (e.g., Geppert et al., 1984; Meehan, 1991; USFS et al., 1993; Rhodes et al., 1994; CWWR, 1996, USFS and USBLM, 1997a; c; Beschta et al., 2004). Watershed damage ultimately translates into aquatic damage. The collateral impacts of fuel treatments are of considerable concern due to the existing aquatic context. Across the West, aquatic systems are significantly and pervasively degraded (Rieman et al., 2003; Beschta et al., 2004). As a result, many populations of aquatic species, including most native trout and salmonids, have undergone severe contractions in their range and number and remaining populations are now imperiled and highly fragmented (Frissell, 1993; USFS and USBLM, 1997a; Kessler et al., 2001; Behnke, 2002; Bradford, 2005). Additional damage to watersheds and aquatic systems reduces the prospects for the protection and restoration of imperiled aquatic species (USFS and USBLM, 1997c; USFWS, 1998; Karr et al., 2004).

(Rhodes 2007)

See the below news article titled: *A 2015 study showed that Logging Forests Won't Increase Water Supply* as reported by KCET <https://www.kcet.org/define/study-logging-forests-wont-increase-water-supply> :

A controversial 2015 report that suggested logging California's forests could increase the state's water supply got it wrong, according to a new study.

The 2015 report by the Nature Conservancy had suggested that thinning forests in the northern Sierra Nevada as a fire management strategy would also increase flows downstream, adding to the amount of water available to rivers and reservoirs.

But that study was based on flawed assumptions, according to a review of more than 230 hydrological studies released Friday. The conducted by veteran hydrologists Jonathan Rhodes and Christopher Frissell, concludes that any increases to water supply from logging would be localized and short-term, and that California would pay the price in water quality, forest biodiversity, and public safety.

KCET states that the report by the Nature Conservancy (TNC 2015) is controversial and based on flawed assumptions, according to a review of more than 230 hydrological studies. The study: Rhodes, J.J., and C.A. Frissell. 2015. ***The High Costs and Low Benefits of Attempting to Increase Water Yield by Forest Removal in the Sierra Nevada*** is attached to these comments (See **Rhodes & Frissell 2015**). KCET news article continues:

Rhodes and Frisell's study, "The High Costs and Low Benefits of Attempting to Increase Water Yield by Forest Removal in the Sierra Nevada," was commissioned by the Environment Now Foundation to examine the Nature Conservancy's suggestions from last year. Much of the work in the new study mirrors a 1998 study Rhodes wrote with hydrologist Michael Purser.

The Nature Conservancy isn't the first group to suggest that logging or forest thinning -- which it refers to as "restoration" -- would increase Californians' access to water. Rhodes' 1998 survey was written to examine previous similar claims. "While the idea of using logging to increase water flows can seem enticing, especially during times of drought, time and again this claim has turned out to be ill-founded," said Douglas Bevington, forest program director of Environment Now. "The latest versions popping up in California are just old wine in a new bottle."

The suggestion that logging would increase stream flows does have a certain logic to it: living trees can suck a significant amount of water from the soil and transpire it into the atmosphere through their leaves. If a watershed had fewer trees in it to suck the water out of the soil, that water could conceivably add to stream flows instead.

In addition, the Nature Conservancy report suggested that a thinner forest canopy might allow greater snowpack accumulation on the ground, instead of holding fallen snow above ground in a dense tree canopy where the snow might sublimate directly to water vapor rather than melting.

But according to Rhodes and Frissell, any gains in groundwater conserved by cutting trees would be quickly used up by the flush of new vegetative growth that usually follows forest thinning or clearcuts, as rapidly growing young trees and shrubs would increase demand on local soil water. In most watersheds studied, that actually led to a decrease in streamflows compared to flows before logging took place. Based on comparative studies of watersheds across the Western U.S. with and without logging or thinning projects, Rhodes and Frissell estimate that about a quarter of a given watershed would need to be logged every 10 years in order to keep ahead of regrowing vegetation's water consumption.

What's more, even the most carefully conducted logging projects increase erosion into local watercourses, both by removing the vegetation holding the soil in place and due to the increase in roadbuilding required to remove timber. Increased erosion from logged hillsides can drastically decrease water quality, damaging both wildlife habitat and water pumps, and can also reduce water storage capacity by silting up reservoirs.

According to Rhodes and Frissell, the amount of water freed up by logging would be minimal to none in dry years. That's not true for especially wet El Niño winters, where more water will indeed go into rivers and streams as a result of logging. But that extra water won't be flowing downstream during the late season, when it would do the most good. Instead, additional water discharged from recently logged landscapes comes during annual peak flows, meaning that a big, flood-causing storm will do more damage to communities downstream of a logged landscape.

Perry, T. D., and Jones, J. A. (2016), *Summer streamflow deficits from regenerating Douglas fir forest in the Pacific Northwest, USA*, *Ecohydrology* , doi: 10.1002/eco.1790

Abstract

Despite controversy about effects of plantation forestry on streamflow, streamflow response to forest plantations over multiple decades is not well understood. Analysis of 60-year records of daily streamflow from eight paired-basin experiments in the Pacific Northwest of the United States (Oregon) revealed that the conversion of old-growth forest to Douglas-fir plantations had a major effect on summer streamflow. Average daily streamflow in summer (July through September) in basins with 34-to 43-year-old plantations of Douglas-fir was 50% lower than streamflow from reference basins with 150-to 500-year-old forests dominated by Douglas-fir, western hemlock, and other conifers. Study plantations are comparable in terms of age class, treatments, and growth rates to managed forests in the region. Young Douglas-fir trees, which have higher sapwood area, higher sapflow per unit of sapwood area, higher concentration of leaf area in the upper canopy, and less ability to limit transpiration, appear to have higher rates of evapotranspiration than old trees of conifer species, especially during dry summers. Reduced summer streamflow in headwater basins with forest plantations may limit aquatic habitat and exacerbate stream warming, and it may also alter water yield and timing in much larger basins. Legacies of past forest management or extensive natural disturbances may be confounded with effects of climate change on streamflow in large river basins. Continued research is needed using long-term paired-basin studies and process studies to determine the effects of forest management on streamflow deficits in a variety of forest types and forest management systems.

(Perry & Jones 2016)

The Botany section in the FONSI pg 6 says:

There would be no direct or indirect effects that would jeopardize the presence or persistence of Bureau Special Status Species or Survey and Manage vascular and nonvascular plants because sites requiring protection within final planning units would receive protection buffers (EA, p. 255).

In the short-term (0-3 years), proposed management actions would result in soil displacement and erosion, potentially affecting fungi species recolonization efforts within treatment units and along roads. These effects are localized and not expected to remain in the long-term (3+) because mycelial networks are able to re-colonize areas of disturbance (EA, p. 256).

One of the assumptions inherent in the proposed management activities is that trees are competing for water and nutrients and therefore “restoration thinning” and “density management” would increase the

yield of “desired” species. However, there is a large base of scientific research that challenges the competition model and instead supports the cooperation model. The research on mycorrhizal fungi networks shows how communities of species communicate often and over vast distances, the ecosystem operating as a single organism rather than competing individuals.

June 2016 TED talk by Suzanne Simard, Ph.D. and Professor of Forest Ecology in the Department of Forest and Conservation Sciences at the University of British Columbia.

www.ted.com/talks/suzanne_simard_how_trees_talk_to_each_other?language=en

Simard’s research program focuses on natural and anthropogenic disturbance and climate change effects on the structure, function and resilience of forest ecosystems. She specializes in examining feedbacks and communication between plant and soil communities (particularly mycorrhizal fungi) and how these regulate energy and information flow (such as carbon and nutrient cycling) in ecosystems as complex adaptive systems. Her revolutionary research draws many important conclusions, showing how stronger trees will send carbon and nutrients such as nitrogen and phosphorus to weaker members in the community, between the same species as well as different species such as between hardwoods and conifers. The species would help each other out in different seasons depending on which species was in need, illustrating interdependence and communication and cooperation. She explains how “forests aren’t just a bunch of trees competing with each other, they’re super-cooperators.” She describes in her TED talk how mycorrhizal networks have nodes and links at “hub trees”, or as she also refers to as “mother trees”. She describes how these mother trees “nurture their young, the ones growing in the understory”, which refutes the idea that understory trees are not being productive because they are shaded by the canopy. Rather, these understory trees are like children being sheltered and nurtured by their parents. “In a single forest, a mother tree can be connected to hundreds of other trees. And using isotope tracers, we have found that mother trees will send their excess carbon through the mycorrhizal network to the understory seedlings, and we’ve associated this with increased seedling survival by four times” (Simard TED Talk). This is yet another reason for maintaining these networks and relationships, as well as not replanting seedlings from other regions and preserving native seedlings and genetics. Young trees need old trees just like children need their parents. Simard describes how,

Mother trees colonize their kin with bigger mycorrhizal networks. They send them more carbon below ground. They even reduce their own root competition to make elbow room for their kids. When mother trees are injured or dying, they also send messages of wisdom on to the next generation of seedlings. We’ve used isotope tracing to trace carbon moving from an injured mother tree down her trunk into the mycorrhizal network and into her neighboring seedlings, not only carbon but also defense signals. And these two compounds have increased the resistance of those seedlings to future stresses. Through back and forth conversations, they increase the resilience of the whole community.

With this understanding of ecosystem interdependence, it is easy to see how human disturbance of these important networks can be devastating for ecosystem relationships and resilience. Taking out too many hub, or mother trees, will lead to the collapse of the whole system. And the effects of this collapse are irreversible for the foreseeable future. It is also important to note that the Natural Selection Alternative would maximize the exchange of critical survival information from dying old trees to the

young trees because we wait for the trees to die before we harvest them. Harvesting green trees prematurely means that important wisdom is not being passed on and the next generation of seedlings will be at a disadvantage and not be able to survive and adapt as effectively. These important findings about cooperation, interdependence, and mutually beneficial relationships were not incorporated into the EA planning process. Understanding how ecosystems work is essential for managing them sustainably for human and all species' needs.

The following is an important consideration related to the removal of dead wood and biomass from an ecosystem and the resulting impacts on fungi populations.

***Do insect outbreaks reduce the severity of subsequent forest fires?* 2016, Garrett W Meigs, Harold S J Zald, John L Campbell, William S Keeton, and Robert E**

Abstract

In contrast to common assumptions of positive feedbacks, we find that insects generally reduce the severity of subsequent wildfires. Specific effects vary with insect type and timing, but both insects decrease the abundance of live vegetation susceptible to wild fire at multiple time lags. By dampening subsequent burn severity, native insects could buffer rather than exacerbate fire regime changes expected due to land use and climate change. In light of these findings, we recommend a precautionary approach when designing and implementing forest management policies intended to reduce wildfire hazard and increase resilience to global change in the beech groves of Navarre a team from the UPV/EHU-University of the Basque Country has analyzed the influence exerted by forestry management on the fungi populations that decompose wood.

There is a shortage of dead wood in forests because fallen branches and trees tend to be cleared away. This wood, if available, ought to be decomposing, as it is the habitat of many living beings like lignicolous fungi. These fungi are capable of decomposing dead wood and turning it into organic and inorganic matter. So clearing away the dead wood from the forests is ecologically harmful for the fungi. Nerea Abrego-Antia and Isabel Salcedo-Larralde, biologists in the Department of Plant Biology and Ecology of the UPV/EHU-University of the Basque Country, have recently quantified this effect on fungi populations that live off dead wood in various beech groves in Navarre. The main conclusion of the study is that forestry and classical forest management are harming the community of saproxylic fungi. What is more, the researchers have discovered that in the forests being exploited various fungi species are disappearing and in some cases even whole families are affected.

*The conclusion of the research is crystal clear: the clearing away of remains of dead wood is harming the populations of lignicolous or saproxylic fungi. Nevertheless, Isabel Salcedo, director of the research, has qualified this: "You see everything very clearly, but you don't accept it that easily. The pre-hypothesis could be that as the basic matter is lost, the environment will be directly affected. But the aim of our work is to prove it. In forestry only recently did they start to notice this phenomenon, while in Europe it began to be proven scientifically about ten years ago." The work of the UPV/EHU researchers has focussed on the traditional exploitation of various beech groves, and the result has been published in the specialised journal *Forest Ecology and Management*.*

"It is a journal of great quality," pointed out Salcedo. "In the field of mycology, the journals that publish the description of species and systematics papers tend to have little impact; yet this one

devotes attention to the ecological approach and has a more universal influence. The works that analyse the ecological aspect have a greater impact, and as far as we are concerned, it is usually quite difficult to get them published. But in this piece of work we paid great attention to the statistical and ecological aspect, which has enabled us to get the paper published in such an important journal."

*The analysis was carried out on samples from sixteen zones, of which eight are exploited and the other eight are not. After the samples had been gathered, they were classified in accordance with a standard criterion that is used by mycologists in this field so that the research can be repeated. "The first main variable to do the classifications was the size of the wood remains in the debris. They are classified according to three sizes, from the largest to the smallest," explained Salcedo. "Normally, the smallest debris in this classification is not analysed. Yet many fungi have to be identified under the microscope, although there are known species that are very large, like the tinder fungus *Fomes fomentarius*. But it is more difficult to gather samples of the rest and identify them, and it takes longer."*

After the classification of the wood in terms of size, the next criterion is the level of decomposition. For each size three levels of decomposition were established: the recently fallen, the ones that have begun to decompose and the ones that are fully decomposed. "A more precise classification could have been made, but we found that the levels of decomposition fitted well into the three groups." The debris analysed was classified into nine groups.

After classifying the debris, the fungal species existing in each were identified, in other words, the community of fungi existing in each twig. As far as possible, the "quantity" of each species is also established, even though this is no easy task. As Salcedo pointed out, this last parameter is difficult to apply.

The other European studies have concentrated on large-sized woody debris, which is why importance has been attached to the volume of dead wood in the forests when it comes to preserving them. However, according to the research by Salcedo and Abrego, the factor that exerts the most influence on the diversity of saproxylic fungi is the diversity of the woody debris, not the volume of wood, in other words, that the nine groups classified should appear the maximum possible number of times. "This conclusion is a result very much to be taken into consideration in forest management," stressed Salcedo.

At the same time the influence exerted by forest fragmentation on the presence of fungi is also being analysed. Based on this research, the growth of the edge or intervening matrix which happens as a result of forest fragmentation also has a negative effect on their diversity.

The main conclusion of the study is that forestry and classical forest management are harming the community of saproxylic fungi, at least in the zones studied. The work of these UPV/EHU biologists specifies the levels of this damage.

(Meigs 2016)

h) Humans (missing from analysis)

The EA is not in compliance with NEPA because it did not fully consider the impacts on the human environment as it relates to human mental, emotional, physical, and spiritual love for nature and the importance of the human connection to “place”.

BLM Handbook pg 53:

6.7.1 Affected Environment

The affected environment section succinctly describes the existing condition and trend of issue-related elements of the human environment that may be affected by implementing the proposed action or an alternative. The CEQ regulations discuss “human environment” at 40 CFR 1508.14; the term broadly relates to biological, physical, social and economic elements of the environment. We recommend that the descriptions of the specific elements be quantitative wherever possible, and of sufficient detail to serve as a baseline against which to measure the potential effects of implementing an action. The affected environment section of the environmental analysis is defined and limited by the identified issues.

Simply looking at percentages greatly undermines the human connection to specific places that have been developed through family traditions for not just current residents, but also historically, as many families have lived in the valley for many decades or more. This historical context must be considered because the loss of these special places means a loss of stories, knowledge, memories, and the ability to pass on cultural traditions and values.

The EA is relying on flawed logic to assume that only 6% of BLM lands in project will be impacted, so 94% are available for other uses. (EA 300) The other 94% does not provide the values present in the units proposed for logging in this project. The 94% is not given a breakdown to show what is still intact older natural ecosystems where recreation and spiritual ventures would be most sought in. These islands of late-successional habitat are few and far between and this project will effectively remove them from recreational/spiritual ventures for the indefinite future. This will have a significant impact on local residents, tourists, and species that depend on these places for a variety of reasons. The next project will likely propose the same “treatments” and will look to log more of our most highly valued areas. If this project is implemented, we will not have places surrounding us, which we are deeply connected to these specific places, to go to for our mental, emotional, physical, and spiritual health.

The EA is defective and not in compliance with NEPA because it fails to quantitatively disclose the intensity of logging with respect to number and size of trees logged in each alternative. The EA fails to disclose trees/acre in relevant size classes for the No Action Baseline and reduced tree densities in the action alternatives. Specifically the EA is defective because it failed to estimate the number of small trees (8-20”dbh), large trees (21”-31”dbh) and very large trees (>32”dbh) that would be logged in each unit for each alternative. The EA has failed to disclose the number of small (< 20” inches dbh) large trees (21-31 inches dbh) and very large trees (>32”dbh) that would be retained in each unit for each alternative.

“Significantly” as used in NEPA requires consideration of both context and intensity (40CFR part 1508.27). The EA failed to disclose the intensity of logging proposals with quantification of

reduced trees per acre in each logging unit. Descriptions of forests typically include the seral stage, size and number of trees/acre, stand age, dominant tree species, basal area, canopy cover, and snag densities generally derived from BLM stand data and plot data. While estimates of existing canopy cover, quadratic mean diameter, and total trees per acre is informative (EA 375), we assert that BLM must also estimate the number and size of trees present in units (No Action baseline) and the number of trees/acre that would be removed in the PA (or conversely the number of trees/acre that would remain subsequent to logging) for relevant size classes. Decreased trees per acre in suggested or similar size classes would provide a clear quantitative comparison of no action baseline and reduced tree densities of the action alternatives. These reduced tree densities are relevant to our human relationship to the forest (e.g. nature based recreation by members of our organizations).

Information about the size and number of trees to be logged in each unit must be considered “available” information as per NEPA because the BLM either has estimates of tree size information via ORGANON modeling or could have collected it when conducting stand exams. We see pink marked trees in each unit indicative of systematic sampling for silvicultural prescriptions. Techniques exist to acquire and report tree densities by size class in the EA via stand exams and ORGANON modeling as described in the EA 98. Estimates of size class TPA for each unit could be obtained from ORGANON modeling when actual field tallies of marked trees are not available. Tree size data is generally collected for trees in 2 inch size increments that could be combined into three relevant dbh size classes (e.g., 8-20”;21-31”; >32”).

Our relationship with the forest environment is adversely affected when a significant proportion of large and small trees are removed for timber harvest. This impact must be disclosed. CFR part 1508.14 “Human Environment” “shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment” (emphasis added). We and the members of our respective groups want to know how many beautiful large trees will be logged in each unit, leaving only stumps as a stark reminder of the forest we once all admired and appreciated. Logging of individual trees, especially large trees (>20 inches dbh) and very large trees (>32”) is very harmful to us and our members. Secondary impacts to wildlife are important too, but the action of converting large numbers of large conifer tree to an unsightly stump is what affects our members human relationship with the forest most.

Disclosing the number and size of trees per acre logged in each unit is important because the logging of large trees (>20”dbh) and very large trees (>32 inches dbh) would be an irreplaceable or irretrievable commitment of resources. These logged trees could not be replaced in our lifetimes, if ever. The EA fails to disclose the logging of very large trees (>32 ‘dbh) as an irretrievable commitment of resources.

We are hindered in making substantive comment to the decision maker when the EA fails to disclose quantitative information about the size and number of trees to be cut in each unit. We cannot make informed choices or recommendations to the decision maker about logging of individual units if information about the size and number of trees to be logged in each unit is withheld or converted to units useful only to a prospective timber purchaser (e.g. thousands of board ft.) or basal area units important to foresters.

Since the BLM decision maker is mandated to offer for sale millions of board feet for BLM’s clients in the timber industry, the size of trees logged is relevant. Its well-known s that large

trees often attract purchasers because the logging costs for the same amount of board feet with fewer large trees is generally lower than for the same volume with many small trees. Thus there is an economic reason for disclosing the size of trees proposed for logging and discussing economic tradeoffs of logging only small trees.

The EA is not compliance with NEPA because it did take a “hard look” at the impacts to the human environment.

We and many members of the public requested during scoping to not disturb our undisturbed natural ecosystem communities with any of the proposed management activities, including “density management,” “restoration thinning,” and “hazardous fuels reduction maintenance”. None of those management activities will contribute to the health or stability of our natural or human communities. Undisturbed natural late-successional ecosystems are rare across the landscape, while disturbed early successional ecosystems are prevalent. These undisturbed ecosystems provide us with many free ecological services such as high water quality and quantity, high fire resilience that protects our homes and property, visual and aesthetic values that optimize property values, species habitat, recreation, and quality of life, as well as cultural and spiritual values. All of these values will be severely impacted by the proposed Pickett West Project.

