Bald Project
Public Scoping Issue Analysis & Alternative Development

This document summarizes the public comments received from scoping of the Bald Project Proposed Action and Purpose and Need. This summary outlines the process that was used to analyze comments, potential issues, and alternatives that were suggested by the public for the Bald Project.

News releases were published in three local newspapers: the Inter-Mountain News on December 3, 2014; the Lassen County Times on December 9, 2014; and the Mountain Echo on December 16. 2014 The project was listed in the Lassen National Forest Schedule of Proposed Actions (SOPA) on January 1, 2015.

The Bald Project was scoped on December 19, 2014. **Table 1a** (below) contains a list of interested or affected individuals, groups, and other agencies to which the scoping announcement for the Bald Project was sent.

Table 1a. Contact List for Public Scoping for the Bald Project.

Name	Organization
Henry and Pam Giacomini	Individual
Ted and Peggy Crum	Individual
James and Dorothy Bickford	Individual
Guy Robert and Kristina Martin	Individual
Gary Wayne and Jill Duncan	Individual
Vestal Family	Individual
Bill and Carol Buckman	Beaver Creek Ranch
Doreen Blankenship	Lassen County Fire Safe Council
Don Curtis	Hat Creek Valley Fire Safe Council
Shasta County Fire Safe Council	
Lassen County Board of Supervisors	
Pam Giacomini	Shasta County Board of Supervisor
Debra Hallis	Central Valley Regional Quality Control Board
Honorable Mickey Gemmill, Chairman	Pit River Tribe
Marissa Fierro, Morning Star Gali, Ida Riggins, Charles White, Shawn Normington	Pit River Tribe
BLM, Alturas Field Office	
Melinda Graves	Natural Resources Conservation Services

Table 1b (below) contains the list of those who responded during this opportunity to provide public comments for the Bald Project. Ten individuals and/or organizations provided comments.

Table 1b. List of Respondents to Public Scoping for the Bald Project.

Letter #	Agency, Organization, Business, or Individual	Date
1	Dick Artley, Individual	12/22/2014
2	Steve Brink, California Forestry Association	12/31/2014
3	Rhonda Barnhart, Individual	1/02/2015
4	Marissa Fierro, Pit River Tribe (comments from CFLR meeting)	1/06/2015
5	Ryan Hadley, Sierra Pacific Industries	1/07/2015
6	Traci Holt, Diversified Resources	1/07/2015
7	Rich Coakley, Individual	1/07/2015
8	Bill Wickman, American Forest Resource Council	1/08/2015
9	John Augustine and Chad Hanson, The John Muir Project of Earth Island Institute	1/09/2015
10	Shasta County Board of Supervisors	1/09/2015

Table 2 (on the following pages) identifies and documents specific statements from each of the letters received from the public in response to scoping. The Bald Project Responsible Official identified statements as a comment, a question, a request for information, an alternative suggestion, a potential issue, or a literature citation. The Responsible Official then provided rationale for determining the status of the comment.

For each comment initially identified as a potential issue, the cause and effect for the issue topic as put forth by the respondent was noted. Potential issues were dropped from consideration if they met one of the following criteria:

1. The issue already decided by law, regulation, Forest Plan, or other higher-level decision.
2. The issue is outside the scope of the proposed action.
3. The issue is irrelevant to the decision to be made.
4. The issue is conjectural and not supported by scientific evidence.

The Responsible Official determined if proposed alternatives should be studied in detail using the following criteria: Alternatives not considered in detail may include, but are not limited to those that fail to meet the purpose and need, are technologically infeasible or illegal, or would result in unreasonable environmental harm.

For literature citations, a comment is provided by the Responsible Official on how the literature will be addressed.

Copies of the letters are in the Bald planning record located at the Hat Creek Ranger District Office.

Table 2. Summary of Letters Received during Scoping

Respondent #1: Dick Artley, Individual, December 22, 2014			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
1-1	Comment	You should be ashamed! Is this any way for a new forest supervisor to start out? Your tragic proposed Bald and Eiler post-fire timber sales will make front page news.	Comment noted.
1-2	Comment	You propose to log 7.1 square miles and construct 1 mile of system road as part of the Bald timber sale and an undisclosed (secret) number of temporary road miles in the extremely fragile post-fire landscapes. You also propose to log 10.2 square miles and construct 1 mile of system road as part of the Eiler timber sale and an undisclosed (secret) number of temporary road miles in the extremely fragile post-fire landscapes. Supervisor Hays, you know your temporary road locations will pump sediment over hydrophobic soils for decades. Why else would you refuse to disclose this important information to the public? Decommissioning methods don't exist that prevent this from happening. How will your OGC attorneys convince the judge that this doesn't violate the Federal Water Pollution Control Act of 1948 as amended in 1972 (a.k.a. Clean Water Act). The Act now contains non-point source provisions.	The mileage of temporary roads will be determined once the final unit treatments are established. These roads will be analyzed and disclosed in the Environmental Assessment (EA). The road proposed for new construction and addition to the Forest Service system will not be located near riparian areas.
1-3	Comment	If there were a law to prevent federal officials from lying your 2 sales would be stopped just based on your disingenuous carbon-copy scoping packages for these 2 proposed sales. Of course your RO has indicated Judge Burrell's decision last month (November 2014) upholding the Rim Fire timber sale EIS opens the door to all future post-fire timber sales so you are eager to comply. Your Bald and Eiler timber sales violate another law besides the CWA. Supervisor Hays, you are not exempt from the provisions of the Administrative Procedures Act either. Under the APA, a court may set aside an agency action if the court determines that the action is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *see also Marsh*, 490 U.S. at 375-77 (arbitrary and capricious standard applies to agency findings which involve agency expertise). Here's an excerpt from the Marsh opinion: "Consequently, we may reverse the decision as arbitrary or capricious only if the agency relied on factors Congress did not intend it to consider, entirely failed to	Comment Noted

		consider an important aspect of the problem, offered an explanation that ran counter to the evidence before the agency, or offered one that is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." **Source:** ***SIERRA CLUB v. BOSWORTH***. An Appeal to 9th Circuit from the United States District Court for the Eastern District of California, Filed December 5, 2007 http://caselaw.findlaw.com/us-9th-circuit/1175742.html	
1-4	**Potential Issue**	**Opposing Views Attachments #2, #8 and #14** (below) contain statements by over 250 independent, Ph.D. scientists not affiliated with the USDA who aren't financially motivated to sell timber from national forest land. They all agree post-fire logging for any reason is the last thing a competent, responsible land manager would consider if maintaining the health of the natural resources in the area were important. Your OGC attorneys will be unable to present enough believable, unbiased science in court to discredit the science in the attachment quotes. Therefore, you will have 1) failed to consider an important aspect of the problem, and 2) not been able to offer explanations that ran counter to the evidence before the agency in the attachments below.	Potential Issue=opposing science on the effects of post-fire logging. The response to the Opposing Views Attachments #2, #8, #14, and #15 are found below at 1-15 (#2), 1-16 (#8), 1-17 (#14), and 1-18 (#15)
1-5	Comment	The Federal District Court isn't the only court at issue here. Often the court of public opinion is more effective than a court of law. Supervisor Hays, when I send hardcopies (and emails) of these comments to the newspapers in your area, you an be sure they will publish a feature article detailing how you plan to trash the natural resources (and recreation opportunities) in the Bald and Eiler timber sale areas to provide opportunities for short-term profit for natural resource extraction corporations. Be sure to read: • *Modoc County Record* • *Red Bluff Daily News* • *Record Searchlight* • *Sacramento Bee* • *San Francisco Chronicle* • *Lassen County Times* This will generate questions from reporters. Prepare yourself.	Comment Noted
1-6	Comment	You know an honest, well written EIS will present information that would not support a post fire timber sale. You know your P&N claim that you must "capture" the trees for the local corporations before they rot is absurd. You don't want to	Comment Noted

		give the public an opportunity to provide meaningful comments on such an EIS and help influence your decision, so you plan to seek an Emergency Situation Determination. Of course the real emergency is that this volume must be sold to help make the cut for the Lassen NF.	
1-7	Comment	When this gets to court, the plaintiff's attorneys will present evidence contained in the **Opposing Views Attachment** clearly identifying the importance leaving the dead and dying trees in place to replenish the organics in the soil and a multitude of other ecological benefits. Your OGC attorneys will be unable to prove your claimed need for short-term profit for local corporations transcends the need to stay away while Nature "restores" Herself as has been happening for millions of years successfully	Comment Noted The response to the Opposing Views Attachments #2, #8, #14, and #15 are found below at 1-15 (#2), 1-16 (#8), 1-17 (#14), and 1-18 (#15)
1-8	Comment	**Best Science Clearly Indicates Post-Fire Logging causes Significant, Long-Term Harm to the Natural Resources in the Forest. Providing Short-Term Financial Benefits to the Resource Extraction Corporations is not a Reason to Cause such Environmental Plunder.** No human development action in the forest inflicts more long-term ecosystem damage than a post-fire timber sale. **Attachment #2** includes statements of 247 Ph.D. scientists who are experts in their fields. There statements describe how scores of natural resources in the forest that are damaged and/or destroyed by post-fire logging. As the scientists point out, some of this damage is long-term and so severe the resources will cease to function properly and the landscape will only restore itself after many decades if humans leave it alone. Human actions following any post-fire timber sale will only slow down the natural restoration process. The USFS's cozy relationship with timber corporations is now big news. The article at the link below critical of the Stanislaus National Forest's plans to clearcut 72 square miles of forest burned by the Rim fire adjacent to Yosemite National Park was published by *National Geographic* in July of 2014. http://news.nationalgeographic.com/news/2014/07/140714-rim-fire-salvage-logging-forest-ecology-wildfire-restoration/ Is this what you want Supervisor Hays? Don't you know your agency dislikes nothing more than bad press? Do you think my communication with the 6 newspapers mentioned above won't get picked up by AP and go nationwide? A post-fire timber sale takes from the land and gives nothing back. A fire is Natures way of restoring forests.	Comment Noted The response to the Opposing Views Attachments #2, #8, #14, and #15 are found below at 1-15 (#2), 1-16 (#8), 1-17 (#14), and 1-18 (#15)

