



1/25/24

Jared Nichol
Field Manager
Butte Falls Field Office
Medford BLM
Attn: South Clark Timber Sale
3040 Biddle Road
Medford, OR 97504

**RE: South Clark Timber Sale Project
DOI-BLM-ORWA-M050-2023-0001-EA**

Thank you for accepting these scoping comments from the Klamath Siskiyou Wildlands Center (KS Wild) on behalf of Oregon Wild and Cascadia Wildlands. Contact information for our organizations may be found at the conclusion of this document.

Our organizations are often supportive of small diameter thinning projects while we remain steadfastly opposed to the logging of mature forest stands, significant reductions in overstory forest canopy, construction of new logging roads in these watersheds and we join with our neighbors in opposing logging prescriptions that increase fire hazard while removing wildlife habitat. ***We are particularly opposed to logging that downgrades or removes forests that currently provide the habitat and ecosystem benefits associated with Northern spotted owl (NSO) Nesting, Roosting and Foraging (NRF) habitat and logging that replaces fire resilient mature forest stands with less fire resilient second growth timber plantations.***

We especially encourage the agency to embrace an approach to project planning in the Wildland Urban Interface (WUI) that allows community values and concerns to be incorporated into project layout and design. Please note that your neighbors in the Forest Service and in the municipality of Butte Falls have worked hard to reduce (rather than increase) fire hazard in the WUI. Please avoid counterproductive “regeneration” logging prescriptions that undermine collaborative fire hazard reduction efforts.

1. REGENERATION LOGGING, GROUP SELECTION, PLANTATION ESTABLISHMENT AND FIRE HAZARD

“Plantations are extremely flammable because of high crown to trunk ratio and because crowns are very close to the ground.”

-Upper South Fork Trinity River Happy Camp Creek Watershed Analysis, Shasta Trinity National Forest at page 21.

“While the severity varied throughout the fire area, young timber plantations carried the fire while older stands tended to be more resistant. This is mostly due to young timber plantations having a high density of ground fuels.”

-BLM Douglas Complex Fire 9/5/13 Burned Area Emergency Rehabilitation Plan

Our organizations are extremely concerned that the proposed logging will be followed by the establishment of artificial plantations which will in turn increase future fire hazard in the South Clark timber sale area for decades.

As acknowledged on page 89 of the South Clark EA regeneration logging:

...would result in a young stand and a high density young stand structural stage that would shift the relative stand-level fire hazard from moderate to high for up to 50 years on this dry forest site. This shift from moderate to high will occur with or without immediate activity fuels treatment.

The proposed increase in fire hazard in the WUI directly inhibits the fuel management safety objectives of the town of Butte Falls and places BLM neighbors at increase risk of severe wildfire effects. The decision to intentionally increase fire hazard is a “significant” action that must be documented in a timber sale EIS rather than an EA. Indeed, perhaps no BLM action or environmental consequence is more significant than the increase of fire hazard on hundreds of acres in the WUI. The existence of the 2016 RMP (and its EIS) does not render the BLM’s actions here insignificant. The 2016 RMP does not discuss or disclose information about fire hazard in the Lower Big Butte, Upper Big Butte, North Fork Big Butte, Lower South Fork Big Butte or McNeil Creek Watersheds. Nor does the 2016 RMP discuss the role that these BLM managed forestlands play concerning fire hazard to the town of Butte Falls. The BLM’s decision to not analyze this significant issue “in detail” in order to focus solely on ASQ timber production is arbitrary and capricious.

The practice of converting mature forests into early seral stands significantly increases fire hazard in the mid- to long-term. Young stands are more susceptible to intense fire behavior and severe fire effects than unlogged mature forests, including burned forests (DellaSala et al. 1995, Odion et al. 2004). The increased susceptibility of second-growth trees to severe fire is due to:

- Structural characteristics, such as fine and interlocking branch structures situated low to the ground, which facilitate high heat energy output by fire and rapid fire spread (Sapsis and Brandow 1997).

- Warm, windy and dry microclimates compared to what would exist in an unlogged burned forest that possessed more structural diversity, ground shading and barriers to lateral wind movement (Countryman 1955, van Wagendonk 1996).
- Accumulations of large volumes of fine logging slash on the ground surface (Weatherspoon and Skinner 1995).

In addition to these direct and indirect effects on the fire environment, the cumulative effects of early seral stand establishment include the creation of more highly flammable even-aged stands on a landscape already vulnerable to uncharacteristically large and severe fires. The number and distribution of even-age tree plantations resulting from industrial timber management has altered fire behavior and effects at both stand and landscape scales. (Frost and Sweeny 2000, Hann et al. 1997, Huff et al. 1995). Perry (1995) suggests that the existence of sufficient young tree patches on a forest landscape creates the potential for “a self-reinforcing cycle of catastrophic fires.” Most plantations occur near roads (DellaSala and Frost 2001), which presents an added risk of human caused ignitions during hot and dry conditions (USDA 2000).

Please note that the BLM BEAR Report for the Douglas Fire Complex acknowledged that “while the [fire] severity varied throughout the fire area, young timber plantations carried the fire while older stands tended to be more resistant. This is mostly due to young timber plantations having a high density of ground fuels.”

Two fires in 2002 on the Umpqua National Forest were evaluated for their effect on the forest. Excerpts from the March 2003 Wildfire Effects Evaluation Project by the Umpqua N.F. are make clear the impact of creating more tree plantations:

"Plantations had a tendency to increase the rate of fire spread and increased the overall area of stand-replacement fire effects by spreading to neighboring stands." Page 4.

"Fire burned most plantations with high intensity and spread rapidly through the canopy of these young stands." Page 20.

"Plantation mortality is disproportionately high compared to the total area that plantations occupied within the fire perimeter." Page 26-27.

"Crown fire spreads readily through these young stands: rates of fire spread can be high, and significant areas or mortality can occur in and adjacent to these stands." Page 32.

Finally, the report concludes that the fire behavior in forest that had not been converted to tree farms was normal. "The pattern of mortality in the unmanaged forest resembles historic stand-replacement patch size and shape." Page 64.

We agree with the finding at page 98 of the Medford BLM Trail Creek Timber Sale EA indicating that:

A forest's resiliency to fire can be increased by managing surface fuels to limit the flame length, removing ladder fuels to keep flames from burning into tree crowns...and retaining larger diameter trees that are more fire resistant.

Please note that the Butte Falls Resource Area of the Medford BLM acknowledges a 50-year transition in fire hazard from “moderate” to “high” following regeneration logging. See pages 4-5 of the Round Oak Timber Sale Decision Record.