Biophilia: “Love of Life”

Biophilia is defined as “a love of life and the living world; the affinity of human beings for other life forms”. The Biophilia hypothesis is the idea that humans possess an innate tendency to seek connections with nature and other forms of life. The term biophilia was used by German-born American psychoanalyst Eric Fromm in *The Anatomy of Human Destructiveness* (1973), which described biophilia as “the passionate love of life and of all that is alive.” The term was later used by American biologist Edward O. Wilson in his work *Biophilia* (1984), which proposed that the tendency of humans to focus on and to affiliate with nature and other life-forms has, in part, a genetic basis.

In *Biophilia*, Wilson introduced a conservation ethic based on multiple dimensions of the innate relationship humans share with nature. His notion of environmental stewardship drew on various concepts, including the practical dependence of humans on nature, which centers on the ecological services (e.g., clean water and soil) nature provides; the satisfaction derived from direct interaction with nature, such as through exploration and development of outdoor skills; the physical appeal of nature, evident in its role as a source of inspiration and peace; and the human attachment to nature in the form of emotional connections to landscapes and animals.

The following are quotes from Edward O. Wilson:

Now when you cut a forest, an ancient forest in particular, you are not just removing a lot of big trees and a few birds fluttering around in the canopy. You are drastically imperiling a vast array of species within a few square miles of you. The number of these species may go to tens of thousands. ... Many of them are still unknown to science, and science has not yet discovered the key role undoubtedly played in the maintenance of that ecosystem, as in the case of fungi, microorganisms, and many of the

insects.

— Edward O. Wilson

On Human Nature (2000). In John H. Morgan, *Naturally Good* (2005), 252.

The wilderness experience is being able to get into a world that's just filled with life, that's fascinating to watch in every aspect, and that does not depend on you. It tells them that there's so much more to the world.

--Edward O. Wilson

From transcript of PBS TV program NOVA: 'A Conversation with E.O. Wilson'

The extinctions ongoing worldwide promise to be at least as great as the mass extinction that occurred at the end of the age of dinosaurs.

— Edward O. Wilson

Quoted in Jamie Murphy and Andrea Dorfman, 'The Quiet Apocalypse,' *Time* (13 Oct 1986).

No one knows the diversity in the world, not even to the nearest order of magnitude. ... We don't know for sure how many species there are, where they can be found or how fast they're disappearing. It's like having astronomy without knowing where the stars are.

— Edward O. Wilson

Quoted in Jamie Murphy and Andrea Dorfman, 'The Quiet Apocalypse,' *Time* (13 Oct 1986).

[Destroying rain forest for economic gain] is like burning a Renaissance painting to cook a meal.

— Edward O. Wilson

Quoted in R.Z. Sheppard, 'Nature: Splendor in The Grass', *Time* (3 Sep 1990)

[The natural world cleans water, pollinates plants and provides pharmaceuticals, among many other gifts.] Thirty trillion dollars worth of services, scot-free to humanity, every year.

— Edward O. Wilson

From transcript of PBS TV program 'Religion and Ethics' (17 Nov 2006).

The time has come to link ecology to economic and human development. When you have seen one ant, one bird, one tree, you have not seen them all. What is happening to the rain forests of Madagascar and Brazil will affect us all.

— Edward O. Wilson

Quoted in Jamie Murphy and Andrea Dorfman, 'The Quiet Apocalypse,' *Time* (13 Oct 1986).

In a purely technical sense, each species of higher organism—beetle, moss, and so forth, is richer in information than a Caravaggio painting, Mozart symphony, or any other great work of art. Consider the typical case of the house mouse, *Mus musculus*. Each of its cells contains four strings of DNA, each of which comprises about a billion nucleotide pairs organized into a hundred thousand structural nucleotide pairs, organized into a hundred thousand structural genes. ... The full information therein, if translated into ordinary-sized printed letters, would just about fill all 15 editions of the *Encyclopaedia Britannica* published since 1768.

— Edward O. Wilson

'The Biological Diversity Crisis: A Challenge to Science', *Issues in Science and Technology* (Fall 1985), 2:1, 22. Reprinted in *Nature Revealed: Selected Writings, 1949-2006* (2006), 622.

The worst thing that will probably happen—in fact is already well underway—is not energy depletion, economic collapse, conventional war, or the expansion of totalitarian governments. As terrible as these catastrophes would be for us, they can be repaired in a few generations. The one process now going on that will take millions of years to correct is loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.

— Edward O. Wilson

Biophilia (1984), 121.(1990), 182.

Why do we study insects? Because, together with man, hummingbirds and the bristlecone pine, they are among the great achievements of organic evolution.

— Edward O. Wilson

In *The Insect Societies* (1971), 1.

[Bacteria are the] dark matter of the biological world [with 4 million mostly unknown species in a ton of soil].

— Edward O. Wilson

Talk as a TED prize winner (2007). From video on TEDprize website.

To be anthropocentric is to remain unaware of the limits of human nature, the significance of biological processes underlying human behavior, and the deeper meaning of long-term genetic evolution.

— Edward O. Wilson

Tanner Lecture on Human Values, University of Michigan, 'Comparative Social Theory' (30 Mar 1979).

Just like E.O. Wilson, we and so many of our friends, family, community, and beyond have a deep connection to the natural world and deep love and appreciation for life. We constantly revel in the complexity and interconnectedness of life and at how much we really do not understand. We are humble in knowing that we are only one species out of countless species that inhabits the biosphere, and we are happy to share this earth with other species.

Below is an excerpt from one of DCA's members on Biophilia:

It gives us joy to walk through an older natural community and smell the fresh air. There's really nothing like it. I know there are elements in that air that make my brain happy. It gives me energy and vitality and feelings of hope and love. It makes me feel free and more alive. I feel so much more mentally, physically, emotionally, and spiritually renewed and refreshed after being in these places. The visual qualities of these ancient ecosystems are astounding and irreplaceable. The moss and flowers and lichen and mushrooms and how everything has all

naturally evolved together is one of the most beautiful things to witness. Once it is logged, these qualities will likely never be restored. This is a tragedy that I do not want to be witness to.

The very units the EA is proposing to log, those are some of my families most special places. We take our 5 year old daughter there and teach her about how life is sustained. We teach her what the different species are, what animals live there, how to be respectful and responsible in the woods. We sit in the woods and sing and pray. These are our churches. Our natural cathedrals where we can connect with the Source of everything and appreciate from where we came: Earth.

My daughter loves these places and would never understand why they were reduced to artificially designed tree farms with stumps everywhere. So many in our community would be devastated if these places were reduced to a scattering of trees in a sea of stumps. We have seen what these so called "treatments" look like in person and in pictures and we are not even close to convinced of their efficacy in reaching the intended goals. My 5 year old could take one look and know that's not right. Our brains and instincts know (and are backed up by science) that these old ecosystems are strong and resilient and healthy and not in need of these industrial logging "prescriptions".

The death that this project will bring to our precious natural communities will be felt for many generations. The impacts of the proposed action on the human environment are significant. We use these incredible places on our public lands for an escape from the pressures of everyday life. It makes us happy to literally just BE in the presence of healthy and diverse ecosystems. We are connected to the large trees as if they were family. We know that we are walking around in the homes of many different species that have families just like us. We are respectful and do our best to have the least impact we can. We know the trees and shrubs and flowers and fungi and all the other species are living entities that have a right to live their life just like we do ours. The owls, fishers, flying squirrel, eagles, hawks, coho, bobcats, cougars, bears, fox, raccoon, possums, rabbits, and all the way down to the ants and worms and topsoil organisms, ALL have an inherent right to LIFE.

We do not believe that short term money and timber volume are good reasons to impart mass death to countless species. These practices are inherently unsustainable and what will we do when the wealthy are sitting on a pile of money and we are left drinking polluted water, our creeks are dried up, our air too harsh to breathe, our soil devoid of nutrients, our mushrooms and berries gone, and the tree plantations are failing to provide enough fiber? This is the reality that will be created eventually if these disastrous practices continue to be implemented on public (and private) lands. This Pickett West project will directly and significantly affect us. It will affect me, my family, my neighbors, friends, community, tourists, and all future generations. The visual and physical scars of this project would remain indefinitely, while the real ecological impacts will never be fully comprehended or accounted for.

I want my grandkids and their grandkids to be able to enjoy these precious public lands. So many dedicated people have fought hard to have the existing environmental protections in place to not

only protect other species from the greed and hubris of humans, but also to protect ourselves from ourselves. Please act in the spirit and letter of these protective laws and stop pretending to be doing us and the ecosystems a favor with these proposed actions. Mass execution and extraction of species from the ecosystem is not going to improve anything. Please do not cut down our sanctuaries, our sacred places, our communities of life.

2. The degree to which the selected alternative will affect public health or safety

The Pickett West Project will have significant effects on public health and safety. The following is not a comprehensive list of all of these issues, but a brief description of issues that were not analyzed in the EA.

The removal of large fire resilient trees and aggressive canopy reduction prescriptions will create greatly increased fuel and fire hazards to homes, businesses, and communities in the project area. This is a serious concern for public safety.

Water quality and quantity will be reduced as many residents rely on BLM lands for their drinking water sources from either springs or to supply their well water. This is a threat to public health.

New road networks will encourage increased OHV use, which will increase the risk of human caused ignitions, which is a threat to public safety. Residents also experience issues from criminal activity occurring on BLM roads, which poses a threat to public safety and will be exacerbated by Pickett West road building and maintenance and use of existing roads.

The impacts of this project on the mental health of residents are already being felt. This has caused significant stress and even new and aggravated health issues for many who live near these units and/or who love these places and do not want them to be destroyed. Nature deficit disorder is a real diagnosable disorder and these units are vital to the mental health of countless people.

Potential for hazardous waste spills from logging equipment poses threats to public health and safety as these chemicals could enter residents' drinking water or nearby waterways.

The smoke from burning activity fuels, prescribed under burning, and future fuel reduction treatments will all have unacceptable impacts on air quality and public health, particularly for at risk populations of elderly and children. Asthma and other respiratory problems are commonly aggravated during times of seasonal burning.

The action alternatives fail to make a good faith effort to provide for removal of all or some of the plastic on burn piles to minimize plastic burning.

The Oregon Department of Environmental Quality and the Oregon Department of Forestry developed an MOU for PE that was adopted in 2005. The MOU suggests that the plastic material is removed prior to burning when practicable. Adequate debris/slash is placed over the plastic sheeting to ensure the plastic remains covering the piles until the piles are burned. The EA fails to even consider altering contracts to provide for removal of plastic from burn piles.

Removing large trees and reducing the canopy will decrease water storage and soil infiltration, causing peak flows during the winter and will result in increased flooding, which poses a threat to public safety.

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

See “context” for further discussion on why this project will have significant impacts on the unique characteristics of our geographic area that have historical, cultural, and ecologically critical values for the human and natural communities. Our culture is inexplicably interconnected with the natural communities that make up the Pickett West units and will be irreplaceably harmed by this project. The Klamath-Siskiyou Bioregion is one of the most ecologically biodiverse regions on the planet, representing one of the greatest reservoirs of biological diversity in North America. There are countless endemic species that only live here that will be greatly impacted by this project. The old ecosystems that are 80 year old or older are incredibly valuable to our human and natural communities and represent culturally significant resources on public lands that must be preserved for current and future generations.

In terms of wild and scenic rivers and ecologically critical areas, Thompson Creek, McMullen Creek, Deer Creek, and the Illinois River are critical undammed tributaries of the Rogue River Watershed. This project will be logging at the headwaters of very important tributaries to the Wild and Scenic Illinois and Rogue Rivers.

Lake Selmac is located in the heart of the Deer Creek Watershed and provides camping, boating, fishing, beauty, and solitude necessary for residents and tourists alike. Lake Selmac has equestrian and hiking trails, providing visitor access to surrounding public lands, in which multiple units around the lake are included in Pickett West. Lake Selmac Resort provides RV hookup sites, miniature golfing, boat rentals, food, etc.

The Selma Community and Education Center is located in downtown Selma and is positioned to promote the recreation and tourism economy. They have submitted a letter of support for the NSA (See attached SCEC 2016 Letter).

Other cultural and historically significant resources in the DC Watershed include the Crescent City to Jacksonville Pack Trail from the 1800s that was traversed by Sailors’ Diggins through Waldo, Reeves Creek, Lake Selmac area, Mooney Mountain, and into the Applegate valley. The Aulthouse Pack Trail is also from the 1800’s and extends from Sailors’ Diggins in Waldo to Jacksonville via Thompson Ck. Remnants of this trail can still be found in the Pickett West project area, and Thompson Creek Overlook Trail connects to it. (See Exhibit 5 of Camp-DCA 2005 NSA).

Recreational hiking trails are very important to the recreation and tourism economy of the Illinois Valley and the broader region. The Thompson Creek Overlook Trail is a reasonably foreseeable

action that was not considered in the EA. The Thompson Creek Overlook Trail system, which was approved in the South Deer Landscape Management Project Record of Decision (see attached T.Ck OvLk Trail folder on DVD attachments for full details), is approximately 10 miles of looping trails, weaves through miles of late successional legacy ecosystems to the top of Camp Mountain. Rock outcroppings allow outstanding views of the Deer Creek watershed, Siskiyou Mountain Range and Coast Range. This area is used for DCA, Camp Ecostery, and community educational tours. It meanders through T38-R7-S22,S23,S26,S27,S35 and is accessed from old Aulthouse House Pack in S.27, S.35 from upper Thompson Creek Road, and from White Creek S. 23. The logging of units 27-12, 27-13, 27-14, 26-1, 26-2, 26-3, 26-4 will have devastating effects on the marketability and value of the Thompson Creek Overlook Trail.

In addition, the impacts to the Anderson West Lone Pine Trail and Applegate Ridge Trail have not been fully considered in the EA. Also, "Horse Heaven" is a serpentine outcropping covered with native grasses and other flora, a highly visible landmark from Little Greyback Mountain area. Local folk lore has it that early settlers ranged their horses there. One year the horses were trapped there because of an early heavy snow fall. They all died and went to heaven. T38-R7-S26.

Camp Ecostery is a 50 year demonstration site for the Natural Selection Alternative practices, first introduced there in 1967. People from around the world have come to Camp Forest to tour and learn how forest ecosystems function and how to have sustainable relationships with them. T38-R7-S27. The logging of units in the Thompson Creek drainage (most notably units 27-12, 27-13, 27-14, 26-1, 26-2, 26-3, 26-4, 21-12, 21-11, 21-10, 21-9, and 22-5) will have a detrimental effect on the educational, recreation, and economic value of Camp Ecostery.

The Oregon Caves is in close proximity to the project area and the tourism benefits of the Thompson Creek and Bear Creek tour route will be greatly impacted by Pickett West.

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

BLM did not properly assess, among other significance factors, the degree to which the Pickett West project's potential effects are "likely to be highly controversial" (40 C.F.R. § 15.08.27(b)(4)). A project qualifies as likely to be highly controversial if a "substantial dispute exists as to [its] size, nature, or effect" (Aiken 2015). Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment and significance cannot be avoided by terming an action "temporary" or by breaking it down into small component parts. Although mere public opposition to a proposal does not render a project highly controversial, a project is controversial if "a substantial dispute exists when evidence, raised prior to the preparation of an EIS or FONSI casts serious doubt upon the reasonableness of an agency's conclusions" (Aiken 2015).

Degrading and downgrading thousands of acres of NSO habitat in the short term to obtain possible long term benefits is highly controversial, especially in critical habitat. There are numerous publications repudiating the idea that logging older stands is beneficial in the long term (see Odion

et. al. 2014, DellaSala et al. 2013) and attached letter from several scientists dated February 4, 2016 concerning the “Rogue Basin Cohesive Restoration Strategy”.

Below is an excerpt from the 2016 letter that illustrates the scientific controversiality of the RBCRS:

What was clearly revealed at this meeting is that our respective views on fire ecology and forest restoration in the Rogue Basin differ greatly. In the wake of this meeting, we are even more seriously concerned that the existing RBCS proposal fails to acknowledge numerous scientific uncertainties and alternative but increasingly validated perspectives regarding the current state of fire and forests in our region. As articulated in our presentations and comments during the meeting, in our view the RBCS presents a biased perspective on fire and forest management, and if used to guide future land management, is likely to have significant and long-term adverse environmental consequences that have not been acknowledged or evaluated. Many of the approaches in the RBCS are neither based on legitimate ecological restoration or ecosystem resilience as claimed.

Given these overarching concerns, we would like to follow up from the January 27 Applegate meeting by further elaborating on some of the major problems we have with the RBCS document in its current form, not the least of which includes:

- 1. Lack of protection for roadless areas, Late-Successional Reserves, and other areas of high conservation value from aggressive thinning likely to degrade these valuable ecosystems;*
- 2. Erroneous assumptions about effects of fire and thinning on Northern Spotted Owl and owl territories (outside the core) along with other closed-canopy species (e.g., Pacific fisher);*
- 3. Inappropriate assumptions and utilization of fire models in evaluating treatment scenarios;*
- 4. Overestimating forest canopy openness as a reference and underestimating maintenance problems and costs in keeping forest canopies artificially open; and*
- 5. Numerous adverse impacts that can result from aggressive thinning and canopy reduction treatments.*

(Della Sala et al. 2016)

SOFRC visions for public lands do not align with federal land use policy directives

The management recommendations from SOFRC for federal lands, specifically in the Illinois Valley where the Deer Creek Watershed is located, provide relevant insight into the SOFRC vision for public lands in the Illinois Valley that is highly controversial in terms of scientific credibility and public support.

You may download the IV Timber Assessment, created by SOFRC, at this link:

<http://sofrc.org/2014/02/illinois-valley-timber-sustainability-assessment/>:

The SOFRC IV Timber Assessment states,

“The collaborative has released its timber supply assessment for the Illinois Valley. This public report can inform decisions related to new mill investment and management opportunities for federal managers. As a result of this assessment and collaboration with the governor's office and EcoTrust, the Rough & Ready Mill has reopened.”

“This report evaluates timber supply within a two-hour haul distance of the Rough & Ready mill site in the Illinois Valley. By identifying collaboratively supported, restoration-based timber volume, its findings can inform potential new mill investments. A complementary assessment, described in Chapter 2, outlines the contours of social support for federal forest restoration in southwest Oregon.

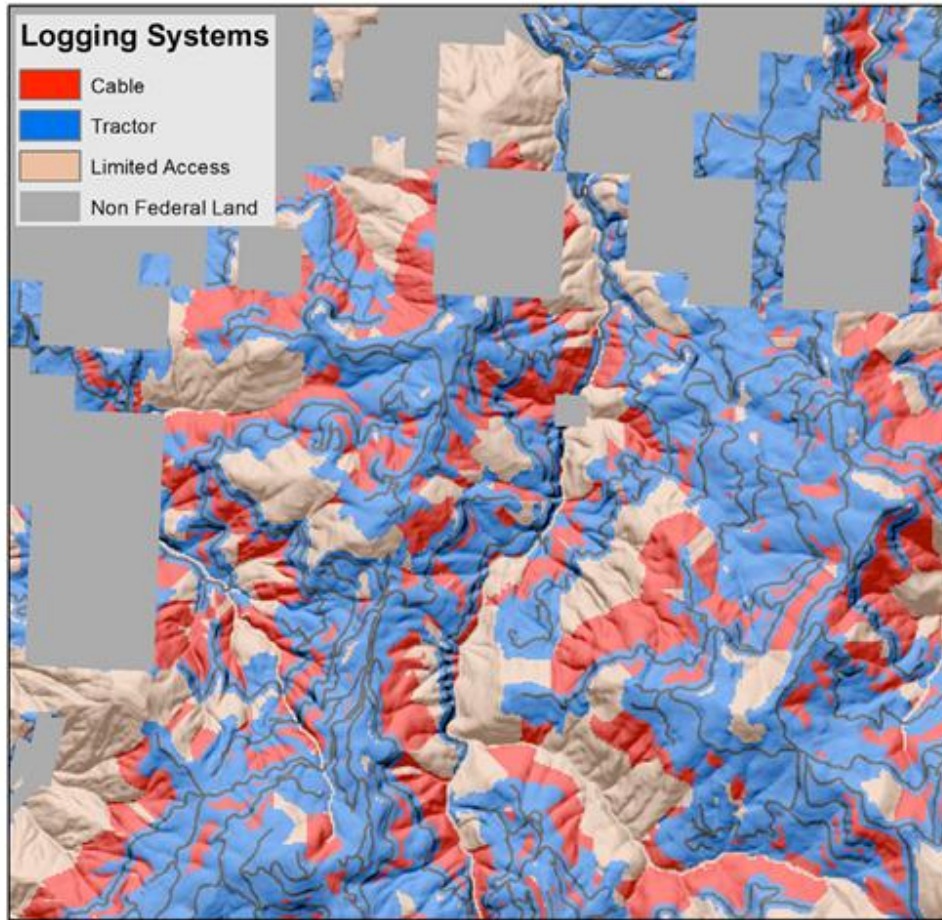
Starting from a base of 1.2 million acres (the mill-service area), the assessment applied a variety of screens, including: complex, forest-habitat protection; restoration need; volume of timber available that is consistent with restoration principles; access to timber from existing road networks; and cost effective, timber-sale thresholds.”