		Most line-officers who propose post-fire timber sales cite the need to "capture the volume before it deteriorates" or "recover the economic value of burned timber before the commercial value of the wood is lost to deterioration." The wording for the witless justification for the Bald and Eiler sales is a little different: Bald timber sale: "capture the economic value of hazard trees and dead trees, which pays for their removal from the forest and potentially for other future restoration treatments." (page 1 of the Bald scoping package), and "Recover the economic value of forest products in a manner which is beneficial to local communities and forest management" (page 3 of the Bald scoping package) Eiler timber sale: "capture remaining forest product economic value and benefit, reduce public safety hazards caused by the Eiler Fire, reduce future fuel loads, and reforest suitable portions of the landscape deforested by the Eiler Fire before the sites are fully occupied by competing vegetation. Reforestation would expedite the re-establishment of a forested landscape capable of producing a variety of wood products, wildlife habitat, and ecological services." (page 3 of the Eiler scoping package) Indeed, it's obvious Terre Pearson Ramirez and Amy Harrison-Smith, the 2 Interdisciplinary Team leaders for these proposed sales were both obediently using the same USFS playbook. There is no shortage of softwood in America … or in your local area. If there were, why is the timber currently being exported by companies that own private industrial tree farms in your area? A competent, caring USFS Supervisor wouldn't think of stopping the natural restoration process on the land owned collectively by 318 million Americans to provide corporate profit opportunities for companies with hundreds of millions $$$$ in net annual revenues. **Dead and dying trees in the wake of a fire are supposed to deteriorate and rot (emphasis added)!** That's what creates the unique post-fire wildlife habitat. Any human manipulation of this landscape minimizes and sometimes destroys the ecological benefits that Nature provides with a fire. Indeed, the Federal Courts agree that the Responsible Official must disclose and consider "adverse impacts" when making the final decision that the IDT has failed to do here. ***Earth Island Institute and Center for Biological Diversity v. Dale Bosworth Chief of the US Forest Service and John Berry Supervisor of the Eldorado National Forest,***	

		Ninth Circuit Court of Appeals, Filed March 24, 2006 http://ftp.resource.org/courts.gov/c/F3/442/442.F3d.1147.05-16776.html **"Conclusion** We have noticed a disturbing trend in the USFS's recent timber-harvesting and timber-sale activities. *See, e.g.*, *Ecology Ctr., Inc. v. Austin*, 430 F.3d 1057 (9th Cir. 2005) (holding that the USFS's post-fire treatment of old-growth forest stands in the Lolo National Forest violated both the NFMA and NEPA, and that the EIS failed to explain adequately the adverse impacts of the proposed plan on the black-backed woodpecker); *Lands Council v. Powell*, 395 F.3d 1019 (9th Cir. 2005) (reversing the district court's grant of summary judgment to the USFS because its EIS did not take a "hard look" at past timber harvests or current trout habitat conditions); *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957 (9th Cir. 2002) (remanding to the district court to enjoin two timber sales approved in violation of the NFMA and NEPA). *See also Utah Envtl. Cong. v. Bosworth*, 421 F.3d 1105 (10th Cir. 2005) (holding that the USFS did not properly monitor MIS species and did not consider a reasonable range of alternatives in a proposed timber-harvesting project); *Sierra Club v. Eubanks*, 335 F. Supp. 2d 1070 (E.D. Cal. 2004) (granting a preliminary injunction against salvage logging provided for in the USFS's post-fire Red Star Restoration Project); *Sierra Club v. Bosworth*, 199 F. Supp. 2d 971 (N.D. Cal. 2002) (rejecting the USFS's argument that post-fire salvage burning was needed to prevent a future fire and enjoining implementation of post-fire salvage logging); *Colo. Wild v. U.S. Forest Serv.*, 299 F.Supp.2d 1184 (D. Colo. 2004) (granting a preliminary injunction of a timber salvage project because the USFS failed to gather population data for MIS species); *Forest Guardians v. U.S. Forest Serv.*, 180 F. Supp. 2d 1273 (D. N.M. 2001) (reversing authorization of a timber sale in the Cibola National Forest because of the USFS's failure to collect adequate MIS population data)." Please protect and preserve my national forest land by seeking your volume elsewhere. Please see **Opposing Views Attachments #8 and #14.** Dead and dying trees have more value if left in the forest to function as Nature intended than removing them to provide corporate profit. **Opposing Views Attachment #15** includes statements by 16 USFS leaders that assure the public the agency always bases their projects on best science. How will you respond to the plaintiff's attorneys when they ask you to explain why a few	

		biased agency papers supporting post-fire salvage logging trump the conclusions of over 250 unbiased, independent scientists who explain the many reasons post-fire sales harm important natural resources in the forest?	
1-8.1	Literature Citation	http://news.nationalgeographic.com/news/2014/07/140714-rim-fire-salvage-logging-forest-ecology-wildfire-restoration/	Not a scientific study; These are newspaper articles, opinion-editorial pieces, public service leaflets, or other types of information that are not considered peer-reviewed scientific papers, nor are they authored by a subject matter expert in the field. As such, they do not comment specifically on the Bald Fire area, and are not relevant to the analysis for the Bald Project. As stated previously, the Forest Service acknowledges that there is a large amount of information available about the positive effects of wildfires and the potential negative effects from post-fire logging. The "scientific controversy" referred to in these articles has been addressed in response to other articles in this Literature Review.
1-9	Comment	**The children born 50 years from today will not appreciate the ecological plunder you will cause with this timber sale.** Most Americans want future generations of kids to have the opportunity to experience the quietness and solitude in a real, undeveloped forest. This will become more important in 2050 when the predicted population of the United States will be 438 million people. The wild **UNDEVELOPED** national forests will provide one of the only escapes from the insanity of a world driven even more by money than it is now. Where else will they go for nature sounds, quietness and solitude? The Bald and Eiler timber sales are taking away more undeveloped national forest acres from the legacy the unborn kids of the future deserve. Which is most important: the future kids of America or another summer home for a CEO? Of course by proposing this sale you have answered this question. Most people won't stand for being deceived by people who accept their tax dollars while simultaneously backhanding them for corporate benefit. Is spending all of your NFTM dollars and meeting volume expectations this FY really that important Supervisor Hays?	Comment noted

1-10	Comment	**Supervisor Hays, it's not true that the unburned fuels in a post-fire landscape must be logged to prevent a reburn.** Forget any and all fuels reduction logging. Reburn is a myth invented by the USFS to justify post-fire timber sales. I'll forward the independent science proving this if requested. Here's a small sample of many science papers available: https://www.hcn.org/issues/315/16079 http://www.orww.org/Wildfires/Biscuit/References/Donato_et_al_2006.pdf http://www.californiachaparral.com/images/Nagle_A_Biscuit_Fire_researcher_s_reply_to_Sessions_et_al_critique_of_Donato_2006.pdf Supervisor Hays, what will you tell the plaintiff's attorney when they ask you for reasons why you believe Mr. Donato's paper makes untrue conclusions based on faulty science. Supervisor Hays, are you still in your denial mode in spite of the overwhelming evidence presented here that you are assaulting the natural resources on the public land owned by 318 million Americans? Is your GS-15 salary worth doing the wrong thing?	Comment Noted
1-10.1	Literature Citation	https://www.hcn.org/issues/315/16079	Short article focusing on the debate over the merits of post fire logging. Briefly mentions a study conducted in the 2002 Biscuit Fire and some controversy surrounding the release of the study. Briefly discusses salvage logging, forest recovery, and economics.
1-10.2	Literature Citation	http://www.orww.org/Wildfires/Biscuit/References/Donato_et_al_2006.pdf	This article looked at the effects of post-fire logging on natural regeneration on a fire in Oregon. The Biscuit Fire salvage operation occurred 3 years post fire. This study showed an effect to natural regeneration (physical) and increased fuel loading due to the operation. Due to the high severity of the Bald fire, there are little trees remaining to provide seed to the landscape unlike the Biscuit fire. Proposed salvage operations will be followed by fuels treatments of activity generated fuels and biomass to reduce fuel loads in areas where reforestation will occur.