The BLM's proposal to remove mature forest canopy may increase fire hazard necessitating completion of an EIS. Please note that the Watershed Analysis indicates that early and mid-seral stands currently dominate the watersheds in the planning area. Furthering this trend has significant consequences for wildlife and fire behavior.

Please note that management direction contained on page 62 of the 2016 BLM RMP for SW Oregon specifically requires the BLM to conduct logging activities in the Harvest Land Base (HLB) “to enhance timber values and to *reduce fire risks* and insects and disease outbreaks.” (Emphasis added). We are very concerned that the proposed South Clark Project will increase, rather than decrease, fire risk in the HLB in both the short and long term.

It is necessary and reasonable that the BLM implement an alternative that does not increase fire risk in Wildland Urban Interface (WUI) for the community of Butte Falls. If the BLM is inclined to increase fire risk in the WUI, then it must complete an EIS. Increased fire risk in the WUI has a direct impact on human health and safety. This is an issue that the BLM simply cannot ignore or adequately analyze in an EA. Especially near Butte Falls, a community that was listed in the Federal Register (66 FR 751 (2001)) as within the vicinity of Federal lands that are at high risk from wildfire and continues to be listed as in the WUI with high risk for wildfires. *See Oregon Department of Forestry, Communities at Risk [of wildfires] Report, 1, 10 (2020) (listing Butte Falls as having a high risk for wildfires); Jackson County Community Fire Plan Map: Oregon Forestland-Urban Interface Protection Act Lands (Senate Bill 360) (showing that most of the town of Butte Falls is considered to be in the WUI).*

According to page 5 of the BLM's *Butte Falls Blowdown Salvage Environmental Assessment* from 2008 "residential density is high in the Project Area, with most homes located along the Butte Falls Highway. **Fuel accumulations and vegetation conditions combined with residential densities, increased recreation use, limited local fire district protection, and continued development in the Project Area contributed to increased wildfire risk within the wildland-urban interface before the windstorm.**"

The Blowdown Salvage EA continues with the warning that regeneration leads to an increased risk of wildfire. On page 56, it says, “increased fire behavior would be possible in these stands [where regeneration, connectivity, or select cut harvest activities occurred within the past 10 years] when surface wind speeds exceed 10 miles per hour. If the seedlings are established and harvest activities were not followed by slash disposal, or the stands have a moderate to light shrub component, these stands have the potential to experience greater rates of spread and flame lengths similar to

those predicted with fuel model types GS2 [spread rate high, flame lengths moderate] and GS4.”

The BLM’s proposal to regenerate forests, increase fire hazard, underminer the fuels work of its neighbors and place rural residents at increased risk will not result in the social or ecological conditions necessary to support the agency’s sustained yield timber production objectives.

2. WE NEED MORE, NOT LESS, MATURE MULTI-LAYERED STRUCTURALLY COMPLEX FOREST STANDS IN THIS PROJECT AREA

The Watershed Analysis indicates that the presence of old-growth forest stands is severely below the historic range of variability in this checkerboard land ownership planning area due to past and ongoing removal of native forests by the BLM and private land owners and the conversion of these forests into timber plantations. How many timber plantations are enough in these watersheds? Is there no place or role for late-successional forests in this WUI? The desire to retain old-growth forest stands is shared by almost everyone outside of the BLM. Please note that the proposal to target the few remaining structurally complex forest stands in the project area for logging runs afoul of the recent presidential old-growth executive order:

<https://www.whitehouse.gov/briefing-room/presidential-actions/2022/04/22/executive-order-on-strengthening-the-nations-forests-communities-and-local-economies/>

Page 48 of the EA indicates that a mere 6% of units in the proposed South Clark timber sale are comprised of mature multi-layered structurally complex forest stands. These stands provide disproportionate wildlife, watershed, resiliency, recreation and carbon storage benefits. The decision to log these stands may run afoul of the old-growth executive order and place the entire project at risk. The decision to log these stands is ecologically and socially unwise and will invite judicial review of the project and its Biological Opinion. The BLM can better meet its social, ecological and timber production objectives by focusing logging activities on the 94% of proposed timber sale units that do not contain these exceedingly important and rare old-growth forest structural characteristics.

3. BIASED PROJECT PURPOSE AND NEED

Through crafting an extremely narrow project “need statement” in which only timber production is valued or analyzed the BLM biases the NEPA process to result in a pre-ordained and inevitable outcome.

While the South Clark EA contains four separate logging alternatives, the biased and narrow preference (not need) for the BLM to produce a specific volume of timber precludes a reasoned analysis of project tradeoffs or an informed project decision.

The courts have held that in defining a very narrow purpose and need, planning agencies run afoul of NEPA:

The “purpose” of a project is a slippery concept, susceptible of no hard-and-fast definition. One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing “reasonable alternatives” out of consideration (and even out of existence). The federal courts cannot condone an agency’s frustration of Congressional will. If the agency constricts the definition of the project’s purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role. Nor can the agency satisfy the Act.

Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 666 (7th Cir. 1997) (citations omitted).

The courts have recognized that agencies bring a degree of expertise to determining the scope of a particular project, but this deference is not unlimited:

Deference . . . does not mean dormancy, and the rule of reason does not give agencies license to fulfill their own prophecies, whatever the parochial impulses that drive them. Environmental impact statements take time and cost money. Yet an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency’s power would accomplish the goals of the agency’s action, and the EIS would become a foreordained formality.

Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991) (citation omitted). The stated goal of a project necessarily dictates the range of “reasonable” alternatives and an agency cannot define its objectives in unreasonably narrow terms. *Id.*

“Project alternatives derive from an [EIS’s] ‘Purpose and Need’ section.” *City of Carmel-by-the-Sea v. U.S. Dep’t of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997). Thus, a court begins by determining whether or not the Purpose and Need Statement was reasonable. *Id.*; see also *Friends of Southeast’s Future v. Morrison*, 153 F.3d 1059, 1066-67 (9th Cir. 1998); *Westlands Water Dist. v. U.S. Dep’t of Interior*, 376 F.3d 853, 865 (9th Cir. 2004).

In a project area adjacent to many homes and communities deeply vested in public lands and their management, the BLM failed to include in their purpose and need the RMPs direction for Uneven-aged Timber Area (UTA) land use allocations (LUAs) to “[t]reat fuels to improve, enhance, or maintain landscape and ecosystem resilience. Identify sites for fuels treatments based on risk of large-scale, high-intensity/high-severity fire, operationally strategic locations, or proximity to highly valued resources and assets.” (RMP, 69). BLM proposes increase fire hazard adjacent to knowledgeable and involved communities yet fails to acknowledge the impacts to those persons most directly affected.