The above illustrates how this plan is designed for the purpose of providing timber volume for the large timber industry, in this case the local (now closed) mill. Pg 7 of the SOFRC IV Assessment relies on euphemisms to greenwash clear-cuts, mini clear-cuts and other practices that are ecologically equivalent to clear-cuts, etc. These are unsustainable timber driven forestry practices. For example:

“3. Ecosystem Resilience and Forest Productivity Emphasis Area

This emphasis area has the broadest forest management objectives. Restoration of open-forest habitats and promotion of fire- and drought-resistant tree species is expected to promote long-term, sustainable forests that are resilient to a variety of stressors, and, in combination with controlled burning management, have the potential to provide economic return from timber harvest”

Pg 8 SOFRC IV Assessment Map:



Anyone can look at this map of SOFRC’s vision for the public lands of the Illinois Valley and see that this is a timber industry driven model. The 2 options for accessible areas are “cable” and “tractor” and virtually every acre of accessible land is proposed for logging. This is an unacceptable model for BLM public lands managers to adopt in light of the plethora of laws and regulations and broad objectives the BLM is required to abide by. It is unclear how the models put forth by SOFRC are congruent with statutory sideboards of the Northwest Forest Plan, the 1995 and 2016 RMPs, the O&C Act, FLPMA, the ESA, the Clean Water Act, and all other applicable laws and regulations.

The BLM collaboration with TNC and Rogue Basin Cohesive Forest Restoration Strategy has dominated the planning process, without recognizing the huge dispute over these models being used. There has been no rationale given for why an NGO such as TNC is being invested with so much trust in determining the fate of our public lands, while other NGOs with less timber industry driven alternatives are being essentially ignored in the planning process. The EA has not explained the rationale and methodology for choosing short term timber volume-driven models over other reasonable scientific and economically supported options, such as the sustainable Natural Selection Alternative which is congruent with current scientific and economic empirical data. BLM has not adequately analyzed the costs and benefits of

implementing a short sighted timber volume approach over a smaller volume ecosystem based alternative that operates on long term models. BLM is not in compliance with CFR 6.8.1.2. Analyzing Effects Section 6.8.1.2 Analyzing Effects Methodology: A NEPA document **must describe** (emphasis added) the analytical methodology sufficiently so that the reader can understand how the analysis was conducted and why the particular methodology was used (40 CFR 1502.24). This explanation **must include** (emphasis added) a description of **any limitations inherent in the methodology** (emphasis added). If there is substantial dispute over models, methodology, or data, **you must recognize the opposing viewpoint(s) and explain the rationale for your choice of analysis** (emphasis added) “

The long history of the community resisting and challenging the basic assumptions of conventional BLM agri-forestry management practices, including fuel reduction, has led to the creation of a very controversial public environment surrounding the Pickett West Project. The Deer Creek Community has a long history of proposing and supporting the sustainable relationship premises of the NSA for implementation on public lands. Every single timber sale in this watershed has had strong opposition and none have been successfully implemented in large part due to the community’s opposition. To say this project is not controversial is unfounded.

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

The earlier discussion about climate change, species extinctions, and increased fire risks as a result of these deforestation practices are relevant to this section on highly uncertain, unique, or unknown risks. Water quantity and quality is highly uncertain based on climate change projections and the recent extreme weather events such as record drought, peak high and low temperatures, heavy snowfall, and flooding. It is uncertain what the impacts will be for property values, the recreation and tourism economy, the increase in poverty and crime. The loss of naturally evolved traits that are specifically adapted to a particular site has highly uncertain outcomes. Genetic traits are extremely special and something that, once lost, cannot be replaced. Pickett West will contribute to the global mass species extinctions occurring around the world.

PW FONSI p9:

The effects of the Action Alternatives are not unique or unusual. The BLM has experience with similar forest management projects and have found the effects to be reasonably predictable. ... The activities analyzed in the Action Alternatives are routine in nature, which includes Best Management Practices, Project Design Features, and seasonal restrictions. These effects are well known and do not involve unique or unknown risk to the human environment.

This is the first EA within this project area that we are aware of that has proposed implementation of “Restoration thinning prescriptions [that] have been developed with the Rogue Basin Cohesive Forest Restoration Strategy’s ‘Ecosystem resilience’ and ‘Fuel Management’ models in mind” (FONSI 3). Implementation of “restoration thinning” down to as low as 30% canopy on such a vast array of older ecosystems in the name of restoration and enhancement of NSO habitat certainly involves

unknown risks. There is not enough monitoring data available for a long enough time frame to support the predictions of the computer models and the assumptions inherent in these models.

Post-harvest monitoring has shown that logging to “treat and maintain” NSO habitat to specified canopy standards is highly uncertain in the Medford District. For example the Deer North timber sale unit 7-11 was overcut, leading to habitat downgrading not predicted in the Deer North EA. The BLM cannot be allowed to potentially downgrade or remove NSO habitat contrary to standards in Biological Opinions. Fragmenting closed canopy forests on ridges has an unknown risk of catastrophic blowdown. Blowdown has become a leading cause of NSO habitat degradation in thinned units.

The BLM failed to properly consider “the degree to which the possible effects are “highly uncertain or involve unique or unknown risks” (40 C.F.R. § 1508.27(b) (5).) “The purpose of an EIS is to obviate the need for speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action. The ‘hard look’ must be taken before, not after, the environmentally-threatening actions are put into effect. Here, the key uncertainty is whether the project will benefit spotted owls and their habitat in the long term, as BLM asserts.

Pickett Hog and other timber sales emanating from the EA are not certain to meet consultation requirements of U.S. Fish and Wildlife Service for “treat and maintain” silvicultural prescriptions. The EA failed to adequately discuss uncertainty about achieving canopy retention standards due to excessive cut tree identification and subsequent wind-throw.

a. Medford District unauthorized NSO habitat downgrades and removals

The EA: 304 states that “The Medford District prepared a Biological Assessment for Action Alternative 2 as analyzed in the Pickett West Forest Management project EA. The BA was submitted to the USFWS in May 2017. An additional BA will be submitted to the USFWS in January 2018.”

Post-harvest canopy monitoring data found that Medford District implementation of timber sales is causing NSO habitat downgrades and removals not authorized in Biological Opinions. A 12 page letter from Dayne Barron to USFWS Roseburg Field Office dated January 27, 2016 summarizes unauthorized habitat downgrades and habitat removals for specific NSO sites from the Bald Lick Timber Sale, Wagner Anderson Timber Sale, and O’lickety Timber Sale (USDI BLM 2016a). BLM post harvest monitoring of the Lick Stewproject found 21 acres of unauthorized dispersal habitat removal in 4 units logged (USDI BLM 2014a). This is zero percent compliance with the U.S Fish and Wildlife Service Biological Opinion. BLM post harvest monitoring of the O’lickety timber sale found 57 acres of unauthorized dispersal removal and 35 acres of unauthorized NRF downgrade/removal (USDI BLM 2014a). This is zero percent compliance with the U.S Fish and Wildlife Service Biological Opinion. BLM post harvest monitoring of the Bald Lick project found 309 acres of unauthorized NRF/dispersal habitat removal and NRF downgrades in each of the 20 NSO habitat units logged (USDI BLM 2014b). This is zero percent compliance with the U.S Fish and Wildlife Service Biological Opinion. BLM post harvest monitoring of the Wagner Anderson project found 64 acres of unauthorized NRF/dispersal habitat removal and NRF downgrades in the 4 NSO habitat units logged

(USDI BLM 2014c). The unauthorized cutting due to BLM tree marking went on for about 4 years before it was finally reported to USFWS in August 2014 (USDI BLM 2014d).

The Deer North unit 7-11 is known to be out of compliance with the BiOp but the BLM has apparently failed to report this violation to the USFWS. There are likely other units out of compliance because the BLM has not done 100% post-harvest monitoring in the planning area. This is relevant because baseline pre-treatment habitat for individual owl areas are incorrect due to possible overcutting in the planning area. The EA:354 states that “there are small errors in the baseline, but these are of little consequence overall because the sum of the errors represents less than one percent of the overall planning area.” There is no such thing as a “small error” when it involves a violation of the BiOp in specific cutting units and the BLM fails to report all such violations to USFWS through formal consultation procedures.

We believe it is not prudent or reasonable for BLM to resume large scale “treat and maintain” NSO habitat logging with the action alternatives when BLM has failed to demonstrate that silvicultural prescriptions actually result in maintaining required minimum canopy percentages. More importantly the BLM failed to conduct adequate implementation monitoring and post-harvest monitoring that should have detected and corrected the unauthorized logging before it became widespread.

b. Windthrow (aka blowdown)

The EA is defective because it fails to analyze potential for increased blowdown risk for each unit in each action alternative. The EA:114 admits increased risk of windthrow but addresses this risk by claiming logging will reduce subsequent windthrow by logging windthrow prone trees. This is not logical since the risk is created by logging and reduced tree density. Similarly leaving a few more trees due to anticipated blowdown does not reduce the risk and its certain that some units will have more blowdown than others but there is no unit by unit analysis. Anticipated logging will not “clearly result in greater assurance of long-term maintenance of habitat” because of increased risk of windthrow. The action alternatives target ridges for logging but fail to admit increased risk of blowdown associated with ridges. We assert windthrow risk will be moderate to high in some areas and could result in “large-scale disturbances” that will not maintain NSO habitat.

Silvicultural prescriptions (Appendix F) did not specifically address potential blowdown as required in RMP:179-180. This violates the RMP.

The EA failed to discuss new information (BLM 2016a) from post-harvest monitoring reports that found that windthrow reduced canopy such that at least 4 units fell below canopy retention standards or could not be shown to meet canopy retention standards. The Biological Assessment for the Upper Cow Forest Management Project and Lake Blowdown Project p.6 states that “[i]n February 2015, multiple warm storm systems moved through the region with strong winds and significant flooding in southern and western portions of Jackson County. These winds coupled with already saturated soils resulted in numerous down trees in and around Howard Prairie in the

Ashland Resource Area.” More evidence for increased risk of blowdown after thinning in SW Oregon is from Klamath Falls BLM's recent Surveyors Salvage sale.

<https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=63104>

R. Nawa (KSWild) documented significant blowdown in Grants Pass Resource Area Deer North timber sale unit 7-11. Nawa states that “[a]ssertions that canopy closure will increase in the short term (next 5-10 years) due to tree growth in [Deer North] unit 7-11 are false because an estimated 15 trees have blown down in Unit 7-11.” (Nawa, 2015). Similarly Luke Rudiger has documented substantial blowdown on O’Lickety units in the Ashland Resource Area (Rudiger 2016).

Even if there is only a “slight” increase in windthrow, windthrow would put these stands below required 40% canopy to maintain NSO dispersal habitat and not be consistent with the BiOp.

The EA: 114 indicates that existing trees have poor height to base ratios making them vulnerable to windthrow but the EA fails to provide numeric data of height-to-diameter ratios of trees in units.

The EA:375-379 lists canopy cover and trees per acre. We assert that the logging reductions of canopy from >90% to as low as 30% is certain to make the remaining trees very susceptible to substantial windthrow but the EA fails to make any unit specific analysis or alternative specific analysis for blowdown. For example, the EA failed to use historic RAW stations wind speeds to assess windthrow risk for units. The EA fails to disclose that the no action and alternative 2 would maintain more trees per acre subsequent to blowdown event than alternative 2.

The EA and anticipated Decision fails to adequately consider that alleged reductions in fire risk from thinning come with an ecological cost of increased vulnerability to windthrow. The trade-offs of reduced durability to wind and alleged increased fire resistance have not been adequately analyzed in the EA. The same deficiency is likely in the BA and BiOp. Project design features have not been developed to reduce or account for inevitable windthrow that is likely to cause units to fall below “treat and maintain” canopy percent for NSO habitat. This is important because Section 7 consultation assumes canopies will be “maintained” to minimum standards stated (40% or 60%). Apparently BLM is prescribing more leave trees due to possible loss from insects, disease, blowdown but the actual numbers of trees per acre is not disclosed for each unit.

The 2015 BLM monitoring report and BLM canopy monitoring of O’Lickety, Baldlick and Anderson Wagner timber sales found significant unauthorized reductions of canopy below stated standards. Windthrow is now further reducing canopy in many of the overcut units. The point is that thinning in NSO habitat seem to be correlated with subsequent windthrow. The EA fails to analyze the impact of expected windthrow and fails to take explicit corrective actions to reduce logging prescriptions in units prone to windthrow or eliminate/reduce units prone to windthrow.

Windthrow could be catastrophic for some units in that they would be reduced to early seral with no value to late successional animals (i.e. canopy reduced to <30%). Thinning must not induce or create conditions for excessive windthrow. The EA fails to discuss how windthrow in harvested units could result in undesirable slash/blowdown fuel model SB1 or SB2 (EA:139).

The EA fails to adequately consider that severe weather events (such as the one in February 2015) could result in large scale disturbance within and adjacent logging units and result in canopy percents falling below the required NSO habitat standard for retention or the 30% standard for restoration thinning. The EA fails to alert the decision-maker about the relevance of increased risk of blowdown as has occurred with similar logging projects in the Medford District. This is important because the proposed action cannot assure that canopy retention standards will be maintained in the short term due to blowdown. Currently the EA is biased because it speculates about highly unlikely fire but ignores highly likely wind events.

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

PW FONSI p9:

“The action alternatives do not set precedent for future actions that might have significant effects, nor do they represent a decision about future considerations.”

The decision in this EA to not consider in detail the Natural Selection Alternative may establish a precedent for future actions and may represent a decision in principle about a future consideration. Most of the rationale for not including the NSA for detailed analysis was based on decisions from past EIS and EAs, which means future EAs would likely draw on the Pickett West decision to not include the NSA as a precedent for future actions. The rationale for not including the NSA for detailed analysis based on past decisions is unfounded and is explained in greater detail in the purpose and need section of this document. Approval of the Pickett West Project will not have binding impact on future projects, but it will, by design, shape BLM management methods and strategies moving forward.

Another way that this project would set a precedent is that the lands that are crucial for the Natural Selection Alternative would be irreplaceably destroyed and the viability and success of the potential implementation of the NSA would be greatly reduced. The human and natural communities would suffer greatly from the “future actions” of subsequent fuel reduction activities that BLM will likely conduct on these units after they are destroyed. This poses huge costs to taxpayers, property owners, residents, businesses, and other industries.

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

The cumulative impacts from this project were not adequately analyzed in relation to the adverse effects of private industrial logging.

The cumulative impacts of this logging, fuels reduction, prescribed burning, and subsequent fuel treatments are exponentially detrimental.

The cumulative impacts of the loss of biodiversity in terms of species traits and trait-environment compatibility was not addressed in the EA.

The cumulative impacts to the topsoil communities was not addressed as the EA did not look at how extracting enormous amounts of biomass material from the ecosystem interferes with the energy recycling processes.

The cumulative impacts to water quality and water quantity were not adequately analyzed.

The cumulative impacts to “permanent forest productivity” and “sustained yield” by drastically reducing photosynthesis were not analyzed.

The cumulative impacts to sensitive, threatened, and endangered species were not adequately analyzed.

The cumulative impacts of the proposed actions in changing microclimate that will heat up the ground, increase drought, increase fire hazards to the human community.

The cumulative impacts to the local, regional, state-wide, and national economy will be significant and irreversible.

The cumulative impacts to future generations has not been analyzed.

The cumulative impacts to human community mental, physical, emotional, and spiritual health has not been analyzed.

The cumulative impacts to air quality and release of carbon have not been analyzed.

Cumulative impacts of removal of mature and old growth forests has likely resulted in widespread summer streamflow deficits in the planning area. The action alternatives have the potential to exacerbate summer streamflow deficits through the replacement of mature trees with young trees.

The EA is not in compliance with NEPA because it failed to assess increased NSO habitat fragmentation from the action alternatives. The EA fails to disclose that forest fragmentation has an adverse cumulative impact that is greater than the additive impact to individual NSO home ranges and NSO populations in general.

BLM lands are often continuous closed canopy forest blocks bordered by heavily fragmented private lands due to clearcutting (Figure 3). The EA fails to disclose that action alternatives, especially Alternative 2, would significantly fragment existing continuous closed canopy forests with heavy logging down to as low as 30% canopy. Continuous habitat blocks would be fragmented or reduced in size. The EA summed acres of NSO habitat treatments (EA:156), summed treatment effects to NSO habitat (EA:163) and summed treatment effect to NSO Critical Habitat (EA:171) but failed to

analyze the severity of fragmentation to existing continuous closed canopy forest blocks. The EA:164 states that “in Alternative 2, there are a total of 151 acres of NRF downgrade and/or removal that would occur in three of these six high value NSO sites” but does not analyze how the logging would fragment currently continuous blocks of NSO habitat. We assert that the fragmentation of large blocks of closed canopy NSO habitat and NSO critical habitat is an undisclosed significant impact.

Fragmentation from proposed logging is particularly relevant to ongoing barred owl competition which is now recognized as the leading threat to NSO. The EA:153 states:

“BO [barred owl] effects on NSO survival and colonization appear to be substantial and additive to effects of reduction and fragmentation of habitat in NSO home ranges. The magnitude of the BO effect may increase somewhat as habitat quantity decreases and fragmentation increases (Dugger et al. 2011).”

The EA fails to adequately disclose that habitat quantity is decreased by private land logging and the proposed action is fragmenting remaining habitat on public lands. The EA fails to disclose that reduced and fragmented barred/ spotted owl habitat is likely to increase competition between the species. The EA fails to disclose that competition between barred owls and spotted owls is a far greater threat than speculation about NSO habitat loss from fires.

The EA:152 states that “The habitat within the Pickett West PA has been managed in a variety of ways (see Silviculture Chapter 3.1) and the existing habitat is moderately to highly fragmented into small blocks, mostly confined to sections (<640 acres) of BLM-administered lands.” But the EA fails to analyze how the action alternatives will further fragment continuous blocks of NSO forest habitat and promote increased competition between barred owls and spotted owls.

The EA:153 states that “BO [barred owl] effects on NSO survival and colonization appear to be substantial and additive to effects of reduction and fragmentation of habitat in NSO home ranges. The magnitude of the BO effect may increase somewhat as habitat quantity decreases and fragmentation increases (Dugger et al. 2011).” But the EA fails to explicitly disclose the significant impact of increased barred owl/spotted owl competition due to reduced habitat quantity and increased fragmentation due to cumulative impacts of action alternatives and ongoing private land clear-cutting.

The EA: 186 states that “The Pickett West project proposes a suite a management activities that would at most (Alternative 2) remove 2.7 percent, and modify 8.1 percent of the all the NSO NRF habitat in the PA. These treatments, coupled with the other recent and reasonably foreseeable projects described in Appendix D, *would increase fragmentation* within the watersheds. However, the only other activities that are likely to remove substantial amounts of NRF habitat within the watersheds would be timber harvest on private lands or large wildfires.” But the EA fails to provide any quantitative comparison of fragmentation among alternatives or identify NSO home ranges that would be substantially fragmented and likely lead to increased competition with barred owls.

The EA fails to analyze cumulative logging impacts on summer low flows as described in Perry and Jones 2016 for 7th field watersheds and smaller. The EA fails to inform the public and decision maker that restoration thinning to 30% canopy (Alternative 2) and treat and maintain dispersal thinning to 40% canopy may exacerbate/cause summer streamflow deficits or prevent recovery because of removal of more than 50% of the mature forest canopy. There is no EIS or EA that discloses baseline summer streamflow deficits in spatially explicit watersheds from regenerating Douglas-fir forests.