1-10.3	Literature Citation	http://www.californiachaparral.com/images/Nagle_A_Biscuit_Fire_researcher_s_reply_to_Sessions_et_al_critique_of_Donato_2006.pdf	This document is a comment to 1-10.2 article. The paper focuses on the debate between Donato's study and the criticism it received in a letter written to the editor of Science from OSU Professor John Sessions, signed by eight other OSU and USFS scientists. See response to 1-10.2.
1-11	Comment	By now you may have read the information contained in the **Opposing View Attachments**. Reasonable people would have doubts about the wisdom of their proposal that is likely to create major adverse impacts as described by hundreds of Ph.D. scientists. Responsible people that contemplate any action intuitively engage the Precautionary Principle. Perhaps you have never heard of it. Here it is in a nutshell: *The precautionary principle or precautionary approach states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking an action.* See: http://en.wikipedia.org/wiki/Precautionary_principle You have probably heard of Professor Jerry Franklin. When you read his statement below, dues it cause to believe your Bald and Eiler timber sales might possibly "risk causing harm" to the resources in the area? "Types and amounts of biological legacies persisting on impacted sites are probably the most important variable in assessing the actual ecological impacts of a disturbance because of their important roles in recovery. The most conspicuous and among the most important of the biological legacies are the surviving live trees, standing dead trees (snags), and logs and other woody debris on the forest floor and in the streams. The living trees, snags, and logs play critical roles in lifeboating many animal, plant, fungal, and microbial organisms, such as by providing essential habitat (e.g., places to live and hide) and keeping the microclimate of the disturbed site within acceptable levels. The trees, snags, and logs also greatly enrich the structure of the young forest as it develops, increasing diversity and rate at which species that have been displaced and which need structural complexity--such as Northern Spotted Owls--can return to the site." "In conclusion, the scientific lessons regarding biological legacies and the importance of retaining snags, logs, and other woody debris are being applied in regular timber harvesting practices (i.e., structural retention)	Comment Noted Snags, logs, and other woody debris will not be completely removed in the proposed project: Scoping Document, page 6 • Within tractor units, snag retention leave islands would be generally two to five acres in size, and will comprise approximately 20 percent of the acres within each unit. Leave patches would be distributed across the unit to maintain diversity. Scoping Document page 16: • A minimum of five logs per acre, representing a range of decomposition classes, would be retained. The response to the Opposing Views Attachments #2, #8, #14, and #15 are found below at 1-15 (#2), 1-16 (#8), 1-17 (#14), and 1-18 (#15)

		but have not yet been fully incorporated into restoration policy. Timber salvage may be carried out for economic reasons. However, timber salvage will rarely achieve any positive ecological benefit as has been pointed out in a recent article in Science (Lindenmayer et al. 2004)." Franklin, Jerry F. Ph.D. Statement submitted for the record to the House Subcommittee on Forests and Forest Health July 15, 2004 http://ftp.resource.org/gpo.gov/hearings/108h/94996.txt	
1-12a	**Suggested Alternative**	**Please assure that the Proposed Action in the pending NEPA documents for the Bald and Eiler timber sales involve no commercial logging, but should still include the following actions:** Reforest the area with tree species that grew there before the fire (regardless of lumber value) and plant in areas where the seedlings will have beneficial micro climate areas in the shade of the dead and dying trees. • Plant the riparian areas with native species that grew there before the fire. • Plant Baker cypress where appropriate.	Suggested alternative – Planting Only The suggested alternative does not meet the objectives of the PA/PN. Site preparation needs to be completed prior to reforestation to provide for safety of reforestation crews and prepare sites for planting. These plantations would be considered an investment and future fuel loads would need to be reduced to decrease the high-intensity reburn potential in these plantations. Baker cypress is not known within the Bald project
1-12b	**Suggested Alternative**	• Fell only **real** roadside hazard trees … those that lean towards the road within 1.5 tree lengths from the road on both sides. This must never become a linear clearcut that removes trees far from the road as is being proposed here.	Suggested alternative – Non Commercial - Roadside Hazard Only This suggestion is covered under the No Action Alternative Under the No Action alternative, none of the activities proposed under Alternative 1 would be implemented with the exception of hazard tree felling along roads currently open to the public, trails, and developed recreation sites. Hazards would not be removed via commercial harvest. The hazard trees would be felled and left in place or piled and burned. The hazard tree removal prescription in all the alternatives already encompasses the suggestion that only "real" hazards to the roads trails, and developed campsites be removed. The designation of 150 feet is the maximum extent and is defined for analysis purposes. Only those trees that would hit the road would be felled.

1-13	Comment	After reading both of the December 19 2014 scoping documents for these 2 sales I can safely separate the Lassen NF employees into 3 categories: 1) those who don't have even a remedial knowledge if forest ecology, 2) those with a working understanding of forest ecology but are frightened to speak up to defend the natural resources in the forest from harm, and 3) those who know what's happening and strive to keep the rest of the employees in groups 1 and 2. A national forest populated by these 3 types of individuals is a dysfunctional national forest.	Comment noted
1-14	Comment	Once again, I offer **Opposing Views Attachments #8 and #14** for forest employees brave enough to sneak a peek at 2 taboo subjects on the Lassen NF: 1) how fire benefits the forest, and 2) why a forest without dead and dying trees is by definition, an unhealthy forest. Please explore other areas for wood.	Comment Noted The response to the Opposing Views Attachments #2, #8, #14, and #15 are found below at 1-15 (#2), 1-16 (#8), 1-17 (#14), and 1-18 (#15)
1-15	Comment	**Opposing Views Attachment #2 -** Wildfire is a Natural Disturbance Event that Benefits many Natural Resources in the Forest in Spite of the Fact it Kills Conifer Tree Species Wildfire is Supposed to Kill Trees!!! That's how Fire Restores the Countless other Resources. Trees are Supposed to ROT Yet the Forest Service Continues to Eliminate this Crucial Natural Restoration Process on Publically Owned Land to Provide Short-Term Corporate Profit Opportunities. Here are the facts that USFS keeps secret from the public: 1) There are countless other natural resources in the forest besides conifer tree species that the agency conveniently and routinely ignores. This isn't surprising. The agency is populated by foresters trained in industrial forestry techniques. They focus on merchantable trees. The countless other resources that are trashed when logging contractors remove the merchantable trees are considered acceptable collateral damage. 2) The health of these "other" resources is improved by fire, thus fire enhances and promotes forest health which is contrary to what the agency tells the public. 3) Fire that does not threaten homes in the Wildland Urban Interface is a welcome event rather than a "catastrophe" as the agency claims. How many decades will it take before agency leaders learn that merchantable sized trees that aren't logged and hauled to the mill are not wasted? 4) The real reason the forest service always proposes to log the dead and dying trees in the post-fire landscape is to make their timber cut quota and spend all their NFTM funding in the FY it was allocated. Why? This pleases agency	Comment Noted – There are multiple objectives to the Bald Project, which go beyond salvage logging alone. Objectives for responding to the effects of the Bald Fire include reducing safety hazards along roads, trails, trailheads and recreation sites, as well as in the treatment areas, recovering the value of fire-killed trees, reducing the danger and difficulty of suppressing future wildfires, and re-establishing forested conditions and habitats in burned forest stands. See Appendix A for Response to Attached Literature

		employees at higher levels. 5) Dead and dying trees resulting from wildfire are supposed to rot and decay in order to replenish the organic material in the soil. Any (emphasis added) USFS employee who claims otherwise is either 1) forested ecosystem clueless, or 2) so clinically obsessed with volume attainment they will lie to the people they serve in the blink of an eye and think they did their job.	
1-16	Comment	**Opposing Views Attachment #8** - The Natural Resources in the Forest Benefit from Fire. Introduction: There are negative effects caused by nearly all actions … this includes the actions that manipulate and change the landscape after a fire. When such manipulation is proposed on public land, the public owners deserve to know the pros and cons of the project. The only time a wildfire should e considered "catastrophic" is when it burns homes. The following statements describe why post-fire landscapes should e left alone and never manipulated for money.	Comment Noted – Effects to various resources will be analyzed in the EA. Potential future fuel loads in these areas was taken into account during project design. See Appendix A for Response to Attached Literature
1-17	Comment	**Opposing Views Attachment #14** - Dead and Dying Trees are Important to the Survival of many Natural Resources in the Forest and should not be Removed to Provide Opportunities for Corporate Profit or to Produce Private Industrial Tree-Farm Conditions	Comment Noted – See Appendix A for Response to Attached Literature
1-18	Comment	**Opposing Views Attachment #15** - Forest Service Leaders Stress that Independent, Unbiased Science Conclusions should Always form the Basis for Proposed Public Land Treatments	Comment Noted – See Appendix A for Response to Attached Literature

Respondent #2: Steve Brink, California Forestry Association, December 31, 2014

Comment #	Identification	Summary of Comment	Responsible Official's Disposition
2-1	Comment	The California Forestry Association (CFA) submits these comments in accordance with your letter of December 19, 2014. CFA represents California industrial and non-industrial forest landowners, sawmills, veneer mills, and some biomass powerplants of which many are, in part, dependent on wood supply from Region 5 National Forests. Much of what we have to offer here in comments was also discussed with you and staff in person at the AFRC monitoring meeting December 16, 2014 and are similar to written comments we've provided for the Eiler Fire Salvage and Restoration Project.	Comment Noted

		Deterioration Since 69 percent of the burned area was moderate to high severity, it would be expected that deterioration will begin in the spring and escalate quickly beginning in early summer. The timing of the NEPA decision and awarding contract(s) will be crucial as to how much of the burned timber can be salvaged.	
2-2	Comment	**Wildlife** (Scoping Notice, Page 16) - It's unclear why the language from the 2004 Sierra Nevada Framework for protection for California Spotted Owl is not included. The missing language is: "unless surveys confirm that California spotted owls are not nesting." If surveys show that no owls are nesting, the Limited operating period (LOP) should be waived. The same language is missing for the Goshawk (LOPs) e.g. "unless surveys confirm that northern goshawks are not nesting." (Scoping Notice, page 16) – "retain large diameter cull trees" should be included in the snag retention leave islands. Individual cull trees within the harvest units are likely to be safety hazards to operations and will be felled.	The Integrated Design Feature (IDF) referencing limited operating periods (LOPs) will be modified in the Environmental Assessment (EA) to reflect the entire wording. The intention is to leave snags throughout the project area for the benefits they provide. It is recognized that these may require felling if they pose a safety hazard to operations.
2-3	Comment	**Biomass Removal** The salvage and roadside hazard contract(s) should be designed to cut and skid small trees and brush and sawlog tops to the landing and piled. Burney Forest Power is within the immediate vicinity of the Bald Fire. The District should call Tom Hickman, Fuel Manager, to discuss whether or not Burney Forest Power will have an interest in purchasing the biomass piles and chipping and removing. Because the 2014 Farm Bill includes a component for transportation grants to remove biomass of up to $20/bone dry ton 1:1 matching payment, Honey Lake Power may also have an interest. The District should contact Mark Shaffer, Honey Lake Power fuel manager.	Comment Noted The project is designed to treat both sawlog and biomass material. The effects of this action will be analyzed. The decision on what is included in the contract is an implementation decision, outside the scope of the NEPA analysis.
2-4	Comment	**Economic Value** The speed of delivering the NEPA document and Decision will be instrumental in the amount of dead material that can be economically removed from the burned areas. Rapid deterioration is expected.	Comment Noted