In fact, prior to this EA comment period the BLM had already marked the timber sale harvest units and road construction locations. This confirms that the BLM intends to remove hundreds of acres of NRF habitat across the landscape and prevent the project

and decision from being altered by the agency's analysis or by public commenting. The BLM has created a "purpose and need" designed to produce a specific policy outcome prioritizing timber production, rendering the EA planning process largely irrelevant to that preordained result. NEPA does not permit the BLM to rig the planning process in this manner.

4. FAILURE TO TAKE A HARD LOOK AT PROJECT IMPACTS

The only issue that is analyzed "in detail" by the BLM in the South Clark timber sale EA is the ability of the project to contribute timber volume to meet the agency's arbitrary yearly timber target. NEPA is not primarily a financial accounting mechanism for the timber industry. Rather, congress and the courts have been clear that the purpose of NEPA is to take a hard look at the environmental consequences of federal actions (such as logging and road construction) in order to foster informed public commenting and agency decision making. The BLM has failed that task here by refusing to analyze "in detail" any of the significant site-specific or cumulative impacts of its proposed actions. None of the site-specific watershed analysis findings or recommendation developed by BLM specialists are reflected in the EA. The BLM's legal position that the 2016 RMP eliminates the need for the agency to ever acknowledge or address significant site-specific environmental impacts is in error.

The BLM must disclose the location and impacts of establishing tail holds and yarding corridors on and through the Late Successional Reserve and Riparian Reserve land use allocations. (EA page 17). BLM contentions that the project will not impact or harm the reserves are incorrect. The decision to damage habitat in the reserves in order to reduce logging costs in the HLB is arbitrary and capricious.

Page 37 of the EA indicates that three Fritillary sites are located "in and within 100' feet of project activities," yet EA does not analyze impacts to this listed species "in detail." The BLM may not rely on generic PDF and BMP measures while refusing to address the site-specific impacts to this imperiled species. Despite the fact that soil disturbance will contribute to the spread of invasive species and noxious weeds (EA page 40) the EA fails to include any data, analysis or information about the impacts of project-caused noxious weed spread on these Fritillary sites. Additionally, while the EA acknowledges widespread cattle grazing in the project area, the BLM fails to analyze or disclose the cumulative impacts of its logging project and authorized cattle grazing on local Fritillary sites of concern.

At page 48 of the EA the BLM indicates that 6% of the proposed logging units are comprised of mature structurally complex multi-layered canopy forests. Stands with these habitat characteristics are in severe deficit in the project area. They provide the best wildlife habitat and are generally the most resilient stands to climate change, wildfire and drought. Most land managers, including the community of Butte Falls, are hoping to establish more, not fewer, old-growth forest stands. This project area and watershed are dominated by young timber plantations that carry fire and provide few wildlife benefits. When is enough, enough? The desire of some in the timber industry to remove the best remaining late-successional forest habitat is unconvincing. Please

disclose the location of the stands and the rationale for the BLM preference that they be logged rather than retained.

The exact location and impacts of yet more logging road construction in this highly roaded watershed are neither analyzed or disclosed.

The significant direct and cumulative impacts of machine slash-piling activities are neither disclosed nor analyzed.

No site-specific information, data or analysis is providing regarding project activities on TPCC soils. The BLM's contention that the existence of the 2016 RMP relieves the agency of the duty to ever acknowledge, analyze or disclose the site specific impacts of logging, yarding, road construction, landing establishment and timber haul on fragile soils is in error. Alleging that the agency will "implement the RMP" during the project does not meet the NEPA requirement to show how, where and why project activities will occur and what their effects will be on resources of concern.

The location and impacts of proposed skid trails in the riparian reserve land use allocation are neither disclosed nor analyzed.

The significant site-specific and cumulative issues regarding the impacts of log haul on 71 non-paved road/canal crossing must be analyzed in detail. The 2016 RMP does not analyze or disclose anything whatsoever about the impacts of log haul on sediment and turbidity in this watershed. The reliance on generic PDFs and BMPs during project implementation does not substitute for the hard look analysis that NEPA requires for this issue. This is especially true for the proposed natural surface log haul adjacent to Coho critical habitat at Eighty Acre Creek.

It is remarkable that the BLM is proposing to increase fire hazard on up to 1,087-acres through regeneration logging but is unwilling to analyze the site-specific and cumulative impacts that would result for fire management, fire hazard and fire risk. This is especially true for the proposed increase in fire hazard in regeneration logging units located within the Wildland Urban Interface (WUI) for homes and structures around Butte Falls. Is the BLM stepping away from the "All Lands" approach to fuels management that is called for in the Rogue Basin Strategy which the agency is a partner to? Virtually every tribal, state and federal forest planning effort is now geared towards reducing rather than increasing the risk of stand-replacing wildfire. The BLM publicly advocates for vegetation management in order to reduce fire hazard. Proposed regeneration harvest, especially in the WUI, undermines all of those efforts and is a significant action necessitating completion of an EIS that disclosing the increased fire hazard for these forest stands, for this WUI and for this community.

During planning for the 2008 Lower Down, Blown A Round and Windy salvage logging timber sales on the Butte Falls Resource Area our organizations received repeated assurances that moving forward BLM planners would consider and analyze the impacts of logging unit layout on the wind firmness and blowdown risk to leave trees in and adjacent to logging units. Those assurances have not been followed through upon by BLM timber planners. Proposed regeneration logging prescriptions will foreseeably

accelerate and exacerbate blowdown and wind through. The BLM must analyze both the site specific and cumulative impacts of its logging prescriptions on blowdown.

“The damage to forest stands was intensified by extreme wind speeds and a landscape with a highly fragmented canopy layer that reduced wind protection. Harvesting over the past 40 to 50 years...has created an alternating mix of young (shorter trees) and old (taller trees) forest stands with abrupt vertical edges. These edges provide for greater wind penetration and turbulence into the stand and increased the potential for wind damage.”

-Butte Falls Blowdown Salvage EA, page 36.

The South Clark EA fails to quantify, analyze or disclose the site-specific and cumulative impacts of further fragmenting the canopy layer through regeneration and gap logging throughout late-successional forest stands that are targeted for timber removal.

The BLM’s new policy of refusing to analyze the site specific and cumulative impacts of late-successional habitat removal on Northern spotted owls is misguided and will not result in a more stable or predictable timber program. The forthcoming Biological Assessment and Biological Opinion are not surrogates for the hard look analysis that NEPA requires. South Clark Logging units are already being laid out in the field. Public commenting is underway. The BLM has projected the exact date, acreage and volume of the proposed timber sales. Yet these decisions and processes are not informed by a meaningful site-specific or cumulative analysis concerning the consequences of removing 1,103 acres of NSO foraging habitat and 534 acres of nesting and roosting habitat. By all objective measures this watershed has too little nesting and roosting habitat and far too many dense young timber plantations. The widespread habitat removal from historic NSO activity centers is a significant action that must be analyzed in detail to allow for informed public comments and agency decision-making.