- a. The EA:202-203 analyzed proposed logging and roads effect on peak flows for various scales of watersheds but it failed to conduct a similar analysis to detect likely summer streamflow deficits in watersheds from past conversion of mature/old growth forests to plantations as described in Perry and Jones 2016. The EA: 204 states that “Long-term paired watershed experiments indicate that the conversion of mature and old-growth conifer forests to plantations of native Douglas-fir produced persistent summer streamflow deficit of 50 percent relative to reference basins, in plantations aged 25 to 45 years (Perry and Jones 2016). The EA failed to disclose that low flow deficits of 50% or greater are likely to occur in all small streams in the PA where greater than 50 percent of watershed area was logged based on findings of Perry and Jones. The EA failed to disclose that low flow deficits in late June, through July, August, September, and October caused by logging and post-logging forest regrowth persist for at least 40-50 years, without evidence of recovery to pre-logging flows. The EA failed to disclose that summer, fall and early winter streamflows are today dramatically depleted on a widespread basis across western Oregon and presumably the Pickett West planning area as a consequence of extensive logging and vegetative regrowth in plantations following logging (i.e. streamflows are outside the range of natural variability). The great majority of forested watersheds in western Oregon and the planning area are likely experiencing severe, but previously unrecognized streamflow deficits caused by conversion of mature/old growth forests to plantations. We do not think it would be necessary to collect any additional flow data than what is available, however, the BLM may have some tiny perennial streams in reference condition (e.g. Pipe Fork) where flow measurements would be instructive.
- b. Peak flow analysis in the EA:202-203) is wrong. The EA fails to report that Perry and Jones study showed that logging treatments produced peak flow increases that still persist decades post-harvest. Whereas the duration of peak flow effects is limited to a scale of days of a year, or the likelihood of increased flooding every few years, low flow deficits are expressed over many months in every year (i.e. chronic flow reduction). The EA errs because it assumes 10-15 years for “hydrologic recovery” after logging which has been found to be fundamentally incorrect. Recovery in the EA is based on an erroneous and short-sighted view of experimental watershed data. The longer-term analysis in Perry and Jones shows that neither peak flow increases nor low-flow deficits return to pre-harvest conditions within 40-50 years of logging. Of foremost concern, small low flow increases observed in the first decade post-logging gave way to prolonged flow deficits, with summer, fall and early winter flows depleted to half or less of their pre-logging value persisting at least several decades (i.e. long term adverse cumulative effects).
- c. The EA failed to disclose that existing mature and old growth Douglas-fir forests (such as those in the Pickett West Planning Area) appear to be exceedingly efficient in water use and produce steady streamflows compared to second-growth forest plantations (Perry and Jones 2016). The EA failed to disclose that unlogged watersheds of mature and old growth forest demonstrate water yield resilience and were relatively unaffected by climate change over 50 years, including

a measured trend of increasing air temperature that expected to increase evaporative water stress.

- d. The EA failed to analyze how the action alternatives that remove more than 50% of mature forest canopy could exacerbate or preclude recovery to pre-logging streamflows as compared to no action. (i.e. the range of natural variability). Perry and Jones 2016:8 report that “summer deficits did not emerge over time in treatments involving shelterwood (50% thinned,COY1) and very small openings (0.6-to 1.3ha patch cuts, COY2: Figure 7f,h), however, alternative 2 would thin mature forests down to 30% with unknown but likely adverse effects on summer streamflows. The EA fails to acknowledge that effects to streamflow are likely to be adverse because of microclimate changes (EA:143,205) and the replacement of mature forest with dense young plantation-like stands that would put an increased draw on water reserves within the units as described in Perry and Jones (2016). The EA failed to disclose that the pattern of response described in Perry and Jones strongly indicates that flow deficits are caused by more profligate water use by rapidly-growing trees and other vegetation post logging (alternative 2), as compared to the much more efficient regulation of water use in mature and old growth forests (no action). Since Perry and Jones found that low flow deficits in logged forests are apparently caused by fundamental physiological inefficiency of water use by vegetation in re-growing forests, it appears likely that proposed logging that promotes faster tree growth at the expense of removing slow growing mature forest is likely to contribute to reduced low summer flows.
- e. The EA failed to consider that where private forests and public forest lands are comingled as in the planning area, limited or no harvest of mature forests on federal lands could partially offset and mitigate the flow depletion effects of logging on private lands. For example, it would appear prudent to defer logging on 285 acre unit 3-5 where private land logging adjacent BLM is putting Clear Creek at risk of streamflow deficit.
- f. The EA fails to disclose that late spring, summer and fall low flows are known to strongly affect growth, survival and year class strength, hence productivity of juvenile salmonid fishes (e.g. coho salmon) in the planning area as reported by Scarnecchia 1981, Hicks et al. 1991, Ebersole et al.2006, May and Lee 2011. The EA fails to disclose that the Alternative 2 has greatly reduced salmonid fish production, especially coho salmon, due to logging induced flow depletion of summer and fall low flows as reported by Perry Jones (2106). A persistent 50 percent depletion of streamflows would likely produce greater than 50% losses in growth, survival, and salmonid productivity of affected waters. Salmonid production is outside the range of natural variability, especially coho salmon.

The EA has failed to disclose how this project relates to the IVM project, which was not included as a reasonably foreseeable action. The IVM had very similar actions with regards to fuel reduction in the same planning area. The fuel reduction in the IVM and Pickett West may contribute to cumulative significant impacts, which was not analyzed in this EA.

- 8. *The degree to which the action may affect districts, sites, highways, structures, or other 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.***

The ancient ecosystems that have not been heavily disturbed by human logging yet are incredibly valuable resources for scientific, cultural, and historic purposes. These natural ecosystems are irreplaceable once they are logged and represent a vast reservoir of naturally accumulated knowledge and information. It is crucial to preserve the integrity of these places for a reference as these represent the goal of what restoration looks like for the majority of the landscape that has been heavily disturbed by mechanical alteration by humans. These areas are in increasingly scarce supply and are a crucial aspect of the human and natural environments.

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.*

The magnitude and intensity of timber cutting is unprecedented in lands designated as critical habitat for NSO and coho salmon. The RMP says to manage for NSO reproductive habitat. Downgrading/removing NRF and managing for dispersal habitat is not consistent with the RMP. An EIS is needed for BLM to log large tracks of NSO habitat to below standards for reproductive habit (i.e.<60% canopy).

a) *Fish*

Logging and road building sediment would be likely to adversely affect coho salmon contrary to statements in the FONSI. Coho salmon spawning populations would be affected in some 6th and 7th field sub-watersheds. Cumulative sediment impacts from roads and logging units are certain to harm coho salmon in numerous streams. Cumulative impacts of summer streamflow deficits are significant and have not been disclosed in any EIS or EA (Perry and Jones 2015).

1. *Sediment impacts and impacts to coho salmon not adequately disclosed. The BLM must consult with the National Marine Fisheries Service prior to timber sale decisions based on the EA.*

The EA:218 falsely states that “Coho critical habitat and Essential Fish Habitat are not going to be degraded due to the application of Inner and Outer Zone stream buffers, PDFs, and BMPs.”

This sweeping generality is conjectural and not supported with any data, studies or science based monitoring. The PRMP/EIS:4-65 states: “As a greater percentage of the basin is harvested, fish habitat may decline, sometimes quite rapidly, with cumulative impacts and extending downstream due to changes in hydrology, reduced water quality, and loss of large woody material. Retention of riparian communities and the use of best management practices (BMPs) for constructing roads and landings and protecting potentially unstable areas may prevent most potential habitat losses.” The FEIS does not support the EA statement that “there [is] not going to be habitat degradation”. Riparian buffers and BMPs may prevent most habitat losses but not all losses as is claimed in the EA.

The EA:227 falsely states that: “Sediment would not be expected to enter CH [critical habitat] as a result of haul or maintenance of haul roads, with dry condition haul, properly functioning cross drains, and sediment barriers installed, where needed, to prevent sediment delivery into CH.”

The EA failed to take a hard look at effectiveness of barriers in preventing sedimentation of streams. Forest Service researchers have compiled a literature review titled: “Effectiveness of Best Management Practices that have Application to Forest Roads: A Literature Synthesis” available at <<https://www.nrs.fs.fed.us/pubs/53428>>. The literature synthesis on p.96 states:

“Larger particles, particularly sands, dominate the settling process because settling velocities of smaller particles (silts and clays) are too low for deposition to occur during the time that water is ponded (Barrett et al. 1998a, Keener et al. 2007). Clays also are affected by Brownian forces that can keep them in suspension almost indefinitely (Smith 1920); thus, particles less than 0.02-mm diameter (i.e., medium-sized silt and smaller particles) are not removed effectively by ponding or by filtering/clogging with nonreactive barriers (Kouwen 1990). To illustrate, silt fence materials tend to remove 80 to 99 percent of sands compared to 50 to 80 percent of silt loams, and only up to 20 percent of silty clay loams (U.S. Environmental Protection Agency [EPA] 1993). Consequently, as the percentage of smaller particles in runoff increases, the trapping efficiency of nonreactive barriers decreases (Wishowski et al. 1998).” Emphasis added.

This scientific analysis means that barriers are least effective at trapping finer that are the most detrimental to fish habitat. The EA failed to disclose the inefficiency of barriers to retain fine sediment which will make its way past them and degrade the coho critical habitat.

The EA (227) states that “[s]and treatments, yarding, landing construction and rehabilitation, temporary route construction and reconstruction (including route decommissioning), road maintenance, hauling, and activity fuels treatments would have no effect on SONCC Coho Salmon (ESA-Threatened) and designated Coho Critical Habitat (CH).”

The “no effects” determination is not credible due to the intensity and magnitude of logging and log haul adjacent and upstream of 8 coho salmon streams (EA:227;Table 3.6-4). The adverse effects described in the EA and scientific literature do not support a “no effects” determination for the proposed intensity and magnitude of logging.

Action Alternatives effect to summer streamflow deficits

Large scale conversion of mature/old growth forests to plantations in the planning area has likely reduced summer streamflows and coho salmon populations. Alternative 2 replacement of mature trees with young trees with restoration thinning to 30% canopy is likely to exacerbate streamflow deficits or at least prevent summer streamflow recovery. The NMFS needs to be consulted for possible watershed deferrals of timber harvest (e.g. Clear Creek, Pickett Creek) or modifications to prescriptions to reduce possible impact to streamflow.

Action Alternatives soil disturbance

The EA:194 indicates that about action alternatives will disturb about 6% of the soil within units. .” Logging soil disturbance will occur as close as 50 ft from many stream channels upstream of occupied coho salmon habitat. We assert that post-logging intense rainfall on many hundreds of acres of disturbed steep slopes is likely to adversely affect (degrade) coho salmon critical habitat by delivering fine sediment to these streams. <<insert info from coho recovery plan>>

Culvert Replacement

The EA 211 states: “There are some locations where culverts are failing. In some cases they would be replaced; in other cases, they would not be replaced if hauling is still possible. Culvert failure can cause road damage, erosion, and sedimentation (when the culvert is hydrologically connected to perennial water).”

Failing culverts and culvert replacement is certain to put damaging sediment into coho salmon critical habitat.

Past Logging Impacts

The EA:218 identifies several watershed analyses but fails to cite these analyses to summarize how past logging has adversely affected fish habitat and hydrologic functions in specific streams in the PA (EA:218-219). BLM has not conducted cumulative effects analysis. BLM is supposed to do NEPA analysis not us.

Road Sediment

The EA p.209 identifies increased temporary road miles and existing road miles. Construction and use will certainly increase fine sediment into critical coho salmon streams because BMPs, PDFs etc are not 100% effective. The EA: 210 states:

“Of the proposed haul routes, there are 548 stream crossings and of these there are 117 perennial stream crossings. Road maintenance is especially important on the segments that have been identified as being hydrologically connected to surface waters (Hydrologically Connected Haul Routes in the Hydrology and Water Quality Resource Report). Proper road maintenance, BMPs (See Chapter 2.4 BMPs and PDFs) and good project administration should reduce the risk of this source being above background conditions for sediment delivery to surface waters. Any increase in sedimentation associated with the actions described for Alternative 2 are unlikely to be detectable above effects described for the No Action Alternative.”

We disagree that BLM road maintenance, BMP’s and PDFs will prevent substantial fine sediment from reaching critical coho habitat. Fine sediment is difficult to detect and document but that does not mean it is not entering streams and having an impact. Any increase in sediment is significant because several stream segments already exceed the 15% sediment standard (EA: 22-223).

Hydrologically Connected Roads, Haul Routes and Units

The EA: 211 states that “In some areas, small pulses of sediment at stream crossings and hydrologically connected surface disturbances would likely occur during seasonal rain events from area roads. These sediment pulses have the potential to briefly increase turbidity. Intense localized thunderstorms (micro-bursts) may cause more extensive erosion and even debris flows. If an intense storm event happens to occur 1-2 years after treatments, the magnitude of sediment and timber debris would likely be elevated in treated areas relative to untreated areas.”

Cumulative post-logging increases of sediment and nutrients

The EA: 214 states that: “Some short-term direct and indirect effects to water quality were identified due to pulse increases in sediment and turbidity from road work, generally during the first significant storm event of the wet season. While these effects from sediment could potentially occur, it would still remain within acceptable water quality limits for turbidity, and sediment loads would be difficult to distinguish from background levels.”

We assert that cumulative impacts during and post harvest will likely adversely affect coho salmon and coho salmon critical habitat. << this is supported by best avail science from NMFS>>

The EA makes unsupported conjectural statements about no adverse effects from logging related sediment to coho critical stream habitat. We do not agree with any of these statements of “no effects” from proposed logging.

The BLM is a land managing agency implementing a logging project near several coho salmon streams. BLM biologists and hydrologists do not have the authority to regulate proposed BLM logging. Effects determinations about water quality in the EA appear to be pre-determined as minor regardless of intensity and magnitude of the logging. Opinions in the EA about logging effects show a pattern of dismissing logging impacts as not being incrementally greater than no logging. These statements are not scientifically credible with a project of this magnitude and intensity.

The NMFS is a regulatory agency charged with recovering listed coho salmon. We assert that NMFS biologists may have a different opinion about the significance of logging impacts and NMFS biologists do have the authority to identify required conservation measures as compared to the largely discretionary implementation as described in the EA. BLM is not likely to regulate itself when requirements to protect coho salmon may hinder timber extraction, thus the need for section 7 consultation.

Coho critical habitat is certain to be at high risk of sedimentation due to the magnitude of many thousands of acres of logging. Thousands of log trucks would cross hundreds of streams where sediment and other pollutants could enter waterways within or upstream of occupied coho habitat. The EA:210 states that “Any increase in sedimentation associated with the actions

described for Alternative 2 are unlikely to be detectable above effects described for the No Action Alternative.” Despite the magnitude of logging and log haul, The EA:218 states that “Coho critical habitat and Essential Fish Habitat are not going to be degraded due to the application of Inner and Outer Zone stream buffers, PDFs, and BMPs.” We assert that the NMFS biologists would have a different opinion and opine that logging and log haul would likely adversely affect coho salmon contrary to EA “no effects” determination based on discretionary implementation of BMPs and discretionary implementation of “good road maintenance”.

The EA:212 states that “ Maintenance activities *may* include adding cross-drains to inside road ditches to divert surface flow to stable soils and vegetation to re-infiltrate. In some locations sediment basins *may* be installed to settle out sediment before important stream crossings. More than likely BMPs and EPZ buffers would be effective and no observable increases in sedimentation or turbidity in surface waters would occur. *Increases in sediment delivery would likely be indistinguishable from background levels.*” (Emphasis added)

We assert that NMFS may not agree with “no sediment effects” opinion in the EA and would not agree with discretionary “may” add cross drains and “may” sediment basins. Consultation is needed so that BLM is required to implement needed maintenance activities.

The EA:211 states: “There are some locations where culverts are failing. In some cases they would be replaced; *in other cases, they would not be replaced if hauling is still possible.* Culvert failure can cause road damage, erosion, and sedimentation (when the culvert is hydrologically connected to perennial water).” (emphasis added)

We assert that NMFS may want to require certain kinds of road maintenance, road renovation, and further restrict wet season haul on certain natural surface roads. NMFS may require culvert replacement, especially if it is known to block coho salmon migration as identified in EA:224. Currently wet season log haul, road maintenance, and road renovation is discretionary with BLM.

We assert that NMFS may have a different opinion about the purported benefits of proposed logging outer riparian reserves to a mere 40% canopy and proposed logging to within 50 ft of of all intermittent streams.

The EA states that “[r]iparian thinning in the secondary shade zones, 120 feet from the stream is unlikely to result in a measureable change in stream temperatures due to the small amount of treatment proposed and the protection of the primary shade zone.”

We assert that NMFS may have a different opinion about logging in the secondary shade zone due to site specific factors such as channel migration, blowdown risk, and/ or roads in the primary shade zone.

- b. The Medford District has established a pattern of not consulting with NMFS on green tree timber sales regardless of intensity and magnitude of the logging and regardless of the number of coho salmon streams affected. This no consultation policy violates the ESA.

b) Plants (see Botany)

c) NSO

Logging would significantly fragment currently continuous blocks of closed canopy NSO habitat contrary to the Recovery Plan, RMP and recent scientific findings about barred owl competition. The effectiveness of restoration thinning in older stands to improve NSO habitat in the long term is uncertain and controversial.

Alternative 2 restoration thinning would log 3,025 acres of mature forest from about 90% canopy down to as low as 30% canopy with no diameter limit. (EA47, 61; Table 2-2). Alternative 2 would remove 552 acres of Northern Spotted Owl Critical Nesting Roosting Foraging habitat and downgrade 590 acres. Alternative 2 is an unprecedented extraction of green timber volume from northern spotted owl critical habitat where the planning area is heavily fragmented with private land clear-cuts. The intensity of restoration thinning in NSO habitat diverges radically from the 1995 RMP direction.

Assertions of “maintaining” NSO NRF and dispersal habitat are speculative and unreliable because BLM timber sale marking resulted in the overcutting of NRF habitat throughout the Medford District during the past 6 years. Logging units with large canopy reductions such as those in PW are likely to have significant wind-throw beyond that anticipated in the EA because many of the remaining sparse and scattered trees in restoration thinning units would have high height to diameter ratios.

The EA errors by failing to adequately disclose increased NSO competition with barred owls from the Proposed Action. The EA conclusions about “minimal impacts” to NSO are wrong because most NSO habitat is not available to NSO due to occupancy by barred owls.

The EA is defective because it makes the false assumption that all NSO habitat is available to NSO when concluding that “alternatives 2 and 3 would have minimal adverse impacts to the NSOs found within the PA (EA:168). The EA: 153 states that “Recent survey results from the 2016 survey season revealed a trend of extremely low occupancy rates. Although survey results from a single survey season are not definitive, this trend is expected to continue, and this assumption is supported by the results from trends found in other larger demographic studies (Dugger et al. 2016, Hollen et al. 2015).” The EA fails to disclose that low occupancy rates mean that large areas of former suitable NSO habitat are no longer suitable due to barred owl occupancy. Despite this obvious fact, the EA falsely concludes that due to relatively low percent of total habitat degradation alternatives 2 and 3 would have minimal adverse impacts to the NSOs found within the PA (EA:168).” Contrary to what is stated in the EA, the Proposed Action is likely to adversely affect NSO because the relatively low amount of suitable habitat is being decreased due to logging. “Under Alternative 2, there are a total of 151 acres of NRF downgrade and/or removal that would occur in three of these six high value

[occupied] NSO sites.” These EA fails to disclose that these 151 acres in occupied NSO habitat have a disproportionate effect because most other NSO habitat is likely not suitable due to barred owl occupancy.

The EA is defective because it does not disclose that alternative 2 is likely to increase barred owl competition and/or add incrementally to ongoing increased BO competition due to private land clear cutting. The EA is defective because it fails to explicitly state that cumulative impacts of barred owl competition will likely adversely affect the northern spotted owl and the suitability of its critical habitat. The EA:153 states that “[w]hen BOs are present, the effect of such activities [that reduce quantity of older forests] on NSO pair survival (estimated as probability of extinction of a single territory and termed “extinction probability”) may be exacerbated by 2-3 times (Dugger et al. 2011). The EA fails to analyze the cumulative impacts to NSO due to increased barred owl competition from alternative 2 and 3 logging. The EA fails to disclose the “negative effects” from proposed logging that would increase the likelihood of spotted owls to be displaced from nesting areas due to increased competition with barred owls for suitable nest sites.