Respondent #3: Rhonda Barnhart, Individual, January 2, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
3-1	Request for Information	I am commenting on your proposed action for the Bald Project. I was unable to view or access any of the electronic maps for this project and would appreciate receiving the proposed action map hard copy. I fully support the maximum, most expeditious fire salvage possible, and the least-cost design features.	The requested map has been sent
3-2	Comment	My only specific comments at the moment are in regard to the following: Measure #34 which requires stump treatment within 200 feet of NFS roads. This makes absolutely no sense to me. Stump treatment is only effective on live stumps anyway, so why not word the design feature to require stump treatment on all live trees greater than 24" DBH across the entire harvested area (and you should specify diameter outside bark, not just DBH)? Why restrict it to only those within 200 feet of NFS roads? That leaves the opportunity for stump fungal infections in the interior areas as if we don't care about those areas. That sounds ridiculous. If you believe in stump treatment, keep it across all harvested areas.	This IDF was designed with input from the Forest Health Protection group and is designed to minimize the risk of annosus root disease creating future road hazards.
3-3	Comment	Measure #24: Requiring a cut tree mark to minimize VQ effects in such narrow areas is a prep cost-increaser if you are using leave tree marking everywhere else. You would have to make that a separate cutting unit with on the ground designated boundaries, and this could also possibly cause confusion during operations by mechanical harvester operators. You do not want them to go in and out of adjacent areas with different marking methods. I submit that the visual quality has already been so badly affected by the fire itself that a leave tree mark would be perfectly acceptable. It is not worth the time and effort to change your marking method just for visual quality. Paint will fade over time.	Comment noted
3-4	Comment	Thanks for the opportunity to comment; please add me to your mailing list as you progress and finalize the project. I hope the project requires both sawtimber and biomass harvesting in the same offering, to minimize the number of entries.	Comment Noted The project is designed to treat both sawlog and biomass material. The effects of this action will be analyzed. The decision on what is included in the contract is an implementation decision, outside the scope of the NEPA analysis.

Respondent #4: Marissa Fierro, Pit River Tribe Environmental Coordinator, January 6, 2015 (Comments from CLFR Meeting January 6, 2015)			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
4-1	Request for Information	Tribal consultation requested to discuss vegetation species in the project area. Send list of TES,and riparian vegetation in the project area.	The information requested has been provided. Meetings have been and will be scheduled to discuss the project
4-2	Comment	Consider planting schemes similar to those proposed in Eiler	Comment Noted
Respondent #5: Ryan Hadley, Sierra Pacific Industries, January 7, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
5-1	Comment	Thank you for the opportunity to comment, I am in support of the Proposed Action. Due to the time frame involved in advertising a potential salvage operation please consider having No Limited Operating Periods (LOP's) to not impair salvage operations. Also choose the marking guidelines for salvage carefully to ensure for the desired post salvage results.	Comment noted. LOPs are limited to known sites when nest sites are active, which should have minimal effect on potential harvest operations. Fire salvage marking guidelines are based upon the fire-injured tree marking guidelines (Report #RO-011-01, Smith and Cluck, May 2011) developed by Region 5 Forest Health Protection at the 0.7 probability of mortality level (Pm = 0.7). The guideline criteria for delayed conifer tree mortality are based on percent crown length killed (Scoping Document page 7). These are the same guidelines, which have been used in recent fire salvage projects on the Lassen (Reading and Chips Fires).
Respondent #6: Traci Holt, Diversified Resources, January 7, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
6-1	Comment	Supports both projects and was supportive of us trying to sell timber sales this summer.	Comment noted.

Respondent #7: Rich Coakley, Individual, January 7, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
7-1	Comment / Request for Information	Based on the information related by the Bald Fire Project scoping document, I believe the following issues need to be addressed in the environmental assessment. Please include a detailed discussion on: ----- what is or isn't and acceptable/manageable fuel loading in tons/acre and how that will affect future fire fighting efforts as well as values at risk (new plantations and/or trees that survived the Bald Fire, etc.). The Fuels discussion also needs to address the projected level of fuel loading in the no-treatment areas, especially after the brush comes back and after all the snags fall down and how that bodes for trying to control future fires within the same area. That related discussion (Fuels) should be extensive under the "No Action" alternative. Note: from what I observed in touring the area after the fire, much of the tree mortality within the areas that had been previously treated (thinned and underburned) was directly related to the tremendous blast of fire and heat that came out of the adjacent/existing no-treatment areas (wildlife areas --- gmas, arch sites, meadow buffers, drainages, RCAs, etc.). ----- normal/historic fire frequency (e.g. extensive low-intensity burns that occurred, on average, every 10 years) for this vegetation type and location,and how we have now missed 10-11 cycles and what the results are of those effects. On a related matter, it would be fair to ask if future fire suppression efforts, particularly in the vast amounts of acres scheduled for no treatment, will add (benefit) or detract from long term recovery. ----- historic total fire suppression and not including fire as a serious, controlling, operating variable on these types of vegetative sites (eastside pine) is now proving to have been a critical error by the agency for all these many decades. Please discuss how this will be addressed and corrected. On a related matter, all proposed no treatment areas need to allow and be prioritized for control burning so as not to repeat the extent and intensity of destruction demonstrated by the Bald Fire.	Discussions on fire regimes, fire frequency, and desired fuel loading will be addressed in the Fuels Report. The project is designed to allow the use of prescribed fire in all units proposed for treatment.
7-2	Comment	----- deciding to either not reforest or doing very limited reforestation (e.g. 50 trees/acre) adjacent to no treatment areas that will likely become future	Comment Noted

		burn/blast zones, expecially after the brush comes back and all the snags come down within those same no treatment areas. In effect, " ... we're not in Kansas anymore Toto." Allowing for climate change, the Bald Fire may be the new normal. Reforestation is an expensive, long term investment. Plantations need to be layed out and managed so as not to enhance fire activity, but rather to produce stands of timber and a functional forest with all the related, desired attributes. ----- the applicable vegetative site. The vast majority of the Bald Fire area is an eastside pine vegetation type dominated by Ponderosa and Jeffrey Pine. Unlike Lodgepole, their seeds do not germinate from the heat of a fire. Unlike all true firs, they will not seed in and grow under extensive shade covering like brushfields. They are not shade tolerant and they perform very poorly with competition from brush and/or grass. They will NOT dominate a site and prevent other competing vegation from taking over any time soon. Certainly not on sites where, under the best of conditions, they can only attain a height of 70-80 feet in 100 years.	
7-3	Comment	----- realistic time frames. To relate that without reforesation, patches would shift toward a shrub or hardwood dominated community for several decades or more is a bit understated. A much more realistic figure would be 200-300 years. Especially so when also including the desire to re-establish late seral forest habitat for sensitive species like the northern goshawk. This is actually an easy one --- think about what was there (how old were the existing desireable trees), now consider the fact that they are all dead. Question: how long does it take to replace 200 year old trees? Answer: at least 200 years. Note: if you had all the money and all the resources in the world available to you, it would still take you at least 100 years to replace a 200 year old timber stand on an eastside pine site. (it only takes 6-12 months to replace a house lost in a forest fire, but --- I digress)	Comment Noted
7-4	Comment	----- On a related issue, please include a discussion/comparison of action/treatment alternatives (salvage harvesting + fuels treatments + reforestation) with no action/no treatment alternatives as that relates to time/years required to replace what was lost in the Bald Fire destruction. This task is even more problematic when attempting to factor in future fire events. In effect, will the recovery clock keep resetting back to zero with each new fire?	Comment Noted

Respondent #8: Bill Wickman, American Forest Resource Council, January 8, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
8-1	Comment	This letter provides support for both the Eiler and Bald Fire Salvage and Restoration Projects. I have reviewed both Purpose, Need and Proposed Action documents. I only offer brief comments on these scoping documents. 1. Currently there have been publications and environmental group comments that to salvage log after fires will only increase the threat of fire. One only needs to look at the past 10 years of fire history and the lack of treating the burned areas after fires to not only reduce future fire risks due to the larger number of snags and large woody debris, but the increased risk of causing even more severe soil and watershed damage. The Eiler Fire Area Percent Burn Severity (Table 1) illustrates the critical need to slavage and restore this fire area. Table 1 shows that 69%of the burn area, burned at Very High severity. As the scoping document indicates, leaving larger amounts of burned trees on site and not removing will increase the probability of future soil and watershed damage	Comment Noted Forest Plan direction following large, catastrophic disturbance events provides guidance for multiple forest management objectives, including economic recovery of fire-injured trees, reducing the potential for soil erosion, and maintaining critical wildlife habitat (SNFPA ROD, pp. 52-53). The proposed action strives to strikes a balance between multiple use objectives and species-specific habitat considerations.
8-2	Comment	2. With increasing concern and discussion over carbon sequestration and associated CO2 issues we would offer the following; Please estimate the amount of carbon released by the initial wildfire, the future release due to rotting fire killed vegetation and possible sequestration do to various management alternatives such as salvage volume being made into lumber. Furthermore, please include estimates of the opportunity to sequester carbon over the next 50 years through reforestation versus natural recovery. As reference, also display carbon estimates interms of average car usage or offsets to household electrical usage. In addition, you can find a lot of excellent information on this topic from research done by Dr. Lippke out of the University of Washington. Much of his research and information is available at www.corrim.org. Some items worth noting from his research are; 1) An actively managed forest provides about double the net sequestration and storage in wood products as an unmanaged forest (1 ton net of carbon/acre/year is a good number to use except its higher for redwood and high site Douglas fir) and, thus, provides a potential renewable energy	Comment Noted Carbon sequestration will be addressed in the Silviculture Report