The South Clark EA (page 115) acknowledges that barred owls are displacing Northern spotted owls and causing dramatic shifts in the occupied territory yet the BLM declines to disclose the effects of its proposal to remove hundreds of acres of spotted owl habitat from recently occupied NSO activity centers. If the forthcoming barred owl removal program is successful, where are spotted owl supposed to go if the BLM has eliminated habitat from most of the historic activity centers? Why does the South Clark EA fail to disclose the number of barred owls in the project area and within NSO activity centers that are slated for logging?

The BLM’s decision to refuse to analyze project impacts to Bureau Sensitive Species in detail is in error. Bald eagles, Lewis’ woodpecker, grasshopper sparrow, monarch butterfly, western bumble bee, foothill yellow-legged frog, fringed myotis bat, Townsend’s big eared bat, pallid bat, fisher, Oregon shoulderbrand mollusk, Siskiyou Hesperian mollusk and western pond turtle are all present or suspected in the project area. The BLM’s refusal to survey for, manage for, or analyze for these species is arbitrary and capricious. The BLM is incorrect in its assertion that the 2016 RMP discloses or analyzes any of the impacts of the South Clark timber sale on sensitive

species in this project area. This is particularly important for species such as the Pacific fisher that are candidates for listing under the Endangered Species Act.

The South Clark timber sale EA did not analyze or disclose the impacts of the timer sale on Bureau Sensitive species in the project area “in detail.” We believe there is considerable risk that the BLM will not follow the 2016 ROD/RMP direction to “implement conservation measures that reduce or eliminate threats to Bureau Sensitive species” (RMP, 115).

The direction to “include altering the type, timing, location, and intensity of management actions” for the benefit of Bureau Sensitive species, (RMP, 115), appears incompatible with the BLM’s intent to focus on timber production targets regardless of impacts to wildlife habitat in the South Clark planning area.

Please implement the direction to “[u]tilize integrated vegetation management in designing and implementing treatments . . . for any of the following reasons: Restore and maintain habitat for Bureau Special Status species.” (RMP, 72). Please implement the direction to “[p]rovide for the conservation of Bureau Special Status plant and fungi species.” (RMP, 106).

The South Clark timber sale analysis is largely silent concerning BLM management goals regarding Pacific fisher or any other Bureau Sensitive species. We are concerned that proposed regeneration and large tree logging may contribute to the need to list the Pacific fisher under the ESA.

The BLM’s Special Status Species Management handbook instructs:

District Managers and Field Managers are responsible for implementing the BLM special status species policies and program within their area of jurisdiction by: . . . Monitoring populations of Bureau special status species to determine whether management objectives are being met. Records of monitoring activities are to be maintained and used to evaluate progress relative to such objectives. Monitoring shall be conducted consistent with the principles of adaptive management as defined in Department of the Interior policy, as appropriate.

(BLM Manual 6840, .04E).

The BLM generally acknowledges that presence of numerous BSS plants and Special Status Plants (SSPs) in the project area, including within logging units outside of “skips.” Yet the EA and appendices contain no data or analysis regarding these species. The BLM should not refer all analysis to the RMP and rely on generic PDFs in place of proper NEPA analysis and disclosure.

The BLM’s failure to look for and provide data and analysis for BSS species contradicts agency policy described in the Special Status Species Management handbook:

Actions authorized by the BLM shall further the conservation and/or recovery of federally listed species and conservation of Bureau sensitive species. Note that

“conservation” has a different meaning depending on whether it is referring to ESA listed species or Bureau sensitive species. See glossary. Bureau sensitive species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA.

(BLM Manual 6840, .06).

5. BLM ACTIONS SHOULD BE INFORMED BY THE BLM WATERSHED ANALYSIS, WATER QUALITY RESTORATION PLAN, AND ROGUE TMDL REQUIREMENTS

While the BLM has rejected the NW Forest Plan and its Aquatic Conservation Strategy, information generated by BLM staff contained in the Watershed Analysis (WA) and Water Quality Restoration Plan (WQRP) is nevertheless relevant to project planning, yet was not addressed in the South Clark NEPA EA, and did not inform the project purpose and need.

The South Clark project should incorporate and reflect the following findings and recommendations contained in the relevant WAs and WQRP:

- A WQMP is developed to describe a strategy for reducing water pollution to the level of the load allocations and waste load allocations prescribed in the TMDL. The approach is designed to restore the water quality and result in compliance with the water quality standards, thus protecting the designated beneficial uses of waters of the state. (Big Butte Creek WQRP, 7).
- When describing the historical and present conditions of the watershed in regard to Forest Health and Productivity, “HISTORIC: Frequent, low intensity fires maintained low fuel levels and open under-story. Forest stands had fewer trees per acre with trees of larger diameter. Forest stands had diverse age classes. Forests predominately composed of Douglas-fir, pine, and hardwood mixtures. Areas of open mature oak forest. PRESENT: Fire exclusion resulting in high fuel loads. High vegetation densities resulting in low vigor and/or poor growth. Forest stands lack resiliency. Forests experiencing mortality due to beetle infestations.” (Big Butte Creek WQRP, 19).
- When describing the historical and present conditions of the watershed in regard to roads, “HISTORIC: Few roads before industrial timber harvesting began in the early 1950s. PRESENT: Areas with high road density. Roads in riparian areas. High number of stream crossings with many culverts undersized for 100-year flood.” (Id.)
- When describing the historical and present conditions of the watershed in regard to Flow Regime: “HISTORIC: Channel morphology developed in response to climatic conditions and natural ranges of streamflows. Most likely, peak flows were lower in magnitude and frequency. Summer low flows were directly related to the amount and timing of precipitation events. PRESENT: **Winter peak flows possibly increased by roads and harvest.** Summer low flows reduced by water withdrawals.” (Id.)
- See Table 3 below of 303(d) listings in the Big Butte Watershed from the 2008 WQRP:

Table 3. 2004/2006 303(d) Listings in the Big Butte Creek Watershed (ODEQ 2007)