The EA errs by failing to acknowledge that reduced NSO habitat in the short term from proposed logging cannot be outweighed by alleged improved habitat in the long term because of ongoing barred owl competition. Spotted owls are not likely to be present in the long term to benefit from restoration thinning. Similarly, increased barred owl competition and habitat degradation/loss caused by proposed logging cannot be outweighed with speculation about reduced fire effects (see Odion et al.2004; Odion et al. 2012; Odion et al. 2014). Odion et al. 2014 reports: ““under a “best case” scenario, thinning reduced 3.4 and 6.0 times more dense, late-successional forest than it prevented from burning in high-severity fire in the Klamath and dry Cascades, respectively. Even if rates of fire increase substantially, the requirement that the long-term benefits of commercial thinning clearly outweigh adverse impacts is not attainable with commercial thinning in spotted owl habitat.” (emphasis added)

The EA:146 is defective because it chose to limit impact analysis to federally listed (Threatened & Endangered or Candidate), Survey and Manage, or Bureau Sensitive species known or suspected to be present within the Grants Pass Field Office management area and are affected by the Action Alternatives

Specifically the EA failed to discuss and assess logging and road building impacts to the barred owl.

The action alternatives removal and/or downgrading of barred owl habitat are certain to adversely affect NSO through increased competition. The EA is flawed because it does not assess logging impacts to barred owls, barred owl habitat and expected increased barred owl/spotted owl competition due to reduced *Strix* habitat. The EA fails to disclose that short term impacts of increased barred owl competition with NSO due to logging clearly outweigh any long term improvements of habitat for NSO.

The EA and Dugger et al. 2016 point to barred owl/spotted owl competition as the major threat to NSO in the planning area. This biological threat far outweighs repeated speculation about NSO habitat loss from fire in the EA. The EA fails to adequately discuss barred owl distribution

and barred owl habitat in the planning area as a distinct species. The EA:153-154 briefly discusses barred owls in general ecological terms but makes no project or unit specific analysis. The EA is required to discuss sensitive species but is not precluded from conducting barred owl analysis. Due to the overriding impact of barred owls on spotted owls this is a serious omission. Specifically NSO biologist Eric Forsman has stated that we now have to provide habitat for both species of owls to account for inherent competition. The EA fails to disclose the loss and degradation of barred owl habitat that is certain to increase barred owl competition with NSO on remaining owl habitat. As the *Strix* habitat pie shrinks in the short term due to alternative 2 logging increased competition is inevitable.

The EA makes erroneous assumptions about NSO sites being unoccupied and classifying them as low value. The EA fails to acknowledge that NSO are establishing undetected new nesting territories outside of historic home ranges.

The EA:153 assumes that standard NSO surveys are sufficient to demonstrate a lack of NSO occupancy and that “low value” home ranges can have NSO habitat downgraded or removed with minimal impacts. This is wrong. It is common knowledge among NSO surveyors that NSO are not responding vocally to standard protocol techniques. Thus the BLM cannot prove with certainty that any NSO sites in the planning area are unoccupied and are “low value”.

In addition the EA falsely assumes that NSO will be found at historic nest sites EA:159. The EA fails to report or discuss that NSO are now being found nesting outside historic nest sites and establishing new home ranges. At least 2 pairs of NSO established new nest sites within the Lower Grave timber sale which caused BLM to submit repeated BA amendments because logging was now found to be within new nest patches. Due to silent owls and ongoing establishment of new nest patches, the EA:164 cannot assume that “Under Alternative 2, there are a total of 151 acres of NRF downgrade and/or removal that would occur in three of these six high value [occupied] NSO sites.” The actual impact is likely far greater due to silent NSO occupying nest patches and NSO establishing new nest patches.

Biological Assessments and Biological Opinions produced to comply with the Endangered Species Act cannot substitute for inadequate NSO impact analysis in the EA because these consultation documents were not available to the public during the comment period (EA:304).

The anticipated Decisions for timber sales cannot substitute analysis from BAs and BiOps for faulty or inadequate EA analysis. We also assert that BiOp determinations of “no take” are likely flawed due to incomplete and misleading information provided to USFWS. For example, assuming lack of vocal response from NSO does not necessarily mean lack of occupancy and designation as low value sites. We also believe the BiOp will be flawed because the BA will likely provide a biased perspective about logging reducing fire loss of NSO habitat while not acknowledging the more serious cumulative impacts of logging related barred owl competition and displacement.

The EA fails to accurately assess increases in fire risk to NSO and disclose long term downgrading and degradation to NSO habitat.

The EA fails to disclose that NSO habitat degradation due to alternative 2 logging is certain, while purported long term habitat benefits are speculative. Even if alternative 2 reduces future fire killed trees with logging (i.e. trees are logged before they burn). The EA fails to discuss that fire creates complex habitat structure (e.g. snag forests), while logging removes tree habitat and results in long term reductions in canopy and snag densities. A minimum 60% canopy and abundant snags and down wood are critical for NSO reproductive habitat. Each of these components would be significantly reduced for an undisclosed period of time, probably 80 years or more. Due in part to increased barred owl competition, the NSO may not persist in the planning area to benefit from purported long term habitat improvement.

The EA assumes that logging slash will be treated within 2 years but it does not provide any discussion of fire effects to NSO habitat if fire should occur during that 2 year window. Furthermore, significant amounts of slash will persist after treatment. We found large concentrations of logging slash in some PW units from previous treatments. Even with treatment, ground fuels will be increased over existing conditions. Slash treatment is never 100% effective, the fire risk for ground fire will be increased with logging. The EA fails to acknowledge that logging slash in helicopter units will persist for up to 20 years because it cannot be treated effectively due to high costs.

Logging will increase risk of fire for decades (long-term) as small trees and shrubs respond vigorously to the more open canopy. Small trees and shrubs are very flammable. The post logging forest will be hotter and drier which is conducive to increased fire spread (EA 122-123). Although the emerging young stand on 50% or more of restoration thinning units may be pre-commercially thinned it will remain a fire hazard because it is comprised of young trees. The EA fails to disclose that alternative 2 is removing large fire resistant trees and replacing them with young fire prone trees.

The EA fails to analyze the long-term reduction of snag densities and consequences to wildlife (e.g. NSO, flying squirrels, fishers) due to intensive removal of trees down to 30% canopy.

The EA fails to disclose that the action alternatives, especially restoration thinning, would significantly reduce the future supply of snag habitat and coarse woody debris. The EA:85 states that "All existing snags would be retained from cutting unless they pose a safety hazard, in which case they would be left on the ground as coarse woody debris (CWD) in the unit." The EA fails to disclose that current and future snag densities within cutting units will be significantly decreased with action alternatives as compared to no action baseline. The EA fails to disclose that most existing snags will be felled because they are intermingled with trees proposed for heavy thinning. The EA fails to disclose that snag losses could be large due to thinning to 30% canopy.

Every tree logged means one fewer snag in the future. The EA is in error because it failed to use ORGANON or some other technique to estimate the significant long term reductions in snag densities 30, 60 and 90 years (or some similar intervals) post treatment as compared to no action. Future quantitative snag density reductions are important to evaluate because snags are an important for NSO, flying squirrel, fisher, woodpecker, and bat habitat. The EA fails to disclose that snag densities in future NSO habitat will be significantly reduced (long term adverse impact) as compared to No Action. The EA fails to discuss the tradeoff off of high future snag densities in no action for purported increased rate of growth of residual trees.

The EA lacks a clear numeric metric (snags/acre) to compare action alternatives with the no action for both short term and long term.

The alternatives do not provide for field monitoring of snag densities. The EA fails to provide estimate of the pre-logging (no action) number of large snags/acre in each unit and fails to provide for monitoring of post-logging snag densities. The action alternatives do not provide for post logging snag creation. The EA has conflicting statements about snag retention.

The EA:50 states that “The marking guidelines located in Appendix F require snags greater than 20 inches in diameter to be retained. Any snags that need to be removed for safety reasons would be marked and only felled following approval from the Authorized Officer.” The BLM must have counts of snags marked for retention but did not report large snag densities for each unit. The EA: 85 “All existing snags would be retained from cutting unless they pose a safety hazard, in which case they would be left on the ground as coarse woody debris (CWD) in the unit.” The decision and timber sale contracts must clarify this internal conflict about snag retention. Not marking small snags for retention appears to put them at risk for being knocked down. The EA has no analysis about the loss of small snags that are used by wildlife (e.g. bird cavity nesters).

Despite statements alleging snag protection in the EA there is no monitoring mechanism to demonstrate actual snag retention. The action alternatives do not provide any quantitative monitoring mechanism to demonstrate that large snags are retained post-harvest as required in the RMP. The EA does not provide for post-harvest stand exams or other plot data to monitor units for post-logging snag loss/retention. The EA is in error because it does not discuss the lack of effectiveness of snag retention project design features. For example, the EA fails to disclose that intensive logging of most of the green trees down to 30% canopy will inevitably result in the felling of many if not most existing snags. The EA asserts snag retention but fails to disclose that high rates of snag retention is not compatible with proposed restoration thinning. This violates NEPA and the RMP.

d) Pacific Fisher

The EA underestimates impacts to fishers and fails to acknowledge that alternatives 2 logging would contribute to the need to federally list the fisher as threatened or endangered.

Pacific fishers typically den in areas with canopy cover greater than 80%. As such, logging that reduces canopy to below 80% would reduce the quality of habitat for fisher in the long-term. The EA:183 errs by stating or implying that restoration thinning of units to 30% canopy would

have only short term impacts on the fisher and that there would be improvement in the long term (>30 years). The EA provides no tabular data disclosing the large amount of NRF removal that would degrade fisher habitat . In general it is assumed that fisher habitat is analogous to NSO habitat for analysis purposes. The EA fails to disclose that Alternative 2 logging would have long term adverse impacts to all NRF removal and downgrades. The EA fails to disclose that the time for these stands to recover to current canopy is unknown and likely >50 years. .

The action alternative would retain large snags and coarse woody debris (CWD) to provide future habitat for fishers, and reduce potential impacts. However, by logging nearly 80% of green trees with restoration thinning, alternative 2 is certain to damage or destroy many large snags and coarse woody debris. Slash burning would damage or destroy more coarse woody debris. The EA fails to admit that some or even most denning/resting structures would be damaged or destroyed with intensive logging to 30% canopy. In addition fisher habitat would not be suitable because of canopy reductions. Fishers would likely avoid restoration thinning areas.

The EA fails to disclose that restoration thinning to 30% canopy would greatly reduce future numbers of denning/resting habitat trees, snags or coarse woody debris for 90 years or more. Reduced snags/acre from logging can be estimated with ORGANON modeling but the BLM failed utilize this, or any other, methodology.

The EA also fails to disclose that alternative 2 would log thousands of large trees. Some of these large trees would become habitat as large trees naturally die. The EA fails to compare the impacts of Alternative 2 to Alternative 3 and the No Action Alternatives relative to the Pacific Fisher.

The BLM failed to conduct adequate fisher surveys in the planning area even though fishers are known to occur in the area. BLM has failed to conduct surveys to locate fisher denning trees that are likely to occur in proposed units. On December 7, 2016 during the scoping period, Jim Gurley submitted to Jason Reilly a video of a fisher at Lat/Long:
-123.6251788310338
42.30519724539701

<https://www.youtube.com/watch?v=R9Nph1UW1fc>

This fisher location is particularly important because it is very near PW unit 3-5 that would remove 285 acres of NRF habitat with restoration thinning and ostensibly remove fisher habitat due to severe canopy reductions. It is reasonable to assume that fisher denning may be occurring in unit 3-5 but the EA makes no unit specific analyses about the adverse impacts to fisher from alternative 2 logging. Specifically the EA failed to make the reasonable and ecologically supported assumption that removal of NRF also means removal of fisher habitat.

Contrary to statements in the EA, alternative 2 would contribute to the need to federally list the fisher as threatened or endangered. Alternative 2 would result in long-term degradation and habitat removal on a significant amount of fisher habitat because large trees would be removed and canopy percent reductions would not recover for up-to 50 years or more. In contrast, alternative 3 would not contribute to the need to federally list the fisher as threatened or endangered because it maintains fisher and NSO habitat with appropriate canopy reductions.

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

PW FONSI p13:

The Action Alternatives do not violate any known federal, state, or local law or requirement imposed for the protection of the environment. Furthermore, the Action Alternatives are consistent with the two applicable land management plans, policies, and programs.

THE ACTION ALTERNATIVES VIOLATE THE NW FOREST PLAN

The anticipated decision violates the NW Forest Plan because all known red tree vole sites are not being protected with required ten acre no cut buffers.

The EA:176 states that “The BLM is required to manage all known active and associated inactive RTV nests located from protocol survey efforts in accordance with current RTV management recommendations (USFS/BLM 2000).”

The following is excerpted from Huff et al. (2012:25):

“Survey Longevity

At the survey polygon scale, survey results which locate “active” red tree vole nests are considered valid for 10 years. Survey results where only “inactive” or no red tree vole nests were located will be considered valid for 5 years.”

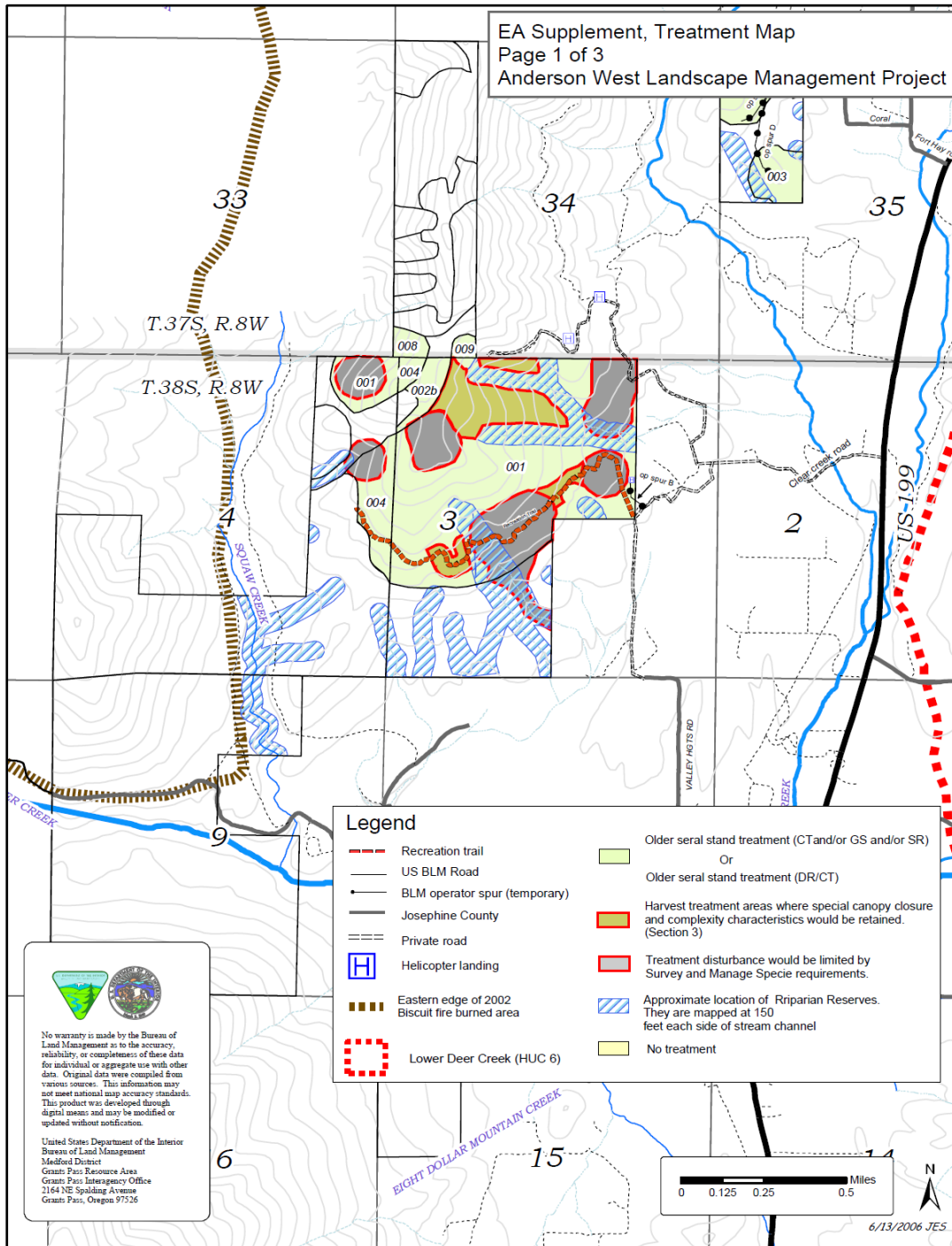
The EA makes erroneous interpretations of Huff et al. 2012:25 (above). The EA:175 incorrectly states:

“Several previous RTV surveys have been completed across the PA under prior planning efforts. However, the current RTV survey protocol states: “At the survey polygon scale, survey results which locate “active” red tree vole nests are considered valid for 10 years” (Huff et al. 2012). All prior surveys are older than 10 years and are not being considered for this analysis.”

The EA errs because the ten year standard is in reference to the longevity of surveys for decision making not for longevity of known sites from previous surveys for protection from logging. Surveys detecting RTV nest sites used to be valid for 5 years, Huff et al. 2012 now says the surveys detecting RTV active sites are valid for ten years.

Documents on file at the Medford District and obtained via FOIA request reveal numerous known RTV nest sites in the planning area from previous surveys (Attachment A). The red tree vole sites associated with these nests must be protected with survey and manage requirements in the Pickett Hog timber sale and any future timber sales based on PW EA. It appears that the Pickett Hog timber sale units fail to protect all known RTV sites. We found numerous RTV nest sites associated with RTV

survey maps for the following timber sales: Cenoak, Pickett Snake, Cheney Slate, South Deer, Deer Mom, Maple Syrup, and Anderson West. Some of these known RTV sites are now in PW proposed units. For example, the 2006 Anderson West EA Supplement Map A-1 illustrates several areas within PW unit 3-5 where “treatment disturbance would be limited by survey and manage specie requirements” (Figure 1). The areas identified on Map A-1 are primarily due to BLM surveys of red tree vole sites within the current PW unit 3-5 (Figure 2).



Anderson West EA Supplement

Figure 1. Map A1 from Anderson West EA Supplement depicting survey/manage protection areas.

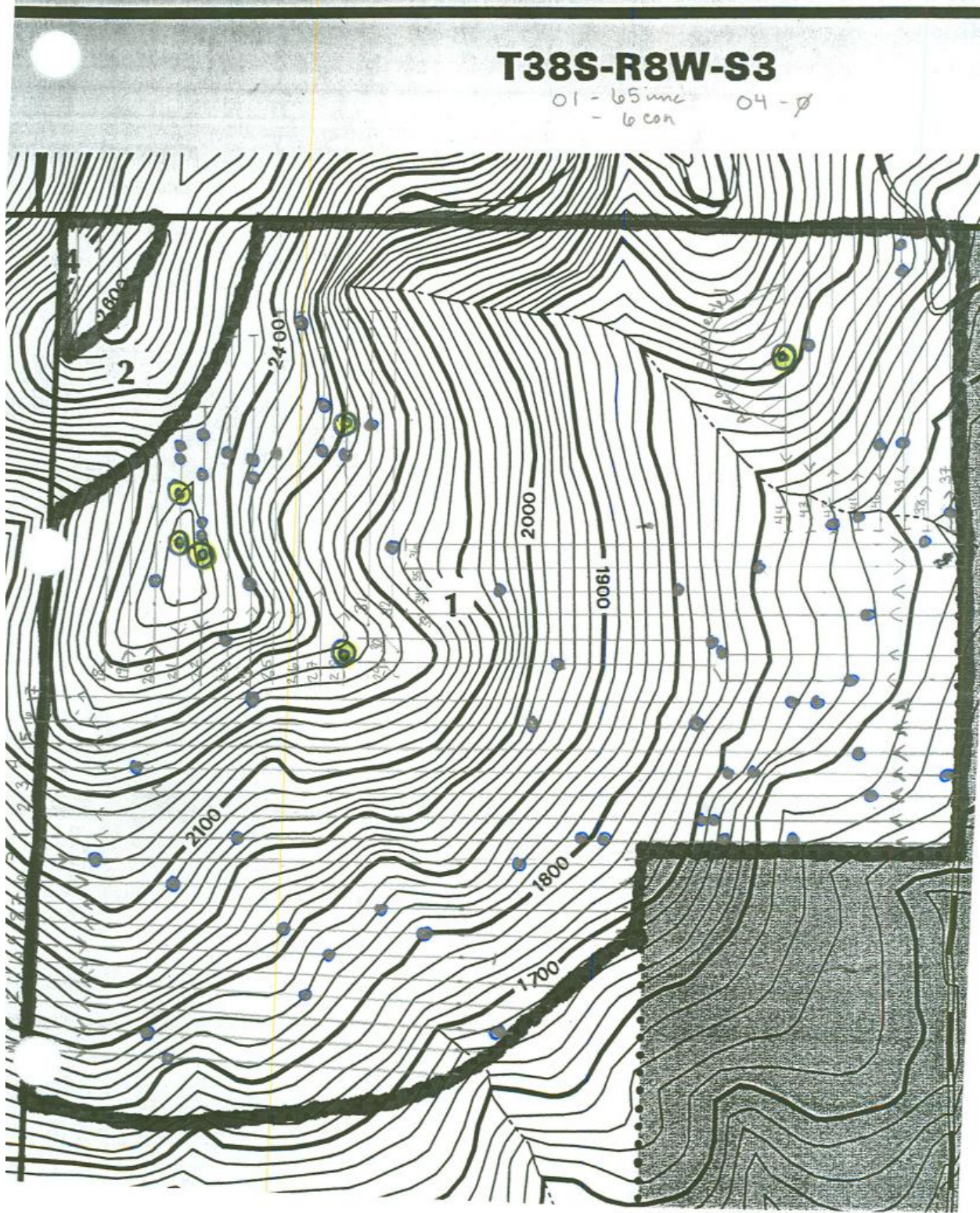


Figure 2. BLM red tree vole survey map from ca 2006 Anderson West project depicting 6 confirmed red tree vole nests now located in 2017 Pickett West unit 3-5.