		credit for the landowner 2) Substitution of sold wood products for non-renewable (steel, aluminum, plastic, concrete) provides about 1.8 tons/acre/year of a potential renewable energy credit owned by the product manufacturer 3) Woody waste used in a biomass power plant for electricity generation offsets 0.4 tons of natural gas and provides a net reduction of at least 1 ton of greenhouse gases (potential renewable energy credit that would be owned by the biomass power plant). 4) Lippke shows that in eastern Washington, where the wildfire return interval is 1.7%/year, an unmanaged forest can actually be a net emitter rather than a net sink (figure 8 of 2nd attachment). This shows the importance of understanding the return interval and emissions effects of wildfire in the modeling of the carbon life cycle. In addition, the EPA's GHG (Green House Gas) Inventory can be found at http://www.epa.gov/climatechange/emissions/usinventoryreport.html. A few specifics from this paper are; "...timber harvests do not cause an immediate flux of C to the atmosphere. Instead, harvesting transfers C to a "product pool." Once in a product pool, the C is emitted over time as CO2 when the wood product combusts or decays... if timber is harvested and used as lumber in a house, it may be many decades or even centuries before the lumber decays and C is released to the atmosphere. If wood products are disposed of in SWDS [solid waste disposal site], the C contained in the wood may be released many years or decades later, or may be stored almost permanently in the SWDS." (pg. 7-4) "...intensified management of forests can increase both the rate of growth and the eventual biomass density of the forest, thereby increasing the uptake of C. Harvesting forests removes much of the aboveground C, but trees can grow on this area again and sequester C." (pg. 7-5) "...In the United States, improved forest management practices, the regeneration of previously cleared forest areas, as well as timber harvesting and use have resulted in net uptake (i.e., net sequestration) of C each year from 1990 through 2005." (pg. 7-5) 562.3 million metric tons of carbon was unleashed upon the atmosphere by forest fires between 2000 and 2005. (pg. 7-8) 2.7 million metric tons of methane was unleashed upon the atmosphere by forest fires between 2000 and 2005. (pg. 7-3) Methane is a greenhouse gas that, over a twenty-year period, has a heat-trapping effect 63 times greater	

		than one ton of carbon dioxide would (www.epa.gov/methane). A recent article in Science Daily, U.S. Wildfire Risk Worsening, According to Climate Projections, December 4, 2012 provides the following information. As the U.S. land area burned by fire each year has increased significantly in the past 25 years, so too have the emissions. Carbon dioxide emissions from wildfires in the western U.S. have more than doubled since the 1980s, according to Chris Williams of Clark University in Worcester, Mass. The satellite-based view allowed Williams and his colleagues to quantify how much carbon has been released from fires in the U.S. West. The team used data on fire extent and severity derived from Landsat satellites to calculate how much biomass is burned and killed, and how quickly the associated carbon was released to the atmosphere. The team found carbon emissions from fires have grown from an average of 8 teragrams (8.8 million tons) per year from 1984 to 1995 to an average of 20 teragrams (22 million tons) per year from 1996 to 2008, increasing 2.4 times in the latter period.	
8-2.1	Literature Citation	www.corrim.org	Carbon sequestration will be discussed in the Silviculture Report.
8-2.2	Literature Citation	http://www.epa.gov/climatechange/emissions/usinventoryreport.html	Carbon sequestration will be discussed in the Silviculture Report.
8-2.3	Literature Citation	www.epa.gov/methane	Carbon sequestration will be discussed in the Silviculture Report.
8-2.4	Literature Citation	Science Daily, U.S. Wildfire Risk Worsening, According to Climate Projections, December 4, 2012	Carbon sequestration will be discussed in the Silviculture Report.
8-3	Comment	Another vital issue that should be considered in all of your decisions on this fire salvage effort as well as all of your projects is the importance of these projects in relation to the 25 percent receipts that are critical to Shasta County schools and roads. The economic impact and contribution that your rapid response to this fire salvage can have on this issue is critical. With the uncertainty of any long term relief from Congress in this situation, the impact can only be lessened by the Lassen National Forest assuring that they do their part in meeting the needed timber outputs associated with the Eiler and Bald fire salvage effort.	Comment Noted Economics will be addressed in the Silviculture Report

Respondent #9: Justin Augustine and Chad Hansen, The John Muir Project of Earth Island Institute, January 9, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
9-1	Comment	On behalf of the John Muir Project of Earth Island Institute (JMP) and the Center for Biological Diversity (CBD), we are submitting these comments on the proposed Bald Project and the proposed Eiler Project ("Projects"). While, as we detail below, an EIS is necessary due to the potentially significant impacts of each Project individually and cumulatively to wildlife, an EIS is also necessary due to the similarity and geographic proximity of the two Projects (and it is the same Ranger District within which the Projects are being evaluated). The scoping document suggests that because the Projects are in separate watersheds, they therefore need not be evaluated together, but impacts are not defined or confined by watershed boundaries, and in light of the close proximity and similarity of the Projects (they both essentially propose the same purpose and need), one EIS is necessary here.	Comment Noted The need for an EIS is determined by the effects of the actions. Although the needs for each project (Bald and Eiler) ae very similar and they are located on the same administrative district, they are not connected actions to one another. The areas determined to analyze cumulative effects are spatially disconnected.
9-2	Comment	Due to significant adverse impacts to wildlife, we respectfully request the following: • An EIS be conducted due to the potential for significant impacts to a sensitive species (spotted owl), a species with a positive ESA 90-day finding and slated to become a species of conservation concern (black-backed woodpecker), and the many avian species that rely on post-fire habitat (see Hanson 2014, Burnett et al. 2012, Siegel et al. 2011);	Comment Noted The proposed action considered the concerns of the commenter regarding black-backed woodpecker, as well as other avian species. There is no spotted owl habitat within the Bald project area. The proposed action did not fully defer to the habitat considerations of any single species, the proposed action strikes a balance between multiple use objectives and species-specific habitat considerations. Preliminary analysis indicated no significant issues, therefore preparation of an EIS is not warranted at this time
9-2.1	Literature Citation	Hanson 2014	Regarding the importance of burned forest habitat to various bird species The point regarding the importance of burned forest habitat to a number of different wildlife species that is made in this paper and in many others were considered in preparation of the project. Findings regarding burned forest habitat were recognized and applied within the proposed action for this project and in how treatment

			areas were located and treatments designed. The proposed action strikes a balance between the USFS's multiple use objectives and habitat considerations.
9-2.2	Literature Citation	Burnett et al. 2012	See response to 9-2.1.
9-2.3	Literature Citation	Siegel et al. 2011	See response to 9-2.1.
9-3	Comment	That all moderate to high intensity burn areas within 1.5 km of a spotted owl site be protected from logging and that the 1.5 km areas incorporate owl surveys conducted in 2015 so as to be most reliable for habitat conservation (see Bond et al. 2009); moreover, that all potential winter habitat be protected from logging (see Ganey et al. 2014);	There are no spotted owl sites within the Bald project area.
9-3.1	Literature Citation	Bond et al. 2009	The potential use of burned forest as habitat by spotted owls - There are no known owls within the Bald project
9-3.2	Literature Citation	Ganey et al. 2014	Reference not provided
9-4	**Suggested Alternative**	That all moderate to high intensity burn areas, that pre-fire were mature forest, be protected for black-backed woodpeckers and for other avian species; this should include protection of not only the high snag basal area, but also the post-fire shrubs and natural conifer regeneration;	The suggested alternative fails to meet the purpose and need for the project. The project was designed to meet multiple objectives. The vast majority of the fire-affected area burned at high severity, most moderate-severity fire was along the edges of the fire where limited salvage would occur.
9-5	**Suggested Alternative**	That the only exception to the above be the felling of hazard trees to protect humans on/in e.g., public roads (level 3, 4 and 5 roads), campgrounds or other infrastructure;	A roadside hazard only action alternative will be analyzed. This alternative involves removal of commercial size hazards along ML2 roads and higher and felling of non-commercial sized hazards. ML2 roads and higher will be considered since all ML2 roads are open to the public and maintained by the FS.