303(d) List Date	Stream Segment	Listed Parameter	Season	Applicable Rule (at time of listing)	Total Miles Affected
2002	Big Butte Creek	Dissolved Oxygen	Summer	OAR 340-041-0016(1)(a)(c)(2)	11.6
2004	Big Butte Creek	Bacteria (E. coli)	Summer	OAR 340-041-0009(1)(a)(A,B)	11.6
1998	Big Butte Creek	Temperature	Summer	OAR 340-041-0365(2)(b)(A)	11.6
2004	Clark Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	7.7
2004	Dog Creek	Temperature	Oct 15 – June 15	OAR 340-041-0028(4)(a)(b)	0.5
2004	Dog Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	4.7
2004	Doubleday Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	3.4
2004	Hukill Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	3.6
2004	Jackass Creek	Temperature	Oct 15 – June 15	OAR 340-041-0028(4)(a)(b)	0.3
2004	Jackass Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	4.8
2004	North Fork Big Butte Creek	Temperature	Jan 1 – June 15	OAR 340-041-0028(4)(a)(b)	6.9
2004	North Fork Big Butte Creek	Temperature	Oct 15 – June 15	OAR 340-041-0028(4)(a)(b)	7
2004	North Fork Big Butte Creek	Temperature	Year-round (non-spawning season)	OAR 340-041-0028(4)(b)	13.9
1998	Willow Creek	Temperature	Summer	OAR 340-041-0365(2)(b)(A)	4.5
Total Stream Miles listed for Bacteria (E. coli) Criteria (Summer)					11.6
Total Stream Miles listed for DO Criteria (Summer)					11.6
Total Stream Miles listed for Temperature Criteria (Oct 15 – June 15)					7.8
Total Stream Miles listed for Temperature Criteria (Summer)					16.1
Total Stream Miles listed for Temperature Criteria (Year-round (non-spawning season))					38.1
Total Stream Miles listed for Temperature Criteria (Jan 1 – June 15)					6.9

- Oregon Department of Environmental Quality offers an integrative mapping tool to view impacted and impaired river systems in Oregon. (See here: <https://hdcgcx2.deq.state.or.us/HVR291/?viewer=wqsa>)
 - **Big Butte Creek** is listed as impaired since 2002. 19.2 miles are impaired by Dissolved oxygen - year-round, Temperature – spawning, Temperature – year-round, and E-coli. These impairments impact fish and aquatic life, water quality and water contact recreation. Unassessed uses include: Aesthetic Quality; Boating; Fishing; Hydro Power; Industrial Water Supply; Irrigation; Livestock Watering; Private Domestic Water Supply; Public Domestic Water Supply; Wildlife and Hunting
 - **North Fork of Big Butte creek** is listed as impaired since 2010. 9.2 miles are impaired by Temperature – Spawning, and Temperature – year-round. These impairments impact fish and aquatic life. Unassessed uses include: Aesthetic Quality; Boating; Fishing; Hydro Power; Industrial Water Supply; Irrigation; Livestock Watering; Private Domestic Water Supply; Public Domestic Water Supply; Water Contact Recreation; Wildlife and Hunting
 - **North Fork Big Butte Creek** is also listed as impaired since 2010 for 107.7 miles regarding Temperature – spawning and Temperature – year-round, which further impairs fish and aquatic species. The same unassessed uses on the 9.2 miles listed above are also unassessed on the 107.7 miles.
 - **Lower South Fork Big Butte Creek** is listed as impaired since 2010. 78.9 miles are impaired by Temperature – year-round. These impairments impact fish and aquatic life. Unassessed uses include: Aesthetic Quality; Boating; Fishing; Hydro Power; Industrial Water Supply; Irrigation; Livestock Watering; Private Domestic Water Supply; Public Domestic Water Supply; Water Contact Recreation; Wildlife and Hunting

- **Upper Big Butte Creek** is listed as impaired since 2010. 61.8 miles are impaired by Temperature – spawning and Temperature – year-round. These impairments impact fish and aquatic life. Unassessed uses are the same as Lower South Fork, North Fork, and mainstem Big Butte Creek.
- **Lower Big Butte Creek** is listed as impaired in 2010. An additional 95.9 miles of streams are impaired by Temperature – year-round effecting fish and aquatic species.

In 2008 when the Water Quality Restoration plan was written for the Big Butte Creek Watershed there were only 54.2 stream miles on the 2004/2006 303(d) list, of which 17.2 miles were located on BLM-managed lands. (WQRP p.8). According to the 2018/2020 303(d) list, in 11 years since the publication of the WQRP for Big Butte Creek, 205.7 miles of waterways in the Big Butte Creek watershed are now listed as impaired. BLM must analyze and disclose how the proposed project may further degradation to these impacted waterways. This analysis must be substantiated by data, facts, and references, pertaining to the project area.

The South Clark project must not increase stream temperatures.

Nonpoint Source Temperature Factors

Stream temperature is influenced by riparian vegetation, channel morphology, hydrology, climate, and geographic location. While climate and geographic location are outside of the BLM's control, the condition of the riparian area, channel morphology and hydrology can be altered by BLM actions. Timber harvest, roads, and livestock grazing are the primary impacts specific to federally managed lands that have the potential to affect water quality conditions in the plan area. For the Rogue Basin temperature TMDL, there are four nonpoint source factors that may result in increased thermal loads: stream shade, stream channel morphology, flow, and natural sources. (See Big Butte Creek WRQP, 23).

Temperature Factor 1: Stream Shade

Stream temperature is driven by the interaction of many variables. Energy exchange may involve solar radiation, long wave radiation, evaporative heat transfer, convective heat transfer, conduction, and advection (USDA and USDI 2005). While interaction of these variables is complex, some are much more important than others (USDA and USDI 2005). The principal source of heat energy for streams is solar energy striking the stream surface (USDA and USDI 2005). Exposure to direct solar radiation will often cause a dramatic increase in stream temperatures. Highly shaded streams tend to experience cooler stream temperatures due to reduced input of solar energy. Stream surface shade is dependent on riparian vegetation height, location, and density. The ability of riparian vegetation to shade the stream throughout the day depends on vegetation height and the vegetation position relative to the stream. For a stream with a given surface area and stream flow, any increase in the amount of heat entering a stream from solar radiation will have a proportional increase in stream temperature (USDA and USDI 2005).

Removal of riparian vegetation, and the shade it provides, contributes to elevated stream temperatures. Activities in riparian areas such as timber harvest, road construction,

residential and agricultural clearing, and livestock grazing, have reduced the amount of riparian vegetation in the Big Butte Watershed.

Riparian areas in the plan area cover less area and contain fewer species than under historic conditions. They tend to be younger in age and dominated by hardwoods. Conifers, such as Douglas-fir, ponderosa pine, and white fir are a bigger component of the riparian vegetation as the elevation increases, however the average diameter is smaller than what existed historically. Riparian vegetation appears patchy: areas with many layers of riparian vegetation, including large-diameter trees, are scattered in between clumps of even-aged alder and cottonwood and shrub-dominated areas. Woodland stands are fragmented, creating a patchy, poorly connected landscape of simpler and less biologically productive habitat. These changes have resulted in less shade on stream surfaces and an increase in stream water temperatures.