In addition to BLM contract surveys for red tree voles in previous timber sale areas, the Northwest Ecosystem Survey Team has documented numerous RTV sites in the planning area to the BLM in conjunction with previous timber sales (Attachment B). These RTV nest sites are relevant because they are now within Pickett West action alternative units. We provide paper copy of the following NEST letters to assist you in fulfilling RTV management recommendations (USFS/BLM 2000). We can provide you field assistance to locate the RTV trees that were climbed by NEST. We believe that some of the RTV trees were also verified as RTV sites by BLM contractors subsequent to data provided by NEST.

August 7, 2006 letter from NEST to A. Jossie (BLM) concerning South Deer Project
August 7, 2006 letter from NEST to A. Jossie (BLM) concerning Anderson West Project
August 18, 2006 letter from NEST to A. Jossie (BLM) concerning Anderson West Project
August 22, 2006 letter from NEST to A. Jossie (BLM) concerning South Deer Project
August 22, 2006 letter from NEST to A. Jossie (BLM) concerning Anderson West Project
September 22, 2006 letter from NEST to A. Jossie (BLM) concerning South Deer Project
August 13, 2007 letter from NEST to A. Jossie (BLM) concerning South Deer Project
October 15, 2007 letter from NEST to A. Jossie (BLM) concerning South Deer Project
January 4, 2008 letter from Nest to A. Jossie (BLM) concerning South Deer Project

Each of the known RTV sites in these letters and RTV sites found in more recent surveys must be protected in the decision with required ten acre no cut buffers. Larger buffers may be required when multiple red tree vole nest trees are found.

We incorporate by reference all of the Pickett West comments and attachments submitted by NEST that include recent RTV surveys of the Pickett West project units.

BLM must take a "hard look" at evidence of red tree vole nest sites in the project area. "NEPA's purpose is to ensure that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." Friends of the Clearwater, [222 F.3d 552](#), 557 (9th Cir. 2000).

NEPA "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that agency will not act on incomplete information" Ctr. for Biological Diversity v. U.S. Forest Serv., [349 F.3d 1157](#), 1166 (9th Cir. 2003)

In the White Castle Decision (Oregon Wild v. Bureau of Land Management, Case No. 6:14-CV-0110-AA 2015), the judge determined that BLM is required to consider data submitted by NEST in order to comply with NEPA.

Anticipated timber sale decision will violate the NW Forest Plan because recent BLM contract Red Tree Vole surveys have not been conducted to survey protocols (Huff et al. 2012)

Field checks by R. Nawa (KSWild) and N. Sobb (NEST) reveal that possible RTV nest trees as viewed from flagged transects were not marked for climbing and likely not climbed. Nests are plainly visible within 100 meters of RTV trees in Pickett Hog unit 33-2 but these trees were not climbed as required by 2012 protocol. The red tree vole surveys from past timber sales found numerous nests but the

more recent surveys have found only 2 rtv nests in Pickett Hog unit 33-2. We believe the lack of RTV nest detections (which are far below those of previous surveys in the same survey areas) demonstrate that recent RTV surveys are faulty and cannot be relied upon for the protection of RTV as envisioned in the NW Forest Plan.

There are numerous flaws in the methodology BLM surveyors are using to locate RTV nests in the project units. The most notable are that the protocol excludes climbing individual habitat trees without visible nests, not re-climbing previously discovered nest trees, and not doing 100 meter searches.

Restoration thinning would cut outer riparian zone to 30%-60% based on NSO habitat determinations. This is wrong. Thinning in riparian reserves must be based on ACS objectives not on NSO habitat classifications as dispersal (40%), NRF (60%) or low value (30%).

Pollock and Beechie 2014 report that “[s]pecies that utilize large diameter live trees will benefit most from heavy thinning, whereas species that utilize large diameter deadwood will benefit most from light or no thinning. Because far more vertebrate species utilize large deadwood rather than large live trees [e.g. fisher, flying squirrels], allowing riparian forests to naturally develop may result in the most rapid and sustained development of structural features important to most terrestrial and aquatic vertebrates.”

Alternative 2 (EA:52) does not provide for a 120 ft no cut stream buffer for intermittent streams as determined necessary to provide adequate large wood to streams by the Interagency Coordinating Subcommittee (ICS 2013). Aquatic Conservation Strategy objective 6 would not be met. Commercial removal of mature trees from as close as 50 ft. to streams is inconsistent with the ACS, BLM policy, and best available science.

The ACS objective 6 states: “Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.” Emphasis added. (NWFP: B-11)

New information in Spies et al. 2013 and adopted by BLM state director (ICS 2013) finds that a 120 foot no cut buffer is needed to ensure adequate wood recruitment to streams and riparian reserves. Empirical data and modeling studies suggest that stream wood input rates decline with distance from the stream and the majority of in-channel wood recruitment comes from within 120 feet of the stream channel (ICS 2013: Appendix 3: Item I; EA:52)

The Interagency Science Team (IST) has produced the attached scientific analysis document: “Effects of Riparian Thinning on Wood recruitment: A Scientific Synthesis (Spies et al. 2013). The EA failed to disclose significant and long-term adverse effects from alternative 2 thinning to 40% and 60% canopy to within 50 ft of a stream. The EA failed to make a scientifically valid comparison between No Action and alternative 2 riparian thinning adjacent intermittent streams with respect to the density of future dead trees and recruitment of dead wood to streams. The EA failed to describe specific unit by unit conditions that would warrant riparian reserve commercial thinning in the outer zone. The EA failed to provide any scientific data,

reports, or published information to support assertions that habitat for wildlife and stream health would be improved and not be degraded from proposed riparian reserve thinning to within 50 ft of streams.

Spies et al. 2013:2 key finding #3 states: *Accurate assessments of thinning effects requires site-specific information. The effects of thinning regimes on dead wood creation and recruitment (relative to no-thinning) will depend on many factors including initial stand conditions, particularly stand density, and thinning prescription—it is difficult to generalize about the effects of thinning on dead wood without specifying the particulars of the management regime and stand conditions.* The EA:52 merely describes a process for identifying riparian reserve cutting units. The EA fails to provide site specific information about actual baseline riparian conditions of the units that will have riparian reserve commercial treatments (e.g. proper riparian functioning condition class assessments, downcutting, migrating nick points, trees per acre in various size classes, existing canopy percent). We assert that unmanaged mature riparian reserve forests proposed for thinning currently meet all requirements in the NWFP and are in no need for commercial treatment (e.g., removing trees > 12" dbh).

Spies et al. 2013:2 key finding #4 states: *“Conventional thinning generally produces fewer large dead trees. Thinning with removal of trees (conventional thinning) will generally produce fewer large dead trees across a range of sizes over the several decades following thinning and the life-time of the stand relative to equivalent stands that are not thinned. Generally, recruitment of dead wood to streams would likewise be reduced in conventionally thinned stands relative to unthinned stands.”* We assert that commercial thinning in riparian reserves would be expected to degrade wildlife habitat and stream function because thinned stands would produce fewer large dead trees and less recruitment of dead wood to streams as described and quantified by Spies et al. 2013.

Spies et al 2013:2 key finding #9 states: *“95% of near-stream wood inputs come from within 82 to 148 feet of a stream. The distance of near-stream inputs to streams varies with forest conditions and geomorphology. Empirical studies indicate that 95% of total instream wood (from near-stream sources) comes from distances of 82 to 148 feet. Shorter distances occur in young, shorter stands and longer distances occur in older and taller stands.”* Emphasis added. The EA failed to disclose the anticipated quantitative adverse effects to wood inputs (e.g. fewer future stems entering the intermittent stream channel) caused by proposed removal of commercial sized trees from riparian reserves in the wood recruitment zone.

Spies et al. 2013:3 key finding #15 states: *“Healthy, diverse forests contain many dead trees. Numerous terrestrial forest species require large dead or dying trees as essential habitat. Some directly, others indirectly; to support the food web within which they exist. Abundant large snags and large down wood on the forest floor are common features of natural forests and essential for the maintenance of biological diversity.”* The EA failed to disclose adverse impacts to forest health and terrestrial species (e.g. NSO, flying squirrels, fisher) due to significant and long term reductions in the numbers of dead and dying trees due to proposed riparian reserve thinning.

Contrary to statements EA:52, inputs of stream sediment on steep slopes generally comes from the first hundred feet upslope not 32.8 ft. A 50 ft buffer is not adequate to prevent erosion from logged over steep slopes. Increased stream sediment from logging riparian reserves will be transported downstream to occupied coho salmon habitat. The EA failed to consider or provide

for larger no cut buffers on steep gradient slopes and stream channels with high erosion potential for debris flows and debris slides. Similarly a 50 ft buffer is not adequate for nutrient filtering on steep slopes (see Frissell et al. 2014).

The action alternatives are not consistent with Aquatic Conservation Strategy #6: *Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.* NW Forest Plan ROD:B-11.

Replacing mature trees with young trees with canopy reductions to 30% would not protect, maintain or restore in-stream flows. Alternative 2 threatens to exacerbate summer streamflow deficits caused by replacing mature/old growth trees with young trees (Perry and Jones 2016). Logging large trees as close as 50 ft to stream channels will significantly reduce and certainly not maintain wood routing to streams. Road connectivity to streams during and after log haul will contribute to increase fine stream sediment that is outside the range of natural variability. There will be chronic post logging sediment inputs to streams due to skimpy 50 ft no cut buffers along streams and by roads that are hydrologically connected to streams. Sediment inputs are likely to be increased because there has not been systematic removal of unstable areas from logging units (See Photo Attachment: Photos 23a,b,c;24a,b).

The EA fails to incorporate or even consider any specific recommendation from watershed analyses into action alternatives. EA: 218. This violates the RMP and NW Forest Plan.

For example BLM failed to consider reducing sediment from roads with modifications that would disconnect the road surface from the stream network or decommission roads that pollute streams annually with sediment.

The EA fails to demonstrate that road construction in the Action Alternatives meets Aquatic Conservation Strategy objectives.

The NWFP (C-32) requires the following for new roads.

- RF-2. For each existing or planned road, meet Aquatic Conservation Strategy objectives by:
- a. minimizing road and landing locations in Riparian Reserves. The EA does not indicate how it has minimized road and landing locations in Riparian Reserves.
 - b. completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves. The EA does not reference geotechnical analysis (e.g. geotechnical reports) for roads and landings in Riparian Reserves.
 - c. preparing road design criteria, elements, and standards that govern construction and reconstruction.
 - d. preparing operation and maintenance criteria that govern road operation, maintenance, and management.
 - e. minimizing disruption of natural hydrologic flow paths, including diversion of

- streamflow and interception of surface and subsurface flow
- f. restricting sidecasting as necessary to prevent the introduction of sediment to streams.
- g. avoiding wetlands entirely when constructing new roads.

ACTION ALTERNATIVES VIOLATE THE 1995 RESOURCE MANAGEMENT PLAN

Many of the units proposed for restoration thinning are 150 years or greater which are off limits for thinning in the 1995 RMP. Thinning to 30% canopy in stands 80-150 years is not consistent with “limited selection” harvest.

The RMP:194 states: *“Commercial thinning entries would be programmed for stands under 150 years of age, often in conjunction with limited selection harvest in stands over 80 years.”*

Units aged 150 and greater must be dropped (EA:430-434). In addition units aged 80-150 would not be consistent with “limited selection” harvest with Alternative 2 30% canopy standard or 40% treat and maintain prescriptions since over 2/3 of the commercial sized trees would be logged. Removing over half the commercial trees in a unit is not “limited selection” harvest. The proposed cutting of most small trees in combination with the cutting of a significant (but unknown) number of large trees/acre is not consistent with RMP guidance for “limited selection harvest” in stands 80-150 years. Furthermore the 1995 RMP did not anticipate that heavy thinning would be used to meet the ASQ. Thinning volumes in the Medford District exceed those anticipated in the RMP. Pickett West timber sales contribute to excessive thinning volume.

The Alternative 2 restoration thinning prescriptions are not consistent with the 1995 RMP that says to manage “toward an increase in the amount of spotted owl reproductive habitat.

The RMP:192 states:

“Habitat retention, restoration, and production: Manage for minimal loss (including loss from wildfire) and long-term recovery of intact forest habitat over 150 years of age and toward an increase in the amount of spotted owl reproductive habitat.” (emphasis in original)

Alternative 2 restoration thinning would remove 1,1771 acres of NRF and downgrade 800 acres of NRF. These actions are not consistent with RMP and must be dropped or substantially modified.

Apparently, the BLM anticipates that consultation with USFWS will allow the downgrading and removal of NRF habitat. However, compliance with the ESA does not mean automatic compliance with the RMP. Anticipated compliance with the ESA through consultation does not necessarily mean RMP compliance has been met. The BLM must also comply with the RMP. The RMP says that restoration is towards an increase owl reproductive habitat. It does not prescribe thinning in older stands that downgrades reproductive (NRF) habitat to foraging/migration habitat or total removal of habitat.

The RMP did not anticipate that restoration thinning in older stands would be implemented in a manner that would systematically downgrade and remove large acreages of spotted owl habitat.

The intent for restoration thinning in the RMP was clearly to maintain or improve existing spotted owl habitat.

Restoration thinning to 30% canopy is not consistent with the 1995 RMP that requires a 40% canopy cover.

The RMP:192 states *“Manage to retain a minimum of 40 percent canopy cover at the stand level in most regeneration harvest units, except for units of the pine series or where stand condition or site characteristics require lower levels.”* Most if not all units are Doug-fir series that would require 40% canopy. The EA has failed to describe stand condition or site characteristics of specific units that require lower canopy than 40%. In addition the 40% canopy is for regeneration harvest units, thinning units would be expected to retain higher canopy not lower canopy than regen units.

Restoration thinning is not consistent with basal area targets for pine species.

Basal area targets for Douglas-fir plant series is 5-20% ponderosa pine and 1-2% Sugar pine (RMP:193). During the field trip it was revealed that the pine target for Pickett Hog unit 33-2 was 24%, which exceeds RMP targets. In addition it was pointed out to BLM staff that two perfectly healthy large Douglas-fir trees were being cut to favor pine (Photo 32). This is wrong. Large Douglas-fir with good crown base ratios must not be cut to increase the pine basal area beyond RMP standards.

The EA failed to demonstrate that thinning prescriptions for units to below 60% canopy are retaining required 16-25 large trees/acre.

The NW forest plan Standards and Guidelines C-42 states: “For lands administered by the BLM in Oregon south of Grants Pass, retain 16 to 25 large green trees per acre in harvest units.” The “south of Grants Pass” refers to the Southern General Forest Management Area. All PW units are in the SGFMA. When there is conflict between plans the more restrictive standard applies. In this case the more restrictive standard is in the NW Forest Plan because it applies to “harvest units” and not restricted to structural retention units as stated in the Medford RMP (RMP: 193). We also assert that it is logical not to exceed a tree retention standard that is meant for structural retention in a thinning unit. In other words alternative 2 for restoration thinning down to 30% canopy cannot evade tree retention standards for structural retention by calling the treatments restoration thinning when they are basically similar prescriptions. The BLM must demonstrate and not merely assume the 16-26 large tree retention standard is being met (Photos 17a,b). The decision or some supporting document needs to enumerate the reserve tree tallies for trees 20”dbh and larger for each unit. In addition older units would be expected to have higher retention standard than the minimum 16 large TPA.

FINDING:

We challenge BLM's decision to issue the FONSI and assert that the FONSI has been reached in error and that an Environmental Impact Statement must be done to proceed with this project. BLM is not in compliance with NEPA because the EA fails to adequately analyze alternative approaches to the project such as the Natural Selection Alternative, and have failed to take a "hard look" at the project's direct and indirect environmental impacts. NEPA mandates that an agency take a "hard look" at a proposed project's environmental consequences, adequately considering every significant aspect, and informing the public of its reasoning and conclusions. The BLM has not provided a convincing statement of reasons to support why the proposed project is not significant. These comments outline many of the reasons why an EIS should be conducted, including but not limited to; the highly controversial nature of the project, the highly uncertain effects of the project, the precedential effect on future projects, the adverse impacts on northern spotted owls, and the violations of FLPMA and the NWFP.

(See Aiken 2015)

K. BLM did not comply with NEPA Public Involvement requirements:

DCA has a long history of public involvement with the BLM on public lands projects. We wanted very much to collaborate with BLM to incorporate the Natural Selection Alternative as proposed for a pilot project within the Deer Creek Watershed in lieu of Pickett West, the IVM plan, the Invasive Plant Management plan, and other foreseeable projects in the DC Watershed. We wanted to build off the relationship and collaboration that began in the South Deer Management Project planning process. We still do not understand why the NSA is not being considered a reasonable alternative when it has already undergone the NEPA process and was determined to have negligible negative impacts. We are disappointed that BLM is now cautious and unwilling to incorporate community alternatives in the project planning process because of a prior experience with a different watershed community and we assert that this should not prohibit future incorporation of community alternatives in this and other subsequent projects.

We, along with numerous other individuals and groups, repeatedly requested an accurate unit number map, which was never provided during scoping. Not having unit numbers made it extremely difficult to participate in the scoping process and communicate with BLM about individual units. We were told we could expect a map, then informed that they did not have one to share with the public and we would have to wait for the EA to come out. It didn't seem like the decision makers and project planners wanted input on individual units from community members. It seems that such a map should have been available for at least the IDT members, and seems unreasonable to withhold such a map from the public.

Finally when the EA came out, the BLM website had maps uploaded into the "maps" tab. However, we would find out later much to our dismay that the only map labeled "Pickett West Unit Numbers Map", the very map we had been waiting for so long to get, did not even have all the unit numbers displayed on the map. There was no disclaimer on the map to indicate that the map was not accurate and was missing units. This was very confusing for the public. There was no reason why BLM couldn't have made smaller separate maps grouped by region (as was suggested by DCA Vice Chair in June), as done with the riparian reserve maps, with all the unit numbers clearly displayed.

When this issue was raised to BLM staff, a new “Unit Map” was put on the website, yet it is still not accurate and does not display all the units listed in the Unit Summary Table in the back of the EA. Unless these units have been dropped, it is misleading to not put them in the unit number map considering most people will look at that map only to see how they are directly affected by this project. Most will not assume they must look at a different map to see all the listed units, and if they are unaware a unit exists, it makes it difficult to comment about.

Another issue with the maps is that there were no detailed maps of the more than 11,000 acres of fuels reduction that would have facilitated public commenting on these areas. It was very difficult to figure out what the HFRm units were labeled just based on the table provided and without a map with the numbers and/or names on it.

The EA refers to the Final EISs, yet these are not available in the documents tab to help the reader know what context these quotes are being taken from.