			Maintenance includes, but is not limited to, blading, brushing, and culvert maintenance. Only 21 of the 131 miles of road in the project area are ML3 and higher. ML2 roads in the project are used by the public for recreation, wood gathering, and access private lands. Due to the high use, hazard trees along ML2 roads will be included to meet the need of safety to all forest users. No other actions, such as fuels treatments and reforestation, will be included in this alternative.
9-6	Comment	That flushing be addressed and incorporated into the discussion of the Project and the post-fire area so as to most accurately reflect conditions as they change over time due to the flushing that is likely to occur in the spring and summer of 2015 and thereafter (see Hanson and North 2009; see also Rim fire RAVG versus Rim fire MTBS [attached as exhibit A]);	Fire salvage marking guidelines are based upon the fire-injured tree marking guidelines (Report #RO-011-01, Smith and Cluck, May 2011) developed by Region 5 Forest Health Protection. Timing of mark is included in these guidelines, as criteria changes from pre- and post-bud break.
9-6.1	Literature Citation	Hanson and North 2009	Reference not provided
9-6.2	Literature Citation	Rim fire RAVG versus Rim Fire MTBS	See response to 9-6
9-7	Comment	That logging and reforestation not be conducted in the name of wildlife conservation and that instead natural regeneration be allowed in order to protect complex early seral forest habitat from logging and from shrub eradication and to allow natural conifer growth;	Comment noted. The National Forest Management Act (NFMA) sets policy to maintain appropriate forest cover in accordance with forest management, which, as it pertains to post-fire salvage, means to reforest after salvage activities are completed (USDA 2013b). Planting trees is a way to ensure this policy is met in areas where seed sources are lacking, and ensuring a diverse multi-species forest becomes established in a timely manner. Conifer seeds are not naturally dispersed long distances so conifer tree planting would ensure a variety of native conifer tree seedlings would be re-established in severely burned areas. Replanting severely burned areas with ecologically appropriate species would ensure timely replacement of burned

			conifer forest stands and improve tree species composition.
9-8	Comment	Acknowledge and incorporate that the 2004 Sierra Nevada Forest Plan Amendment (2004 Framework), pursuant to which the project was prepared, is no longer reliable regarding post-fire actions due to significant new information regarding the importance of burned forest habitat for wildlife, especially imperiled wildlife such as the California spotted owl and black-backed woodpecker. The project's purpose and need statement, and proposed prescriptions, reflect those of the 2004 Framework and should be changed in light of the new science.	The agency is responsible for considering new information at the project level, when such information is relevant to the project being considered. Until the LRMP revisions are completed for the Sierra Nevada National Forests, new scientific information and changed circumstances can be addressed in the site-specific project context, when the new information or changed circumstances are relevant to the project being considered. Literature being provided by the commenters is being reviewed and addressed as it pertains to the Bald project
9-9	**Suggested Alternative**	**<u>Discussion</u>** The project as proposed – e.g., "capture remaining forest product economic value and benefit, . . . and reforest suitable portions of the landscape . . . before the sites are fully occupied by competing vegetation" – would entail significant adverse environmental impacts, due to removal of important habitat for the black-backed woodpecker and California spotted owl, as well as wildlife that relies on post-fire shrub habitat. Research as to woodpeckers (e.g., Siegel et al. 2014a, Siegel et al. 2014b, Siegel et al. 2014c, Tingley et al. 2014, Seavey et al. 2012, Hanson and North 2008,) spotted owls (e.g., Bond et al. 2009, Bond et al. 2013, Clark 2007, Clark et al. 2013, Ganey et al. 2014), and avian species in general (e.g., Hanson 2014) demonstrates the importance of maintaining burned forest, especially intensely burned forest, on the landscape in its entirety instead of logging it. The targeted trees and/or shrubs are essential habitat for wildlife in a post-fire landscape. Indeed, the "snag forest habitat" areas created by high-intensity fire cannot be termed "deforested" at all and instead are essential aspects of forest including 3 acting as the forest's nurseries for many if not most native bird species (DellaSala et al. 2014, Raphael et al. 1987, Burnett et al. 2010, Burnett et al. 2012). Therefore, we respectfully request that you withdraw the Projects as currently proposed and instead issue a document that incorporates and explains the importance of post-fire wildlife habitat (as discussed below),	A roadside hazard only action alternative will be analyzed. This alternative involves removal of commercial size hazards along ML2 roads and higher and felling of non-commercial sized hazards. ML2 roads and higher will be considered since all ML2 roads are open to the public and maintained by the FS. Maintenance includes, but is not limited to, blading, brushing, and culvert maintenance. Only 21 of the 131 miles of road in the project area are ML3 and higher. ML2 roads in the project are used by the public for recreation, wood gathering, and access private lands. Due to the high use, hazard trees along ML2 roads will be included to meet the need of safety to all forest users. No other actions, such as fuels treatments and reforestation, will be included in this alternative.

		educates the public about it, and seeks to protect it. While we recognize the need to protect humans from hazard trees along public roads or next to infrastructure or campgrounds, all other burned forest should be protected due to its rarity and its significance as critical wildlife habitat for many species (see, e.g., Baker 2014, Beaty and Taylor 2001, Bekker and Taylor 2001, Bekker and Taylor 2010, Bond et al. 2009, Bond et al. 2013, Buchalski et al. 2013, Burnett et al. 2010, 2011, Clark 2007, Clark et al. 2013, Ganey et al. 2014, Hanson 2013, Hanson 2014, Odion et al. 2014, Siegel et al. 2014a, 2014b, 2014c, Tingley et al. 2014).	
9-9.1	Literature Citation	Siegel et al. 2014a	This paper was used in preparation of the proposed action and in the analysis of effects.
9-9.2	Literature Citation	Siegel et al. 2014b	This paper was used in preparation of the proposed action and in the analysis of effects.
9-9.3	Literature Citation	Siegel et al. 2014c	This paper addresses the importance of certain snag characteristics used as roost trees by black-backed woodpeckers. Our snag retention scheme of leaving 20% of treatments units unharvested, as well as no proposed treatment (natural recovery) on approximately 19,000 acres within the fire perimeter will serve to capture this concern across a large area of the Bald Fire.
9-9.4	Literature Citation	Tingley et al. 2014	This paper, and data obtained directly from the lead author, was used in preparation of the proposed action and in the analysis of effects.
9-9.5	Literature Citation	Seavey et al. 2012	This paper was used to help inform the proposed action, and will be used in the black-backed woodpecker report.
9-9.6	Literature Citation	Hanson and North 2008	See response to 9-2.1.
9-9.7	Literature	Bond et al. 2009	This paper addresses the potential value of burned

	Citation		forest as spotted owl habitat - There are no spotted owls within the project area.
9-9.8	Literature Citation	Bond et al. 2013	This paper addresses the potential value of burned forest as spotted owl habitat - There are no spotted owls within the project area.
9-9.9	Literature Citation	Clark 2007	Reference not provided
9-9.10	Literature Citation	Clark et al. 2013	This paper addresses the potential value of burned forest as spotted owl habitat - There are no spotted owls within the project area.
9-9.11	Literature Citation	Ganey et al. 2014	Reference not provided
9-9.12	Literature Citation	Hanson 2014	This paper addresses the importance of burned forest habitat to various bird species The point regarding the importance of burned forest habitat to a number of different wildlife species that is made in this paper and in many others were considered in preparation of the project Findings regarding burned forest habitat were recognized and applied within the proposed action for this project and in how treatment areas were located and treatments designed. The proposed action strikes a balance between the USFS's multiple use objectives and habitat considerations.
9-9.13	Literature Citation	DellaSala et al. 2014	This paper addresses the importance of early seral stage habitats and successional processes See response to comment 9-14; recognition of the importance of early seral stages was incorporated when possible into the proposed action.
9-9.14	Literature Citation	Raphael et al. 1987	The point regarding the importance of burned forest habitat to a number of different wildlife species that is

			made in this paper and in many others were considered in preparation of the project Findings regarding burned forest habitat were recognized and applied within the proposed action for this project and in how treatment areas were located and treatments designed. The proposed action strikes a balance between the USFS's multiple use objectives and habitat considerations.
9-9.15	Literature Citation	Burnett et al. 2010	See response to 9-2.1
9-9.16	Literature Citation	Burnett et al. 2012	See response to 9-2.1
9-9.17	Literature Citation	Baker 2014	This study focused on historical forest structures and their relationship to fire severity and patch size in Sierran mixed-conifer forests in the lower/middle montane zone on the western side of the Sierra Nevada Mountains from south of Quincy and Blairsden to near Miracle Hot Springs, California. Of the approximate 31, 000 acres within the fire perimeter no treatment (natural recovery is proposed for approximately 19,000 acres. Brush and herbaceous vegetation will naturally reestablish throughout both the treated and untreated areas. Green trees will not be harvested. The Fire and Fuels Report will address the fire history, fire severity, fire hazard, and fire behavior for the Bald Fire project area.
9-9.18	Literature Citation	Beaty and Taylor 2001	This study evaluated the fire-forest mosaic of a mixed conifer forest landscape by testing the hypothesis that pre-fire suppression fire regime parameters vary with species composition (tree species), and environment (i.e. slope aspect, slope position, elevation). The study was conducted in the Cub Creek Research Natural Area (CCRNA) on the Lassen National Forest. Results from the study show that "in the CCRNA, fire

			regime parameters [e.g. FRI, fire extent, FR, fire severity] varied widely with species composition, slope aspect and slope position. There was also temporal variation in fire extent with the most widespread fires occurring during drought years. The important contributions of topography and climate to variation in the fire regime indicates that exogenous factors play a key role in shaping the fire-forest structure mosaic and that the fire-forest structure mosaic is more variable, less predictable and less stable than previously thought. Finally, some characteristics of the fire regime (i.e. fire severity, season of burn) in CCRNA are different from those described for other mixed conifer forests and this suggests that there are geographical differences in mixed conifer fire regimes along the Pacific slope. Geographical differences in disturbance regimes and species response to disturbance are known to contribute to structural and compositional diversity within widespread forest types. Consequently, fire-forest structure mosaic models developed for one area should be extrapolated cautiously to other locations." The Fire and Fuels Report will address the fire history, fire severity, fire hazard, and fire behavior for the Bald Fire project area.
9-9.19	Literature Citation	Bekker and Taylor 2010	This study, located in the Thousand Lakes Wilderness of Lassen National Forest, examined tree diameter, age structure, and successional trends in montane forest plots to identify the effects of variation in the return interval, severity, and extent of fires on the forest structure and dynamics in the southern Cascade Range.
9-9.20	Literature Citation	Buchalski et al. 2013	The potential use of burned areas as foraging by bats and the potential use of fire-killed trees as roosts was recognized and used to help inform the proposed action. This paper will be used in the analysis of effects within the biological evaluation.