Such altered riparian areas are not sources of large wood and they lack the cool, moist microclimate that is characteristic of healthy riparian zones.

The primary reason for elevated stream temperatures on BLM-managed lands is an increase in solar radiation reaching the stream surface following timber harvest or road construction that removed stream shading vegetation. Pre-NWFP management activities along streams on federal lands in the plan area have left a mosaic of vegetation age classes in the riparian areas. The amount of riparian area with late successional forest characteristics has declined on federal lands primarily due to timber harvest and road construction within or adjacent to riparian areas. In some cases, the large conifers have been replaced by young, small diameter conifer stands and in other cases, hardwoods have replaced conifers as the dominant species in riparian areas. In riparian areas where the trees are no longer tall enough to adequately shade the adjacent streams, the water flowing through these exposed areas is subject to increased solar radiation and subsequent elevated temperatures.” (Big Butte Creek WQRP, 23-24).

Prior to the completion of the TMDL for the plan area, guidance from the DEQ assumes that streams at system potential will not meet the temperature criterion during the hottest time of year (ODEQ 2004:11). Therefore, 100 percent of the load allocation for the Big Butte Watershed is assigned to natural sources and the allocation for BLM-managed lands is zero. Any activity that results in anthropogenic caused heating of the stream is unacceptable. (Big Butte Creek WQRP, 25,26).

The Rogue River Basin Temperature TMDL incorporates other measures in addition to “*daily loads*” to fulfill requirements of the Clean Water Act §303(d). Although a loading capacity for heat energy is derived (e.g. kilocalories), it is of limited value in guiding management activities needed to solve identified water quality problems. In addition to heat energy loads, this TMDL allocates “*other appropriate measures*” (or surrogate measures) as provided under EPA regulations (40 CFR 130.2(i)). (Rogue River, TMDL 2-36)

Table 8. Percent-Effective Shade Targets for BLM-Managed Lands in the Big Butte Watershed
(ODEQ 2004: Appendix A)

Stream	Tributary to	Stream Miles Assessed on BLM	Current Shade ¹ (%)	Target Shade ¹ (%)	Additional Shade Needed ² (%)	Time to Recovery ³ (years)
Big Butte Creek	Rogue River	2.1	52	80	32	80
Clark Creek	Big Butte Creek	2.1	93	93	0	0
Dog Creek	Big Butte Creek	0.8	88	88	0	0
Jackass Creek	North Fork Big Butte Creek	2.3	89	89	0	0
North Fork Big Butte Creek	Big Butte Creek	6	72	83	11	45

¹ Current shade and target shade refer to percent-effective shade defined as the percent reduction of solar radiation load delivered to the water surface. Shade values are averages for all BLM stream miles assessed.

² Additional shade needed is the increase in percent-effective shade required to meet the target shade.

³ If current shade is greater than or equal to the target shade, the time to recovery is listed as 0 years. If current shade is less than the target shade, the time to recovery is listed as the number of years needed to reach full system potential percent-effective shade. At a value equal to the target shade or ≥ 80 percent effective shade, a stream is considered recovered and the stream should not be a candidate for active restoration. Additional shade should come from passive management of the riparian area. Any increase over the target shade or 80 percent effective shade is considered a margin of safety. Years to recovery are a weighted average of recovery time for individual stream reaches.

(Table 8, Big Butte Creek WQRP, 21)

The WQRP states that in 2008 North Fork Big Butte Creek is 11% below the shade target. Big Butte Creek is 28% target shade levels. **The South Clark EA fails to analyze and disclose how proposed yarding, road construction, timber haul, tailholds, and landing establishment will increase the ability to meet shade targets and reduce stream temperature.** This comment is substantive such that it is substantiated by data, facts, and references, which pertain to the project area, and are not vague.

- Major land uses in the Big Butte Watershed include agriculture, timber, and recreation. Cattle operations are the largest non-forestry agricultural venture. The BLM manages 9 grazing allotments within the plan area, of which 8 (approximately 74,483 acres) are currently in use. (Big Butte Creek WQRP, 12)
- Average annual precipitation ranges from approximately 35 inches at the mouth of Big Butte Creek to approximately 80 inches on the upper slopes of Mount McLoughlin (USDI 1999 and USDA 1995). Winter precipitation in the higher elevations (generally above 5,000 feet) usually occurs as snow, which ordinarily melts during the spring runoff season from April through June. Rain predominates in the lower elevations (generally less than 3,500 feet) with the majority occurring in the late fall, winter, and early spring. A mixture of snow and rain occurs between approximately 3,500 feet and 5,000 feet and this area is referred to as either the rain-on-snow zone or transient snow zone. The snow level in this zone fluctuates throughout the winter in response to alternating warm and cold fronts. The transient snow zone occupies approximately 35 percent of the Big Butte Creek Watershed, while the snow and rain dominated precipitation zones occupy 56 and 9 percent, respectively. (Big Butte Creek WQRP, 14.)
- There are three native anadromous salmonids that spawn and rear in the Big Butte Creek Watershed: coho salmon, chinook salmon (spring runs), and steelhead trout (summer and winter runs). The BLM manages 19 percent of the land within the Watershed and 31 percent of the anadromous salmonid habitat crosses BLM-administered land. (Big Butte Creek WQRP, 14-15).

- Northern California/Southern Oregon Coho salmon (*Oncorhynchus kisutch*), a species listed as threatened under the Endangered Species Act (May 1997) are present in Big Butte, North and South Forks Big Butte, McNeil, Neil, Jackass, and Dog Creeks for a total of 37.2 miles. (Big Butte Creek WQRP, 15).
- The major limiting factors influencing aquatic species distribution and instream habitat condition are: high summer stream temperatures and sedimentation of pools and spawning gravels, and lack of large woody debris. Other limiting factors include: riparian degradation, instream degradation, fish passage barriers, and wetland and floodplain losses (USDI 1995, 1999). (Big Butte Creek WQRP, 18).