The Commercial Unit Table Summary does not disclose what each unit is being classified as in terms of NSO habitat suitability. It is unclear which units under either alternative is clearly going to be leaving 60%, all say 40/60 or less. If it is known what the canopy cover will be under each alternative based on habitat suitability, why is it not disclosed in the unit table? How are we supposed to know what to expect in the units we care most about? This does not inform the public, or help us inform the decision maker, of potential mistakes in classification, how we will be affected, and other relevant matters.

The public is extremely limited in providing substantive comments when the projected volume from each unit has not been disclosed in the EA. The public and decision makers cannot effectively analyze the impacts of the actions or how the O&C Act and other legal mandates are being met without knowing the volume from the units.

Stand Age: We requested information about stand age methodology and what we received was insufficient to help us understand how stand age was actually determined. We asked follow up questions to clarify things, such as how random sampling was done and how they took other ecosystem processes into consideration. We received no further reply. BLM did not provide an adequate explanation for why this particular methodology was used when we were told multiple times that:

Stand age as a concept has limited applicability to the Pickett West proposed units. It is most useful on even aged stands (i.e. plantations, or stands initiating after a severe disturbance). In these cases it would be an important threshold value for prescribing regeneration practices, which are not being considered in this project since we lack adequate stand data on the 150 eligible acres to support that strategy. All of the stands that we're managing in this project are multi-aged, multi-species stands, most of which have had some form of selection harvest that makes giving a single stand age difficult. (May 4, 2017)

We believe the majority of the stand age determinations have been reached in error and are consistently underestimated. In our April meeting we requested specific units be resurveyed for accurate age data as the stand age determinations are not compatible with our knowledge of the management history particular areas of the Deer Creek Watershed. For example, how can a unit that has never been logged or experienced stand replacing fire in the last 100-150 years be determined to only be 120 years old? Also, based on our field observations of units, there are units that are obviously older than others, yet their stand age determined them to be relatively younger.

Access to ID team: (see attached formal request for access to the ID team)

During scoping, we asked multiple times to speak to individual members of the ID Team. We asked specifically to meet with the fire specialists. We requested the IDT members to come out and tour Camp Ecostery to learn about the NSA. We also asked multiple times for the name and contact information of the IDT member at the state department who deals with the socioeconomic analysis and never received that information. We were told to wait for the EA and the analysis would be in there. This did not help us have a meaningful discussion with the ID team member to discuss their methodology and the status of the relevant data we submitted.

We repeatedly requested to see the IDT rationale for not incorporating the science we submitted into the planning process, particularly with regards to fire science. We have yet to receive the IDT rationale beyond the EA's cursory response that "the overwhelming majority of scientists" do not agree. This is not an adequate explanation to dismiss the substantive data we have submitted for review.

Public access to both environmental assessment (EA) and environmental impact statement (EIS) ID team members is a function of the "Analyzing Effects Methodology" of information the public needs to understand "significant" impacts. This access is part of NEPA's "twin aims" and the "hard look" NEPA mandate as clarified by the 1983 U.S. Supreme Court in *Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.* 4 (Appendix A. CRS. 2005. p. CRS 9). It is especially so when the U.S. Supreme Court opinion is combined with the BLM's procedures to supplement the Council on Environmental Quality's (CEQ) regulations (40 CFR 1507.3; BLM. 2008) including the United States Department of Interior (USDI) regulations for implementation of NEPA (43 CFR Part 46), and the USDI Manual (Part 516 DM, Chapters 1-15). NEPA has twin aims. First, it places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action (emphasis added). Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decision making process. Congress in enacting NEPA, however, did not require agencies to elevate environmental concerns over other appropriate considerations. Rather, it required only that the agency take a "hard look" at the environmental consequences before taking a major action. Congress did not enact NEPA, of course, so that an agency would contemplate the environmental impact of an action as an abstract exercise. Rather, Congress intended that the "hard look" be incorporated as part of the agency's process of deciding whether to pursue a particular federal action.

The CEQ in its 2007 publication, *A Citizen's Guide to the NEPA: Having Your Voice Heard*, corroborates the U.S. Supreme Court's opinion of NEPA's twin aims. "To implement these policies, NEPA requires agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Two major purposes of the environmental review process are **better informed decisions and citizen involvement** (emphasis added), both of which should lead to implementation of NEPA's policies." (CEQ 2007, p. 2).⁴ The binding 1978 CEQ regulations (40 CFR Parts 1500-1508) require federal agencies to create their own implementing procedures that supplement the minimum requirements based on each agency's specific mandates, obligations, and missions (40 CFR 1507.3). The latest version of BLM's implementing procedures is the 2008 BLM National Environmental Policy Act Handbook.

We were disappointed to find no mention of the NEPA Handbook in the EA or in scoping material. Although we found out about it, most members of the public would not know to look for this helpful resource that can help facilitate public involvement. The public has very little knowledge of NEPA, based on our experience in trying to educate and inform our community members, and it is necessary for BLM to hold more regular NEPA workshops to help facilitate more meaningful citizen involvement.

Within the NEPA Handbook, the links are not functioning and haven't been for as long as we have been trying to use the links. The links not functioning greatly inhibits the public participation process. We were told that BLM is unsure of who maintains the links and we would have to research the referenced information independently. This is an extremely cumbersome and time consuming process and not conducive to facilitating public involvement.

The EA stated that hard copies were going to be available and we found out after coming all the way into Grants Pass to pick them up, that they would not be available for public distribution. This made it difficult for our members to effectively comment on such a large EA. Slow or unavailable internet makes downloading and viewing large documents difficult. Many also do not have computers and public library hours and BLM business hours all the way in Grants Pass are not sufficient to allow the average person to fully understand and comment of such a large document.

We requested a large map with accurate unit numbers, as was distributed in the public scoping meeting. We were told this could not be made and it made it much more difficult for our organization to help facilitate public involvement in our community without a large visual aid. We don't understand why BLM could not help facilitate the printing of large maps for at least organizational stakeholders within the affected communities.

DCA, IV Section Sierra Club, the Applegate Neighborhood Network, and over 100 petition signatures were turned in to ask for an extension. A 2 week extension was granted, but the public needed longer to be more actively involved in understanding and substantively commenting on such a large project. Rugged terrain and geographically distant units make it extremely difficult to visit the whole project area and comment substantively. Most recently, Senator Jeff Merkley requested an additional 30 day

extension for the public comment deadline and we have yet to hear if this will be granted. As far as we know, additional requests for extension were not granted. (DCA Extension Request attached)

Although we believe that BLM is not in compliance with the NEPA requirements for public involvement and adequately explaining methodologies, we appreciate the respectful relationship and communications we have had with BLM staff.

Included as part of these comments is a DVD with Attachments:

Attachment 1: Attch 1 DCA 7-17-17 PW EA Ref Documents

Includes all referenced documents

Attachment 2: Attch 2 Maps

CampEcostery-H20-Thompson Ck Map :

Topography Map that relates to the only source of Camp Ecostery's domestic water and coho water from Camp Creek that feeds Thompson Creek, which feeds Deer Creek to Illinois to Rogue to the ocean. (see M. Camp personal comments 7-17-17 for more discussion).

Relevance to PW units in sections 21, 22, 23, 26, 27, 35 (and probably more)

CampEcostery-NSO-H20: (submitted to the IDT leaders in April meeting)

Illustrates Camp Ecostery in relation to the Thompson Creek Watershed, northern spotted owl cores, and CHU-OR72, and Camp Ecostery domestic water. This demonstrates relevant historical information that documents NSO activity in the Thompson Creek watershed. Also relevant for Coho spawning in Camp Creek.

Also illustrates cumulative effects and fragmentation by private land clear-cuts adjacent to public lands and residents. Large clear-cut is surrounded by ancient natural communities on public lands that is crucial for NSO, Coho, Camp Ecostery domestic water, and Camp Ecostery education program.

Relevance to PW units in sections 21, 22, 23, 26, 27, 35 (and probably more)

CHU OR-72 Owl Cores:

From the Late Successional Reserve Assessment from the South Deer Project. Includes owl cores and CHU OR-72 relevant to the NSO and the above maps.

NSO-Live Map_8T153Xu:

2017 BLM GIS dataset for NSO Centers of Activity in Oregon, relevant to the Southwest and Southeast regions in Pickett West. This demonstrates a high level of current owl activity in the project area.

NSO-Live Map_S5IChC5:

The same map as above, zoomed in on a portion of the Deer Creek Watershed.

Rhode 2007 Active RTV Buffer:

This includes NEST surveys of active RTV sites in the Illinois Valley within the Deer Creek Watershed in portions of the South Deer and Anderson West Projects.

Rhode SD NEST RTV:

This map corresponds in part to the NEST data submitted in 2006-2008, located in Attachment 1.

Attachment 3: Attch 3 Photos

All photos are relevant to the Pickett West project.

CampEcosterTreeHarvest: Photos of natural selection logging at Camp Ecostery, both recent and historical, provide relevant information for the NSA.

DrCkWtrshd PW Units: Unit photos illustrate the comments provided and provide substantive comments on each unit.

NSO 2016: contains photos of a spotted owl siting on the property of local residents located on Thompson Creek on May 9, 2016. Data was previously submitted by landowner to BLM.

- L. **UNIT DESCRIPTIONS** (see www.siskiyoucrest.blogspot.com for photos and more descriptions of North and Southeast units. Also see attached photos in Attachment 4 and “Deer Creek Watershed Units with photos” document)

Unit 35-9

Unit 35-9 is located at the headwaters of Haven Creek. The stand is 51 acres of old-growth and second growth forest on a southwest facing slope. The southwestern portion of the unit has been logged and is now dominated by mid-seral pole stands and abundant hardwoods. Roughly 2/3 of the remaining unit consists of lightly managed, old growth forest. The Pickett West EA claims the stand is 150 years old, but many of the stands oldest trees are far older. If dominant old trees were included in the stand age methodology for Pickett West, this stand would have been identified as an older stand.

Despite the harsh south-facing slope, the unit is populated by many large, old trees. A significant portion of the overstory canopy is dominated by large, old sugar pine. Many of the old growth groupings include large sugar pine and Douglas fir. Sugar pine from 30' to 65' are found growing in groupings or as isolated trees, piercing through a secondary canopy of hardwoods, including tanoak, live oak, madrone and chinquapin. Massive Douglas fir from 20' to 66' in diameter also grow in groves and groupings throughout the stand. Except those areas that have been logged, dense pole stands and younger cohorts are largely absent.

The stand provides important NRF habitat within a Critical Habitat Unit for KLV 4 and is located within a 0.5 mile owl core. The BLM is proposing a "density management" prescription with 40% canopy retention. The BLM is proposing to remove over half the overstory canopy from 92% to 40%, downgrading NSO habitat to dispersal.

The area is also very important for the Red Tree Vole (RTV). Six documented RTV nests have been found in the unit, if these nests were all adequately protected with 10 acre no cut buffers, the unit could not be logged. If the unit was logged to 40% canopy cover, habitat conditions and connectivity would be greatly diminished. The prescriptions would require the removal of potential RTV nest trees, disrupt RTV nest tree recruitment, destroy interlocking canopies, and reduce canopy cover. These impacts will reduce RTV habitat quantity, quality and connectivity. The impact to NSO prey species will in turn, impact the persistence of the NSO in these locations.

RTV nests were found at the following locations:

N 42 13.541' W 123 29.148'

N 42 13.680' W 123 29.252' (two nests in adjacent trees)

N 42 13.655' W 123 29.317'

N 42 13.545' W 123 29.224'

N 42 13.528' W 123 29.239'

The BLM has also proposed two sections of new road to access unit 35-9. One will start on Josephine County land in section 36. The road would be located on the ridgeline above road 38-7-26.3. Another section of road is proposed to be built on a southwest trending ridgeline at the units eastern margin. Both roads will require the removal of many large, old trees. New road development will fragment beautiful old growth stands, impact soils, and facilitate unauthorized OHV use.

BLM prescriptions call for logging over half the existing overstory canopy, reducing canopy cover from 96% to 40%. The impact to late seral species will be severe. The impact to fuel loading and fire hazards will also be severe. The removal of large, diameter, fire resistant trees will decrease fire resilience. Likewise the removal of canopy will also encourage a dense understory response, especially on the south and southwest facing portions of the unit.

Unit 35-9 should be canceled to protect late seral habitat for the NSO and RTV. The logging prescriptions proposed by BLM will degrade late seral habitat conditions, while significantly increasing fuel loads.

Unit 35-11

Unit 35-11 is among the worst in the entire Pickett West EA. The unit is located in the middle fork of Haven Creek in section 35. Unit 35-11 is 59 acres of old-growth forest surrounded by recent clearcut logging and plantation stands to the north and south. The Pickett West EA claims the stand is 190 years old, but many trees are likely much older. These older, more dominant trees were excluded from the methodology used to estimate stand age for the Pickett West EA. A significant portion of unit 35-11 is undeniably old growth forest and if dominant trees were counted in the stand age methodology, the stand would likely be estimated at hundreds of years old. The old forest along Haven Creek is refugia habitat that provides important connectivity for late seral species, connecting the still relatively intact slopes of Kerby Peak to the low elevation forests surrounding Thompson Creek.

According to the Pickett West EA the unit is NRF habitat, located with the home range of two NSO in Critical Habitat Unit (CHU) KLV 4. The stand is closed (92% canopy cover) with significant levels of structural complexity. Stand conditions vary depending on aspect, but in general the stand contains all the characteristics of old-growth habitat, including large, old trees, large snags, large downed trees, high levels of canopy cover, a patchy overstory distribution and a multi-layered canopy.

The stand provides important habitat for the not only the NSO, but also the Pacific fisher who often uses low elevation, old growth forest for dispersal, foraging and denning. The unit also likely supports a viable population of Red Tree Vole (RTV). Numerous large, wolfy trees with potential RTV nesting habitat, can be found at the following coordinates on the north facing slopes: N 42 12.964' W 123 29.372). Trees between 45" and 62" diameter grow in this stand, creating ideal habitat for a variety of late seral species including the RTV and NSO. Much of the north facing slope contains potential RTV nest trees.

At the top of the unit on small bench, directly above a beautiful set of waterfalls, lies an entire stand of potential RTV nesting trees. The coordinates for this stand are as follows: N 42 12.836' W 123 29.147'. The stand contains numerous trees over 50" in diameter with productive RTV habitat.

The stream is cold and clear as it runs through a heavily shaded canyon. Haven Creek pours down a series of spectacular bedrock cascades (3' to 15' tall), through giant river washed boulders and downed wood. Thick moss beds line the bedrock channel and *Lilium pardalinum* ssp. *volmeri* blossoms along the stream with saxifrage, goats beard and elk clover.

The southern slopes are dominated by old-growth Douglas fir, a few old sugar pine and a well developed secondary canopy of live oak, tanoak and madrone. Large portions of the stand support a closed canopy of live oak, pierced by large, old Douglas fir between 30' and 56' in diameter. The understory is often sparse and rocky with minimal understory fuel.

The north facing slopes are lush and productive with groves of massive old-growth Douglas fir between 30' and 65' in diameter. These northern slopes support coastal vegetation with large, old growth

Douglas fir dominating the overstory. Tanoak, live oak, madrone and pacific dogwood create a secondary canopy. Evergreen huckleberry, red huckleberry, Cascade Oregon grape, vine maple, azalea, hazel and ocean spray grow in moist, tangled thickets on the forest floor.

These north slope forests are particularly complex with large diameter snags, large downed trees and diverse overstory distribution. The oldest trees grow in isolation or in groupings of old-growth trees; scattered about the stand. Although canopy cover levels are high, the patchy distribution allows enough sunlight to reach the forest floor to encourage large summer berry crops and diverse understory vegetation.

The isolated wedge creating the southwest portion of the unit is particularly steep, with slopes often exceeding 70%.

Fuel loading and fire hazards in this stand are extremely minimal. In general massive old trees with high canopies and thick, insulating bark grow with a scattered distribution. The canopy is closed but not overly dense with a young cohort of trees. The stands large trees are highly fire resistant, while the surrounding hardwoods are highly fire resilient and will bounce back relatively quickly even if top killed by fire. The current canopy condition is suppressing understory growth, maintaining high levels of fuel moisture late into the season and shielding the stand from intense sunlight and high winds. The combined effect is to naturally moderate fuel loading and fire hazards.

The BLM has proposed a “density management” prescription, reducing canopy cover by over half, from 92% to as low as 40%. Meeting the canopy cover and basal area targets identified in the Pickett West EA will require the removal of many large diameter trees that encourage fire resilience and create high quality late seral habitat. The drastic removal of canopy will significantly increase understory fuels, desiccate the stand and reduce habitat complexity. The result will be an increase in fuel loading and a downgrade of NSO habitat to dispersal.

Unit 35-11 should be canceled to protect connectivity of old growth habitat, maintain NSO habitat, protect late seral habitat and sustain fire resilience.

Unit 27-12

Unit 27-12 is an 18 acre unit located south of Camp Forest on an unnamed tributary of Thompson Creek. The stand is located at 1600’ on a south-facing slope directly above the valley floor of Thompson Creek. Slopes are moderate to very steep (40%-70% grade). The unit and the stand that surrounds it contain significant low-elevation, closed canopy, old growth habitat.

According to the Pickett West EA, the stand is 130 years old, but many trees in the stand are far older. The diverse, multi-aged nature of the stand makes age estimation difficult, but many of the trees are clearly hundreds of years old.

The stand provides complex late seral habitat with trees up to 5’ in diameter. Douglas fir, tanoak, and madrone dominate the stand with scattered sugar pine. The distribution of overstory conifers is patchy and diverse. The canopy is two tiered with old douglas fir (24”-60” DBH) creating the

tallest canopy layer. Below these old conifers is a secondary canopy of hardwoods and conifer reproduction.

The forest contains all the characteristics of old-growth forest habitat including large diameter trees, a closed canopy, large standing snags, large downed woody debris, structural complexity and significant decadence. If any specific habitat element was deficient it would be adequate levels of decadence; including large snags and woody debris. Background levels of mortality due to tree competition and natural selection are creating adequate levels of snag and LWD recruitment. If not disrupted the stand will generate adequate decadence over time. Commercial logging treatments proposed in the Pickett West Project will capture this necessary mortality and disrupt future snag recruitment and stand decadence.

The low-elevation, structurally complex habitat found in this stand contains documented Red Tree Vole (RTV) nest trees (coordinates N 41 55.670' W 122 58.964') and numerous historic Northern Spotted Owl (NSO) sightings. The RTV nest tree requires a ten acre, no cut buffer, removing large portions of the unit from timber harvest.

The stand has been used for many years as an educational laboratory for the Camp Forest Ecology Institute, run by Orville and Mary Camp. Thousands of individuals studying Natural Selection Forestry and late successional habitat have visited the stand for education and inspiration.

In 2005, BLM approved the construction of the Thompson Overlook Trail, a non-motorized hiking trail that would traverse unit 27-12. Due to a lack of funding the trail has not been completed, but could be in the foreseeable future. The impacts of "restoration thinning" to the recreational experience would be severe and were not analyzed in the Pickett West EA. The development of the Thompson Overlook Trail is a "foreseeable future action" with a strong likelihood of implementation.

The prescription for the unit 27-12 in Alternative 2 of the Pickett West EA is "restoration thinning." The unit could be logged to 30% canopy cover, requiring the removal of many large, old, fire resistant trees. The heavy canopy removal proposed in restoration thinning treatments will significantly increase fuel loads by triggering a vigorous "shrub response." The increase in fuel loading is especially important due to the close proximity of numerous rural homes.

Proposed overstory canopy removal will also impact NSO habitat. Currently the stand is highly functional Nesting, Roosting and Foraging (NRF) habitat. Canopy removal to 30% would render that habitat unsuitable for the NSO. Constituent habitat elements such as large diameter trees, closed canopy conditions, interlocking canopies and two tiered canopy structure will either be greatly diminished or eliminated throughout the stand.

The stand has numerous social and ecological values that would be negatively affected by the proposed logging treatments in Unit 27-12. Unit 27-12 should be canceled.

Unit 27-13

Unit 27-13 is small 3 acre unit, due east of unit 27-12. Unit 27-12 contains many of the same social and ecological values. The stand is divided from 27-12 by a Riparian Reserve, but for all practical purposes is the same stand with very similar stand conditions. According to the BLM, the stand is 130 years old yet, the stand contains many trees likely to be much older. The stand is NRF habitat and contains many large trees over 24" in diameter.

The BLM is proposing to log the stand to 40% canopy, downgrading the current NRF habitat conditions to dispersal habitat. The prescription in the Pickett West EA, Alternative 2 is Density Management with canopy cover target of 40%.