9-9.21	Literature Citation	Burnett et al. 2011	See response to 9-2.1.
9-9.22	Literature Citation	Hanson 2013	This paper is in reference to the use of burned areas within the McNally Fire by fisher. Fisher were not analyzed within the Bald Fire due to a lack of detections during post fire monitoring. Therefore, this discussion is not relevant to the Bald Project area.
9-9.23	Literature Citation	Odion et al. 2014	
9-10	**Potential Issue**	**California Spotted Owl** The Forest Service considers suitable California spotted owl habitat as mature forest stands represented by CWHR classes 4M, 4D, 5M, 5D, and 6 in mixed conifer, red fir, ponderosa pine/ hardwood, foothill riparian/hardwood, and east-side pine forests. The last time the Forest Service formally adopted a definition of suitable habitat for spotted owls was in 2004, as part of the 2004 SNFPA. The SFNPA states the following as to suitable habitat: California spotted owl protected activity centers (PACs) are delineated surrounding each territorial owl activity center detected on National Forest System lands since 1986. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest or roost locations are known. PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 300 acres of habitat in as compact a unit as possible. The best available habitat is selected for California spotted owl PACs to include: (1) two or more tree canopy layers; (2) trees in the dominant and co-dominant crown classes averaging 24 inches dbh or greater; (3) at least 70 percent tree canopy cover (including hardwoods); and (4) in descending order of priority, CWHR classes 6, 5D, 5M, 4D, and 4M and other stands with at least 50 percent canopy cover (including hardwoods). Aerial photography interpretation and field verification are used as needed to delineate PACs.	Non-significant issue There is no spotted owl habitat within the project area

		Desired Conditions Stands in each PAC have: (1) at least two tree canopy layers; (2) dominant and co-dominant trees with average diameters of at least 24 inches dbh; (3) at least 60 to70 percent canopy cover; (4) some very large snags (greater than 45 inches dbh); and (5) snag and down woody material levels that are higher than average. A home range core area is established surrounding each territorial spotted owl activity center detected after 1986. The core area amounts to 20 percent of the area described by the sum of the average breeding pair home range plus one standard error. Home range core area sizes are as follows: 2,400 acres on the Hat Creek and Eagle Lake Ranger Districts of the Lassen National Forest, 1,000 acres on the Modoc, Inyo, Humboldt-Toiyabe, Plumas, Tahoe, Eldorado, Lake Tahoe Basin Management Unit and Stanislaus National Forests and on the Almanor Ranger District of Lassen National Forest, and 600 acres of the Sequoia and Sierra National Forests. Aerial photography is used to delineate the core area. Acreage for the entire core area is identified on national forest lands. Core areas encompass the best available California spotted owl habitat in the closest proximity to the owl activity center. The best available contiguous habitat is selected to incorporate, in descending order of priority, CWHR classes 6, 5D, 5M, 4D and 4M and other stands with at least 50 percent tree canopy cover (including hardwoods). The acreage in the 300- acre PAC counts toward the total home range core area. Core areas are delineated within 1.5 miles of the activity center. When activities are planned adjacent to non-national forest lands, circular core areas are delineated around California spotted owl activity centers on non-national forest lands. Using the best available habitat as described above, any part of the circular core area that lies on national forest lands is designated and managed as a California spotted owl home range core area. HRCAs consist of large habitat blocks that have: (1) at least two tree canopy layers; (2) at least 24 inches dbh in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches dbh) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material. Because the Forest Service relies on the 2004 SNFPA for its management direction, the agency has never recognized the foraging habitat suitability of	

		severely burned (and not salvage logged) forest stands for spotted owls and, in fact, regularly re-draws Protected Activity Centers (PACs), or even removes them from the PAC system, after severe fire to exclude these areas. The 2004 SNFPA facilitates this due to two key factors 1) its definition of suitable habitat and 2) because it explicitly states: "PACs are maintained regardless of California spotted owl occupancy status. However, after a stand-replacing event, evaluate habitat conditions within a 1.5-mile radius around the activity center to identify opportunities for re-mapping the PAC. If there is insufficient suitable habitat for designating a PAC within the 1.5-mile radius, the PAC may be removed from the network." The result is a lack of protection for suitable burned foraging habitat close to nests/roosts, which in turn allows this suitable foraging habitat to be open to post-fire salvage logging, which in turn can adversely affect occupancy. This is a major issue, given that a disproportionately large amount of foraging occurs within a 1500-meter radius of nest/roost trees (Bond et al. 2009, Fig. 1). As we have pointed out to the Forest Service many times, Bond et al. 2009, Bond et al. 2010, Bond et al. 2013, Lee et al. 2012, Ganey et al. 2014, and Clark et al. 2013 all show the importance of protecting owls from salvage logging and yet this science continues to be downplayed or discounted for no good reason. At the very least, precluding salvage logging within 1.5 km of spotted owl core sites (Bond et al. 2009), and protecting burned (of all severities) CWHR 4M, 4D, 5M, 5D, and 6 conifer forest, are necessary to protect post-fire owl habitat. Bond et al. (2009) quantified habitat selection, which is how much owls used forest that burned at a particular severity compared with the availability of that burn severity. The authors banded and radio-marked 7 California spotted owls occupying the McNally Fire in the Sequoia National Forest four years after fire, and radio tracked them throughout the breeding season. Males and females forage independently, and analyses compared each bird's foraging locations with random locations within their own foraging ranges. Furthermore, all owls had unburned, low, moderate and highly burned patches of forest in their foraging ranges from which to choose, so the authors could quantify whether owls selected or avoided any of these burn intensities. This is the first study to specifically examine foraging habitat selection by spotted owls in burned forests that were not subjected to substantial post-fire logging. Spotted owls used all burn severities for foraging, but the probability of an owl using a site for foraging was strongest in severely burned forests, after accounting for distance from nest (see Figure 1 below). Selection for a particular burn class occurred within 1.5 km	

from the nest.

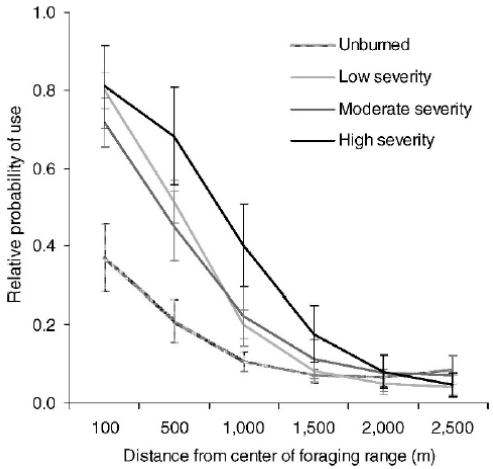

Figure 1. Relative probability of use of a site for 7 California spotted owls foraging at different distances from the center of the breeding range in forest burned at different intensities in the McNally Fire, Sequoia National Forest, 2006. From Bond et al. 2009; Figure 1 on page 1,121.

Bond et al. (2009) also measured vegetation and found that high-intensity burned sites had the greatest herb and shrub cover and basal area of snags. This result suggests that snags, herb, and shrub cover are important components of a post-fire forest that supports foraging habitat for spotted owls. Because severely burned, non-salvage-logged forests can offer suitable habitat for foraging spotted owls, the authors of Bond et al. 2009 recommended "that burned forests within 1.5 km of nests or roosts of California spotted owls not be salvage-logged until long-term effects of fire on spotted owls and their prey are understood more fully."

Post-fire logging has a harmful effect on California spotted owls because it eliminates or degrades habitat that would otherwise be used. For example, Lee et al. (2012) reported that mixed-severity fire, averaging 32% high-severity fire effects, did not reduce occupancy of California spotted owl sites in the Sierra Nevada, and even most territories with >50% high- severity fire remained occupied (at levels of occupancy comparable to unburned forests). This, however, was not the case in salvage-logged sites, as every site that was salvage logged lost occupancy, even though they were occupied after the fire but before the salvage logging (Lee et al. 2012). Specifically, post-fire

		logging occurred on eight of the 41 burned sites; seven of the eight sites were occupied immediately after the fire but none were occupied after post-fire logging. While Lee et al. 2012 notes that this particular "sample size was too small for this effect to be included as a covariate," the results nonetheless are best available data regarding post-fire logging and California spotted owls. Moreover, a study of northern spotted owls is also illustrative: Clark et al. (2013) found post-fire salvage logging in high-severity fire areas was a factor in territory extinction of northern spotted owls (S. o. caurina) in southwestern Oregon ("Our results also indicated a negative impact of salvage logging on site occupancy by spotted owls. We recommend restricting salvage logging after fires on public lands within 2.2 km of spotted owl territories (the median home range size in this portion of the spotted owl's range) to limit the negative impacts of salvage logging.") The Project must also keep in mind that California spotted owls are in a steep decline and therefore their viability is at extreme risk. Now outdated studies of California spotted owls strongly suggested population declines, but statistical power was too low to provide solid evidence. Recent scientific studies, however, using additional data and robust statistical methodology, have very clearly demonstrated that California spotted owl populations are declining throughout the range of the subspecies (Connor et al. 2013; Tempel and Gutierrez 2013). Over the past 18 years, a spotted owl population in the logged Lassen National Forest declined by 22% and another population in the logged Sierra National Forest declined by 16% (Conner et al. 2013). By contrast, in the same 18-year period a population in the unlogged national parks of Sequoia and Kings Canyon increased by 22%. In the logged Eldorado National Forest, the number of territories occupied by spotted owls declined by about half over the course of just over two decades (Tempel et al. 2014 [Figure 2]). None of these demography study areas experienced significant levels of fire during the study periods (except some post-fire logging in a minor portion of the Eldorado Study Area following the Star fire of 2001), thus fire could not be implicated as a factor in the population declines. These studies demonstrate that the California spotted owl is currently on a trajectory towards extinction on our public forest lands in the Sierra Nevada. Current regulatory mechanisms on public forest lands have permitted harmful forest management practices, such as salvage logging in owl habitat, and have proven inadequate to stabilize or reverse the population declines. The data therefore indicate that the California spotted owl is imperiled throughout most of its range, and logging in National Forest lands is an example of why local populations are threatened with extirpation and the entire subspecies may be on a	