The Central Big Butte Watershed Assessment provides the following relevant data and information pertaining to the project area:

- Anadromous fish population numbers have declined in the past 25 years. This can, in part, be attributed to landscape management practices. Loss of riparian vegetation leads to higher stream temperatures, and loss of CWD in the streams. Past management practices included removing CWD from streams, as CWD at that time was considered to have a negative impact on the stream channel, a practice which was discontinued in the late 1970's. Increased harvesting activities has led to a greater number of roads, more compacted soils, and less vegetation in the clearcuts in the uplands to hold soils in place during storm events and periods of high runoff. This increases the amount of sediment reaching the streams, and can result in the loss of spawning habitat and macroinvertebrate prey species for juvenile and resident fish. Inadequate culverts which block fish passage for resident and anadromous fish may also impact migration and genetic diversity of fish populations.
- Interruption and fragmentation of the riparian corridors can result in disruption of a dispersal or migration route for other terrestrial animal species, such as salamanders and frogs. Sensitive fungi, lichens, bryophytes, and plants can all be affected by fragmentation of the riparian corridor. (CBBWA, 48).
- The trend within this watershed over the past 70 years has been one of structural, habitat, and species simplification. Some of the changes from historic levels include:
 - The low thinning effect of fire is absent.
 - A shift from early seral species such as ponderosa pine to mid and late seral species such as Douglas-fir and white fir due to fire exclusion and the harvest of high value seral overstory trees.
 - Stand densities have increased, thereby increasing soil moisture and nutrient demands, resulting in increased tree stress and larger numbers of trees predisposed to insect or disease attack.
 - Reduced interior habitat for species associated with late successional forests.

- A shift in abundance and species composition of soil and canopy arthropods towards those most associated with early successional stands.
- Post-harvest treatments have modified the natural process of vegetative succession; the temporal and spatial occurrence of herbaceous, shrub, and hardwood species has been altered by management treatments (i.e, slashing, burning, brushing, girdling, herbicides, scalping, fertilization). The treatments are not always representative of natural processes, and their effects upon long-term ecological health and processes is unclear.
- Road construction and logging have created a landscape that is more fragmented and has greater edge and patch densities than historic levels. Large blocks of mature forests are now mosaics of young plantations, mature forests, and stands modified by varying degrees by logging.
- The current landscape pattern has been shaped predominantly by logging. Historically, the landscape pattern was a result of disturbances, such as fire, windthrow, insects, and disease that were partially regulated by environmental gradients such as climate, soils, and landform. (BBWA, 49).
- The cumulative effects of these changes have affected the ecological processes and functions within landscape. Id.
- Concern: Inadequate or improperly functioning riparian buffers. Lack of connectivity along riparian areas
- Suggested: Reduce the number of miles of road within the resource management area. Identify areas where grazing is impacting stream banks and riparian vegetation. Establish enclosures, repair existing enclosures, or modify grazing to reduce and eliminate negative impacts. Increase riparian widths to meet ROD standards. (BBWA, 51).
- Concern: Lack of connectivity for old growth dependent species between LSR and existing old growth patches. Checkerboard ownership patterns on western 2/3 of the WAU. Snag numbers low in many areas due to past and current management practices.
- Suggested action: On matrix lands, create and maintain connectivity between LSR and provide refuge/habitat for a variety of organisms associated with late successional forests, minimize new road construction. (BBWA, 52).
- Concern: Simplification of forest structure and pattern has reduced biological diversity, connectivity, and landscape function. Ecological processes inherent to the landscape have been altered to levels different than the historic range of natural variability. The kind, amount, and spatial distribution of plants, animals, and forest organisms across the landscape may affect long-term landscape health and sustainability. (BBWA, 54).

6. COMPARED TO DERBYCHAIN FUELS REDUCTION PROJECT

The BLM should instead focus on implementing projects similar to its Derbychain Fuels Reduction Project (DOI-BLM-ORWA-M050-2022-0004-DNA). In Derbychain, the Butte Falls Resource Area is planning an entirely non-commercial project, only removing trees > 7" DBH, and following up with prescribed fire. This type of project will actually reduce potential fire behavior and severity within the WUI unlike the proposed regeneration harvest of mature and late-successional forest stands that is currently proposed in the South Clark project.

If the BLM intends to undercut the effectiveness of projects like Derbychain and undermine the "All Lands" approach supposedly contained in the Rogue Basin Strategy than the agency must complete an EIS for this project explaining why it is willing to increase fire hazard for the town of Butte Falls.

7. NEOTROPICAL MIGRATORY BIRDS

The regional decline of migratory birds is a significant issue for the South Clark timber sale. Numerous studies have reported local and regional negative trends in breeding and migratory bird populations throughout North America.

The South Clark EA failed to analyze and disclose the potential impacts of conifer thinning operations and brush removal on neotropical bird population trends. Indeed, the South Clark EA contains no data, information, analysis, or documentation of any kind on this subject.

BLM timber sale PDFs sometimes indicate that where "practicable" the BLM may conduct prescribed fire activities in the fall or winter and thus outside of migratory bird nesting season. This does not actual qualify as a "project design feature" as the BLM fails to disclose what it considers "practicable" and leaves implementation of the PDF at the discretion of the project administrator. NEPA does not permit the BLM to say that it "may do A or it may do B, but it refuses to disclose the impacts of doing B." If the BLM is going to remove migratory bird nesting habitat during nesting season then the agency needs to say so and to analyze and disclose the effects of that action.

The cumulative effects analysis on migratory birds cannot rely exclusively on the Resource Management Plan, Riparian Reserves, and LSRs to provide for species viability into the future because it is the collective and cumulative impact of individual habitat removal actions that is pushing these species towards extinction.

Simply concluding that the scale of the project is small, relative to the size of the nation, hence migratory bird populations will not be affected, will not suffice.

As per DOI BLM instruction memo 2008-50 the BLM must "include migratory bird species of concern in the affect environment [analysis] when any of these species may be affected by the proposed actions" Further, the agency must "emphasize avoidance or minimizing negative impacts and restoring and enhancing habitat quality"

In our scoping comments we suggested a reasonable action alternative in which the BLM implemented seasonal operational restrictions to avoid project impacts while land birds are nesting in the project area. An example of such restrictions may be found in the Highway 89 Safety Enhancement and Forest Ecosystem Restoration Project on the Shasta-Trinity National Forest in which project activities that could impact cavity-nesting and ground-and-shrub-nesting migratory bird species are prohibited during the primary nesting period of April 15 to July 31.

The BLM refused to consider or analyze this reasonable action alternative. Instead the BLM included a PDF in which it “recommends” to itself to avoid spring burning in favor of fall or winter burning so as to not burn during nesting season. There is no indication that the BLM will follow its recommendation to itself. The BLM should inform the public of the consequences of implementing or rejecting its recommendation to itself. However, no such data, analysis, or information is presented in the EA.