Unit 27-13 should be canceled to protect the important late-seral habitat conditions in the area. Logging this stand will only increase fuel hazards, fragment important late seral habitat, and diminish habitat conditions for the NSO. Industrial logging will also impact the educational and recreational value of the forest.

Unit 27-14

Unit 27-14 is located on a flat stream terrace above a small unnamed tributary of Thompson Creek. The unit is divided from 27-12 by the small seasonal stream and Riparian Reserve. The stand was previously selectively logged, removing many of the large old trees in the stand, reducing habitat complexity and resilience to wildfire. Douglas fir, sugar pine, madrone, tanoak and pacific dogwood have recolonized the stand.

In response to the previous overstory logging prescriptions, a relatively young and even-aged forest has regenerated beneath the larger, more mature trees in the 24"-30" diameter range. These large trees are widely scattered in groupings; while the majority of the stand is between 8" and 16" diameter. Structure is fairly vertical, the canopy is closed and legacy vegetation such as large trees and snags are lacking.

The unit is 9 acres and the BLM maintains it is the same age as units 27-12 and 27-13, 130 years of age. Stand age is likely much younger in this location and much older in the old-growth units above. Units 27-12 and 27-13 contain abundant old-growth characteristics, while the late seral habitat has been largely removed in unit 27-14.

The BLM has proposed to log the stand with "restoration thinning" prescriptions, reducing canopy cover to as low as 30%. A portion of the large, overstory trees remaining in the stand will likely be removed to meet canopy cover targets, basal area targets and for commercial viability. The remaining stand many not meet the minimum number of large trees per acre (16-25 trees) required in the Southern General Forest Management Area, under the 1995 RMP. If large trees are deficient, a BLM timber sale can not log large trees over 21" in diameter.

Unit 27-14 is considered NRF habitat and on land with high habitat suitability. The proposed logging treatments would remove the habitat rendering it unsuitable to the NSO.

Unit 27-14 would be an ideal location to implement the Natural Selection Alternative as proposed by the Deer Creek Valley Natural Resource Conservation Association (DCVNRCA).

Unit 21-12

Unit 21-12 is a 28 acre unit located on a southwest facing slope at between 1600' and 2000' elevation, above Camp Creek and adjacent to the Camp Forest property. Slopes range between 50% and 70% throughout the stand. The unit is mid to late-seral with significant portions of the stand in a late-seral habitat condition. The vast majority of the stand contains trees 20"-30" in diameter. The stand is also structurally diverse with a variety of canopy conditions and stand types present.

The western portion the stand consists of predominantly 20"-30" diameter sugar pine and Douglas fir. The western portion of the stand is dryer and more exposed with tanoak, madrone and manzanita in the understory. Clear groupings of large old trees create a filtered and patchy canopy. Fire resilience is high, due to the dominance of large diameter trees with thick, insulating bark, high crown base height and the stands patchy distribution. Fire- adapted species dominate the stand such as sugar pine and Douglas fir. The western portion of the stand is dispersal habitat for the NSO.

The eastern portion of the unit is slightly more mesic due to a faint draw and a more southeastern exposure. The eastern portion of the stand consists of closed canopy habitat supporting late-seral stands of Douglas fir and sugar pine. The majority of the stand is between 20"-46" in diameter. The eastern portion of the unit is NRF habitat.

Alternative 2 in the Pickett West EA proposes a "restoration thinning" treatment allowing canopy reduction to 30% canopy cover. Many large, old trees will be removed to meet the canopy cover and basal area targets proposed by BLM in this stand. The heavy canopy reduction and large tree removal will render habitat conditions in the area unsuitable for the NSO.

Fuel loads will increase following logging treatments due to canopy loss and the removal of large, fire resistant trees. The reduction of canopy will extend fire seasons, increase stand drying and decrease fuel moisture content by increasing exposure to drying winds and solar radiation. The extreme canopy reduction proposed will also create a significant "shrub response" in both the eastern and western portion of the stand. Especially on the western portion of the stand, manzanita and tanoak will likely fill in canopy gaps, drastically increasing fuel hazards. In the eastern portion of the unit the drastic reduction from closed to open canopy conditions will also trigger an effect very similar to regeneration logging where young, highly flammable reproduction of Douglas fir, tanoak, manzanita and madrone fills canopy gaps with explosive fuel loads.

Unit 21-12 should be canceled. Logging this stand provides no benefit to the NSO, no benefit to future stand conditions and no benefit to fuel loading in the long or short term.

Unit 22-5

Unit 22-5 is located on a relatively mesic and productive northwest-facing slope at roughly 1800' elevation. The terrain is very steep, including slopes to 70% grade.

The stand consists of massive old Douglas fir trees and important low-elevation late seral and old growth habitat. The BLM has identified this 12 acres unit as 180 years old forest habitat. Many of the trees are far older than 180 years old and contain abundant old-growth characteristics. Some could support RTV nests given the complex branch structure and large diameter limbs.

The western half the stand was selectively logged, while the eastern portion contains uncut, old-growth habitat.

The stand is lush with coastal vegetation, such as dense thickets of evergreen huckleberry and a secondary canopy of tanoak, including some very large, old tanoak trees. Old-growth Douglas fir tower above the mesic tangle of coastal understory species. The canopy is two-tiered and especially complex in the uncut portions of the stand.

The BLM has identified the entire unit as dispersal habitat for the NSO. This designation is a clearly an error. The stand is located on a moist northwest facing slope, in an area of high habitat suitability for the NSO. The eastern portion of the stand contains abundant moist forest old-growth characteristics and habitat elements for the NSO. The stand contains a two-tiered canopy structure, large, old trees with complex branch structure, large snags, large downed wood, and closed canopy conditions.

The BLM is proposing a "restoration thinning" prescription, allowing canopy removal to 30% canopy cover. The impact of such thinning prescriptions will have negative effects to fuel loading, habitat complexity and NSO habitat. For example, fuel loading has increased and habitat complexity decreased in the western portion due to selective logging. Overstory trees were removed leading to a significant increase in relatively young, low statured tanoak in the understory. Fuel continuity, fuel loading, fuel laddering and residual activity slash have all combined to make fuel risks much higher in the previously logged portion of the stand.

"Restoration thinning" prescriptions will also degrade NSO habitat in a high habitat suitability. Unit 22-5 should be canceled.

Unit 21-8

Unit 21-8 is a 24 acre unit located on a south facing slope at between 1500' and 1700' elevation. The stand was previously logged, removing many of the mature, old trees that once existed on this site. The BLM has identified the stand as 130 years old, yet it appears much younger due to past management activity. The stand contains a simplified forest structure, impacted by past timber harvest.

Much of the stand consists of trees between 8" and 20" in diameter. The composition of the recovering stand consists of Douglas fir and sugar pine with tanoak, madrone and evergreen huckleberry in the understory. The canopy has begun to recover from past harvest and is just beginning to suppress understory growth.

The BLM has proposed the area for a "restoration thinning" prescription, reducing canopy cover to 30%. The result will be an increase in fuel loading and the removal of dispersal habitat, rendering the stand unsuitable for the NSO.

The 24 acre unit is an ideal location to implement the Natural Selection Alternative, proposed by the Deer Creek Valley Natural Resource Conservation Association.

Unit 21-10

Unit 21-10 is a unique and increasingly rare habitat; low-elevation, late seral habitat on a gentle terrace. The 18 acre unit consists of beautiful old forest dominated by an overstory of Douglas fir with a well developed hardwood component of tanoak and madrone.

According to the Pickett West EA, the unit is 140 years old and contains NRF habitat for the NSO. The unit contains closed canopy stands of fir in the 24"-40" diameter class, many of which are likely much older than 140 years of age.

The stand contains an abundance of fire resistant trees and stand characteristics, including large diameter trees with high canopies, thick, insulating bark, and relatively open spaced canopy structure.

The BLM has proposed to log this stand with a "density management" prescription, reducing canopy cover to 40%. The unit is also proposed for tractor logging, meaning significant soil compaction and disturbance will occur. The heavy canopy reduction will downgrade NRF habitat to dispersal and reduce habitat complexity. Heavy canopy removal and soil disturbance will encourage a vigorous understory response. The tanoak understory will increase fuel loading and fuel laddering, thus reducing fire resilience.

Unit 21-10 should be canceled to protect the unique ecological attributes of the stand and to maintain adequate fire resilience.

Unit 21-11

Unit 21-11 is located on very steep slopes between 1700' and 2200' elevation. Slopes in some places exceed 70%. The 25 acre unit straddles a ridgeline, extending down both the north and south facing slopes of the ridge. Conditions vary depending on aspect and exposure, but in general the north facing slopes contain a higher density of large trees and more contiguous closed canopy. Large pine are more abundant on the south facing slope, while Douglas fir dominate the less exposed north face.

Stands are more dense with young reproduction on the southern face, while the canopy on the north face is suppressing understory growth and maintaining more open understory conditions.

The north slope contains late seral habitat, a diverse, patchy distribution of large, old trees and two-tiered canopy structure. It has been identified by the BLM as NRF habitat for the NSO.

The BLM is proposing a “density management” prescription, reducing canopy cover to 40% and downgrading NSO habitat to the lowest level of dispersal habitat. Removing large, fire resistant trees and significantly reducing canopy cover will increase fuel loading through a vigorous shrub response. The response will be particularly pronounced on the south facing slopes, but will effect the entire stand, reducing fire resilience and increasing fuel loading in the near and long term.

Units 26-1, 26-2, 26-3, & 26-4

The BLM has proposed four units in section 26, at the headwaters of Camp Creek and an unnamed drainage to the south, a tributary of Haven Creek. The area supports hundreds of acres of contiguous, intact, old-growth forest habitat in sections 22, 23, 26 and 27. The area contains the large blocks of late seral habitat necessary for the survival of the NSO and other late-seral species. All units currently provide NRF habitat to the NSO and the vast majority of the surrounding area is NRF habitat as well. A portion of the area has been identified as Critical Habitat and the entire area is designated as LSR forest in the 2016 RMP. Units 26-1, 26-2, and 26-4 lie within the 0.5 mile owl cores for two separate NSO and all units are within the home range for these owls.

The area is currently functional, diverse, highly resistant to natural disturbance such as insect infestations and wildfire and represents one of the most intact habitats in the Deer Creek Watershed.

In 2005, the BLM approved the development of the Thompson Overlook Trail, a six-mile, non-motorized trail providing access to the large block of old forest, rock outcrops and natural openings in sections 22, 23, 26 and 27. The trail was approved due to the highly scenic and unique natural features of the surrounding region, including units 26-1, 26-2, 26-3, and 26-4.

The Thompson Overlook Trail, although approved has not been developed due to a lack of funding, volunteers and support from BLM staff. Although not yet developed, the trail was approved because of the exceptional value it would provide to local residents and visitors alike. No specific analysis of the Thompson Overlook Trail or recreational opportunities in the unique area was documented in the Pickett West EA. At the very least, the Thompson Overlook Trail should have been analyzed as a “foreseeable future action.” The trail should be re-authorized in the Pickett West EIS and all proposed logging units traversed by the trail should be canceled, to protect and preserve the areas natural beauty and recreational opportunities.

The BLM has also proposed a nearly half mile long “temporary tractor swing” road, to facilitate logging in the currently inaccessible and un-roaded ridgeline. The impact to soils from extensive use of this tractor swing would be significant. Tractor swing routes are required to utilize only one tree suspension with more passes than a skid trail. The impact to soils is often far more significant than skid trails and would take place across the entire half-mile tractor swing route (Pickett West EA P. 55).

All units in section 26, including 26-1, 26-2, 26-3, & 26-4 should be canceled from the Pickett West Timber Sale.

Unit 26-1

Unit 26-1 is located at the headwaters of Camp Creek in a large contiguous stand of ancient forest. The unit is located on a north-west facing slope between 2700’ and 3000’ elevation. The terrain is very steep, in most locations between 50% and 70% slope. According to the Pickett West EA, the 5 acre unit is 120 years old. Currently the stand provides NRF habitat for the NSO and is within a 0.5 owl core.

Much of the unit consists of old-growth Douglas fir with an understory of low statured live oak. The stand contains a multi-aged canopy structure with significant complexity of habitat including large diameter snags, large woody debris and closed canopy conditions. The unit contains trees between 20” and 36” in diameter.

Alternative 2 proposes a “density management” prescription. The proposed logging treatment would down grade the current NRF habitat condition to dispersal by removing large old trees and reducing canopy cover to 40%. With canopy cover currently at 92%, the treatments would remove over half of the overstory canopy. The removal of large fire resistant trees and the shrub response associated with heavy canopy removal will drastically increase fuel risks and increase exposure to sun and wind. The end result will be significantly desiccated stands, that support higher fire risks and are more susceptible to drought stress and beetle infestations.

Unit 26-1 should be canceled to protect late seral forest habitats, recreational resources and intact NSO habitat in section 26 and 27.

Unit 26-2

Unit 26-2 is located at the headwaters of Camp Creek in a large, contiguous block of old-growth habitat. The unit is located on a steep west and northwest facing slope and in some places, slopes exceed 70%. Elevations range from 2700’ to 3000’.

According to the Pickett West EA, the 14 acre unit is 120 years old and provides excellent NRF habitat for the NSO. The stand is also located within a 0.5 mile owl core. The majority of the stand is between 24” and 42” in diameter and is likely much older than 120 years of age. Numerous large, wolfy trees up to 70” in diameter, with complex branch structure could provide nesting sites for RTV at the center of the unit. A grove of potential RTV nest trees can be found at the following coordinates: N 42 14.325’ and W 123 29.964’.

The stand is dominated by large, old-growth Douglas fir with a low statured understory of live oak. Herbaceous understory associates reflect the mesic stand conditions with sword fern (*P. munitum*), Cascade Oregon grape (*B. nervosa*), vanilla leaf (*A. triphylla*) and the relatively uncommon, Hartweg's wild ginger (*Asarum hartwegii*). Current canopy conditions, including 94% canopy cover are suppressing understory fuel loads. The limited understory fuel, tall crown base height, patchy canopy structure, and abundance of large fire resistant trees all combine to create a very resilient forest. Alternative 2 proposes a "density management" prescription, removing over half the overstory layer and decreasing canopy cover to 40%.

The removal of large fire resistant trees and the heavy reduction of canopy cover will increase solar radiation, exposure to drying winds, stand drying and trigger an extreme understory response. The currently low statured and patchy understory of live oak will expand, filling in canopy gaps, and along with young conifer reproduction, will drastically increase fuel loads and fire risks.

Heavy canopy reduction and the removal of constituent habitat elements for the NSO will downgrade the habitat to dispersal impacting NSO, RTV, Pacific fisher, flying squirrel and other late seral associates.

Unit 26-3

Unit 26-3 is located on a steep northwest face slope at the headwaters of an unnamed stream in the Thompson Creek watershed. The unit is surrounded by a large block of intact, old-growth forest in sections 22, 23, 26 and 27.

The unit consists of large Douglas fir and sugar pine with a secondary canopy of tanoak and madrone. Herbaceous understory associates reflect the mesic stand conditions. Species dominating the forest floor include Cascade Oregon grape, sword fern, sword fern, vanilla leaf, and the uncommon Hartweg's wild ginger.

The seven acre unit contains significant old-growth habitat that currently provides important NRF habitat for the NSO and is located within two overlapping 1.3 mile home ranges. The unit also provides excellent habitat for other late seral associates such as the Pacific fisher, RTV and flying squirrel. A documented RTV nest site can be found at the following coordinates: N 42 13.829', W 123 30.064'. This RTV nest site requires a 10 acre no cut, buffer. This buffer would eliminate commercial tree removal throughout the entire unit.

According to the Pickett West EA, the stand is 180 years old and undeniably represents old-growth habitat conditions. The stand contains all the necessary habitat elements of "old-growth" forest including large diameter trees (24" to 40" +), large diameter snags, downed woody debris, a two-tiered canopy structure, and significant levels of canopy cover, in this case 97%.

Alternative 2 proposes a "restoration thinning" prescription with a minimum canopy cover requirement of 30%. In an attempt to meet basal area and canopy cover targets in this stand, the vast majority of overstory canopy trees will have to be removed. This means many large, old, fire resistant trees will be logged.

The level of canopy cover proposed for retention following “restoration thinning” treatments would serve to replace currently old, complex, fire resistant forest with a young, highly flammable, regenerating stand. Understory shrub response associated with excessive canopy reduction will increase fuel loading in unit 26-3, increasing the risk of high severity fire effects.

Currently, the stand is classified as NRF habitat, meaning the stand can provide nest, roosting, foraging and dispersal habitat for the NSO. Logging large, old trees and reducing canopy cover to 30% will remove NRF habitat, rendering it unsuitable for the NSO’s habitat needs. The logging will also impact NSO prey species such as flying squirrel and RTV, as well as denning habitat for the Pacific fisher.

Logging this stand to below 40% canopy cover also violates LSR management direction for the 2016 RMP, as well as the 2011 Revised Recovery Plan and 2012 Critical Habitat Rule for the NSO.

Unit 26-3 should be canceled to provide for important biologic, social and recreational values. There is simply no benefit to logging this stand.

Unit 26-4

Unit 26-4 is located at the headwaters of a small tributary of Haven Creek on a south-facing slope. The unit extends from the ridgeline into the headwaters of the unnamed gulch at between 3000’ and 3300’. The unit is located within a large, contiguous block of old-growth habitat in sections 22, 23, 26 and 27.

The southern exposure of this stand creates more xeric conditions than the other units proposed in section 26. The stand consists of dry Douglas fir, ponderosa pine, sugar pine and madrone on steep mountainous slopes. According to the Pickett West EA, the stand is 180 years old. The unit contains many large trees between 20” and 36” in diameter. A secondary canopy of pole sized fir and young madrone fill canopy gaps and create a two-tiered canopy structure. The stands large diameter trees are scattered and generally of fairly low density.

Alternative 2 in the Pickett West EA proposes a “restoration thinning” treatment. The prescription allows canopy removal to 30% canopy cover. The combination of heavy canopy reduction and south-facing exposure will create extreme fuel loads and fire risks. The removal of large, fire resistant, overstory trees and the drastic reduction in canopy cover will negatively effect fire resilience by generating an extreme shrub response.

Logging this stand to below 40% canopy cover also violates LSR management direction for the 2016 RMP, as well as the 2011 Revised Recovery Plan and 2012 Critical Habitat Rule for the NSO.

Given the harsh exposure, the stand will become desiccated by drying winds and increase solar radiation if logged to 30% canopy cover. The result will be to create more pronounced drought stress, leaving trees more susceptible to insect infestations and exacerbating fire risks.

Unit 26-4 should be canceled to protect the unique natural features found in the intact portions of section 22, 23, 26 and 27.

Unit 17-2

Unit 17-2 is a forest in the process of recovery. The stand was previously high graded of dominant, overstory trees. Scattered large trees from 20"-30" in diameter are found in the large 65 acre unit. A young cohort of Douglas fir, pine and madrone have colonized the canopy gaps created by previous logging treatments. In some places, harsh exposure favors pine, manzanita and black oak. In other locations Douglas fir, tankoak and madrone dominate.

According to the Pickett West EA, the stand is 120 years old and represents dispersal habitat for the NSO.

The BLM has proposed to treat the stand with a "restoration thinning" treatment, removing canopy cover to as low as 30%. This level of canopy removal will encourage a vigorous shrub response, increasing fuel loads and fire hazards. The treatment will also eliminate dispersal habitat for the NSO, rendering the stand unsuitable for the needs of the owl. The logging treatments proposed are a new euphemism for regeneration logging and will create the same, plantation like stand structure of even-aged, early seral vegetation. The resulting increase in fuel loading and fuel continuity is well documented when maturing/recovering stands are subjected to heavy canopy removal.

Unit 17-2 is provides an ideal location to implement the Natural Selection Alternative as proposed by the Deer Creek Valley Natural Resource Conservation Association.

Conclusion

We request the No Action Alternative for the Pickett West Project and for BLM to reconsider the need for a watershed level pilot project of the Natural Selection Alternative, starting in the Deer Creek Watershed where the knowledge and support for the NSA would yield optimal community investment, involvement, and project success.

We are entering the 6th extinction, and passing irreversible tipping points with global warming. We have lost half of the Earth's wildlife populations in the past four decades. There has never been a time in human history so close to the brink of our own extinction. We have choices and decisions to make. Our community has spoken, our youth are asking us to uphold our duty to protect resources held in public trust for future generations. On this we agree. We look forward to a united effort, where we can achieve this goal.

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