Pursuant to the Migratory Bird Treaty Act (MBTA), it is unlawful “at any time, by any means or in any manner to . . . take [or] kill . . . any migratory birds, [and] any part, nest, or eggs of any such bird.” 16 U.S.C. § 703(a). This prohibition applies to federal agencies and their employees and contractors who may not intend to kill migratory birds but nonetheless take actions that result in the death of protected birds or their nests. *Humane Soc’y of the United States v. Glickman*, 217 F.3d 882 (D.C. Cir. 2000) (holding that federal agencies are required to obtain a take permit from FWS prior to implementing any project that will result in take of migratory birds); *Robertson v. Seattle Audubon Soc’y*, 503 U.S. 429, 437–38 (1992) (finding that federal agencies have obligations under the MBTA); *Center for Biological Diversity v. Pirie*, 191 F.Supp.2d 161 (D.D.C. 2002) (allowing injunctive relief against federal agencies for violations of the MBTA).

The prohibition on “take” of migratory birds includes destruction of nests during breeding season. Specifically, “nest destruction that results in the unpermitted take of migratory birds or their eggs, is illegal and fully prosecutable under the MBTA.” U.S. Fish and Wildlife Service, Migratory Bird Permit Memorandum: Nest Destruction (April 15, 2003).

Under the MBTA, “any person, association, partnership, or corporation” who violates the MBTA or regulations thereunder are subject to criminal and civil penalties. 16 U.S.C. §707. Violations of the MBTA are prosecuted as a misdemeanor, and upon conviction thereof, are subject to fines of up to \$15,000 or imprisonment of up to six months, or both. *Id.*

The South Clark EA fails to analyze or disclose the effects of the project and alternatives on migratory birds protected under the MBTA. The MBTA prohibits the destruction of nests and eggs of migratory birds. The BLM should have evaluated the impacts of project activities on migratory bird nests, disclosed the breeding season for each migratory bird species found in the project area, and implemented measures to avoid destruction of nests.

Please note that page 115 of the 2016 ROD/RMP specifically directs the BLM to “conserve or create habitat for species addressed by the Migratory Bird Treaty Act”

8. EROSION, ROAD-RELATED SEDIMENT AND TURBIDITY

The EA action alternatives fail to identify specific BMPs/PDFs and mapped locations for BMP/PDF implementation for each proposed new road segment and each haul route road segment to decrease connectivity of roads with the stream channel system. This requires hydrologically disconnecting the unpaved log haul routes from the stream system with cross drain culverts, outsloping, berms, sediment traps and critical dips. Failure to provide site specific BMPs means sediment minimization is not assured and take of coho salmon may occur.

The EA merely lists PDFs that may or may not in fact be implemented “when practicable.” The BLM fails to discuss the ineffectiveness of proposed PDFs and resulting fine sediment transport to streams. Edwards et al. 2016. For the majority of these PDFs the EA fails to identify specific or even general road locations where they would be implemented or which BMPs would be implemented. For example, cross drains are important for reducing connectivity of roads within the stream system but the EA does not specify a single cross drain location or indicate how many new cross drains would be installed to reduce connectivity of new haul roads and existing haul roads. The EA only addresses sediment abatement with PDFs in a programmatic fashion. Effectiveness of this approach is highly uncertain since there are no required site-specific PDFs identified (e.g., additional cross drains). Since the EA fails to identify structural PDFs needed to disconnect the road system from the stream system they cannot be incorporated into project contracts or road upgrades. In other words, contract PDFs will only address drainage and protection of the road surface and not reduce existing connectivity with streams.

The action alternatives fail to adequately implement the following RMP management direction consistent with the RMP BA and NMFS 2016 (RMP) Biological Opinion (BiOp):

Implement road improvements, storm proofing, maintenance, or decommissioning to reduce or eliminate chronic sediment inputs to stream channels and waterbodies. This could include maintaining vegetated ditch lines, improving road surfaces, and installing cross drains at appropriate spacing. (RMP, 93).

It is clear from the 2016 BiOp that NMFS assumed that management direction and BMPs would be implemented to reduce sediment and vehicle pollutants from roads. The following is excerpted from the 2016 BiOP pages 199-200.

The following are a subset of the BMPs that could be implemented for road work:

- Locate roads and landings on stable locations, ridge tops, stable benches, or flats, and gentle-moderate slopes.
- Locate roads and landings away from wetlands, Riparian Reserve, floodplains, and waters of the State, unless there is no practicable alternative. Avoid locating landings in areas that contribute runoff to channels.
- Disconnect road runoff to the stream channel by outsloping the road approach. If outsloping is not possible, use runoff control, erosion control and sediment

containment measures. These may include using additional cross drain culverts, ditch lining, and catchment basins. Prevent or reduce ditch flow conveyance to the stream through cross drain placement above the stream crossing.

- Effectively drain the road surface by using crowning, insloping or outsloping, grade reversals (rolling dips), and waterbars or a combination of these methods. Avoid concentrated discharge onto fill slopes unless the fill slopes are stable and erosion proofed.
- Locate cross drains to prevent or minimize runoff and sediment conveyance to waters of the State. Implement sediment reduction techniques such as settling basins, brush filters, sediment fences, and check dams to prevent or minimize sediment conveyance. Locate cross drains to route ditch flow onto vegetated and undisturbed slopes.
- Space cross drain culverts at intervals sufficient to prevent water volume concentration and accelerated ditch erosion. At a minimum, space cross drains at intervals referred to in the BLM Road Design Handbook 9113-1 (USDI BLM 2011), Illustration 11 –‘Spacing for Drainage Lateral.’ Increase cross drain frequency through erodible soils, steep grades, and unstable areas.
- Install cross ditches or waterbars upslope from stream crossing to direct runoff and potential sediment to the hillslope rather than deliver it to the stream.
- Luce and Black (1999) found that incorporating design features such as cross-drains and ditch relief culverts into roads reduced the hydrological connection of these structures. Forest vegetation buffers flow and prevents sediment from reaching streams. Copstead et al. 1998.

(2016 BiOP, 199-200).

We conclude that the South Clark project fails to implement actions to substantially reduce sediment from the use of existing haul roads and log haul on proposed new roads.

CONCLUSION

Removing and reducing mature forest canopy while increasing fire hazard on public lands is a shortsighted and counterproductive way of attempting to meet BLM timber targets. Please work with interested stakeholders to develop projects that increase, rather than decrease, forest and watershed health while addressing fire hazard. Substantive partnerships that acknowledge all of the interests in America’s public lands would better serve the BLM than continuing to develop projects that primarily serve a narrow set of timber interests.

Regards,

/s/ George Sexton

George Sexton
Conservation Director
Klamath Siskiyou Wildlands Center
562 A St.

Ashland, OR 97520

Nick Cady
Legal Director
Cascadia Wildlands
P.O. Box 10455
Eugene, OR 97440

Doug Heiken
Western Field Representative
Oregon Wild
P.O. Box 11648
Eugene, OR 97440