		trajectory towards range-wide extinction. Moreover, because is it known that spotted owls rely on much more than Protected Activity Centers (PACs) for their life needs (nesting, roosting and foraging), it is necessary for the Forest Service to not only protect PACs and HRCAs from logging, but to also protect owl home ranges, including severely burned forest in home ranges. Further, most home-range estimates and studies of foraging habitat selection are from the breeding season only. Some California spotted owls are known to expand their movements during the winter (Bond et al. 2010, Ganey et al. 2014), which represents the most energetically costly and dangerous time for owl survival. Thus, the protection of potentially important habitat should extend to habitat that could be used during the overwinter season as well as the breeding season. Here, while the scoping notice states that "[h]arvest activities may occur in northern goshawk and California spotted owl PACs that have been rendered unsuitable," the document does not discuss and incorporate that moderate to high severity burn areas can provide not only suitable, but essential foraging habitat for owls (Bond et al. 2009, Bond et al. 2013, Ganey et al. 2014). In other words, simply because an area is not preferred roosting habitat anymore does not mean it is not extremely valuable to owls as foraging habitat. This is not an either or situation and instead this critical foraging habitat should be protected because it too is limiting to owl survival. For example, loss of spotted owl occupancy has been documented in areas where owl foraging habitat was logged post-fire (Lee et al. 2012, Clark et al. 2013). Consequently, it is not appropriate to conduct salvage logging or reforestation in owl home ranges or wintering habitat and it is especially problematic to promote logging as a benefit to owls when in fact it is a detriment to owls when it occurs in a way that results in loss of preferred foraging habitat (i.e., the logging of intensely burned areas within an owl's territory and/or the eradication of post-fire shrub growth [such as via herbicides or mastication]). We therefore ask that all spotted owl post-fire foraging habitat not be logged by, at a minimum, protecting the 1.5 km core area around owl sites (Bond et al. 2009). All intensely burned forest, that pre-fire was mature forest, is suitable habitat for owls (and in fact is selected for—see not only Bond et al. 2009 but also Clark 2007, Figure 6.2 showing more use than available of NSF [pre-fire mature forest] and Ganey et al. 2014) and is in fact preferred foraging habitat and must be treated as such. This is especially so in light of the current trajectory of owls in the Sierras—a serious decline on Forest Service and private lands. We note that the Forest Service itself admits that California spotted owl home ranges are	

		2,500 to 4,700 acres in size, and the 300-acre "PACs alone are not an adequate conservation strategy for maintaining a viable population of owls." 2001 Sierra Nevada Forest Plan Amendment, Final EIS, Vol. 3, Chapter 3, Part 4.4, pp. 75, 85. In addition, impacts from post-fire logging would be disproportionately large in this area, given that it is a critical Area of Concern, due to the fragmented nature of the habitat from past logging, and due to the fact that this area represents the tenuous connection between the Northern spotted owl and the California spotted owl (the only place where gene flow can occur to keep both populations genetically healthy) (Verner et al. 1992, p. 45 and Fig. 3A). In light of the foregoing, an EIS must be prepared under NEPA.	
9-10.1	Literature Citation	Bond et al. 2009	See response to 9-10
9-10.2	Literature Citation	Bond et al. 2010	See response to 9-10
9-10.3	Literature Citation	Bond et al. 2013	See response to 9-10
9-10.4	Literature Citation	Lee et al. 2012	See response to 9-10
9-10.5	Literature Citation	Ganey et al. 2014	Reference not provided.
9-10.6	Literature Citation	Clark et al. 2013	See response to 9-10
9-10.7	Literature Citation	Conner et al. 2013	See response to 9-10
9-10.8	Literature Citation	Tempel and Gutierrez 2013	See response to 9-10

9-10.9	Literature Citation	Tempel et al. 2014, Figure 2	See response to 9-10
9-10.10	Literature Citation	Clark 2007, Figure 6.2	Reference not provided
9-10.11	Literature Citation	Verner et al. 1992, p.45 and Figure 3A	See response to 9-10
9-11	**Potential Issue**	**Black-backed woodpecker** With black-backed woodpeckers, new science even more strongly demonstrates the importance of maintaining very high snag basal area post-fire – "As snag basal area increased, home-range sizes exponentially decreased" (Tingley et al. 2014). Tingley et al. 2014 explains that "an average snag basal area > 17 meters squared per hectare may represent a benchmark for minimum habitat needs in postfire stands," and that "[o]ur results, in combination with studies that have shown that black-backed woodpeckers are extremely sensitive to salvage logging (Hutto 2008, Saab et al. 2009), suggest that **currently the best strategy for protecting black-backed woodpecker habitat is to maintain large patches of high snag densities (Dudley and Saab 2007, Russell et al. 2007)" (Tingley et al. 2014)**. Nesting habitat was found to have over twice this "minimum" level of snag basal area, as was foraging habitat actually selected by the black-backeds (Siegel et al. 2013). Moreover, "the strength of the association of Black-backed Woodpeckers with unlogged postfire snag conditions makes it a useful indicator species for wildlife associated with this habitat." (Hanson and North 2008). In addition, science published very recently – Siegel et al. 2014c – states the importance of protecting not only very high snag basal area but also those "snags with burned-outhollows, forked trunks, or other relatively unusual structures that may create crevices or other opportunities for shelter" for the woodpeckers. In regard to specific habitat types, the following has been determined re BBWOs and must therefore be incorporated into the Projects: • **Foraging habitat/Roosting habitat**: "Our past findings (Siegel et al. 2013) show that Black-backed Woodpeckers in burned forests of California preferentially select larger, dead trees in more severely burned areas for foraging; our findings here extend those same	Non-significant issue The value of burned forest habitat for black-backed woodpeckers is not in disagreement. Many aspects of the proposed action were designed around this species and the ecological importance of burned forest habitat for this species and other species of wildlife. The Forest Service has to balance multiple priorities, objectives, uses, and species in its activities as a multiple use agency. At times, certain management objectives are in tension, if not direct conflict, with one another. For example, the purpose and need of this project includes capturing the economic value of fire-killed trees. Yet, the Forest also wishes to conserve burned forest habitat for the black backed woodpecker and other species. A reasonable balance between these two goals within the fire perimeter will be analyzed, realizing it is not possible to fully achieve both of these goals on every acre. Effects of the proposed action on black-backed woodpeckers will be discussed within the Management Indicator Species and black-backed woodpecker reports for this project.

		habitat selection criteria to another aspect of Black-backed Woodpecker habitat selection: roosting habitat." (Siegel et al. 2014a, 2014c). • **Food:** "Black-backed Woodpeckers foraging in burned forests feed primarily on wood- boring beetle larvae (Villard and Beninger 1993, Murphy and Lehnhausen1998, Powell 2000), although some studies have also reported or inferred foraging on bark beetle larvae (Lester 1980, Goggans et al. 1988). Bark beetles and wood-boring beetles share important life-history characteristics (both spend a prolonged portion of their life-cycle as larvae inside dead or dying trees) but also exhibit differences that may be important in their ecological interactions with Black-backed Woodpeckers. Bark beetles are small (generally <6 mm in length), numerous, often able to attack live trees, and generally remain as larvae in bark less than a year before emerging as adults (Powell 2000). In contrast, wood-boring beetles have much larger larvae (up to 50 mm long), are less numerous, and can remain as larvae in dead wood for up to three years (Powell 2000). Additionally, most wood-boring beetles are unable to attack living trees, and concentrate heavily in fire-killed wood . . . ." (Siegel et al. 2014b). • **Nesting habitat**: "For the 31 nests, the mean number of snags/plot was 13.3 (SD ¼ 7.6, range ¼ 1–29 snags/plot), whereas the mean number of snags on plots at randomly selected trees was 5.0 (SD ¼ 5.2, range ¼ 0–35 snags/plot). In both the Cub Fire and Moonlight Fire sites, black-backed woodpeckers preferred nest trees located in areas with high snag densities (Fig. 3)." (Seavy et al. 2012); "None of the cavities were re-used between years and each appeared to have been freshly excavated in the year of its use." (Seavy et al. 2012); "For the 31 nest trees measured, the mean dbh was 33 cm (SD ¼ 7, range ¼ 18–50)" (Seavy et al. 2012); **Important Factors re BBWOs:** • **Colonization and extinction**: "The average probability of colonization by Black-backed Woodpeckers at a previously unoccupied point in any given year was modeled to be 6.5%, while the average probability that an occupied site would go extinct in any given year was 72%. The probability of extinction had no clear covariate relationships, with moderate support for negative relationships with increased burn severity – extinction occurred less frequently at survey points with greater burn severity. Colonization,	

		however, had very strong relationships to two covariates. Colonization was more likely at early post-fire points and at points with high densities of snags. " (Siegel et al. 2014b) • **Home Range size**: "[W]e found that home-range size varied by an order of magnitude, from 24.1 to 304.1 ha, as measured by movement-based kernel estimation" (Tingley et al. 2014); "Black-backed Woodpecker home ranges within our 3 fires varied by approximately an order of magnitude, and this variation was explained in large part by a single resource characteristic: mean snag basal area" (Tingley et al. 2014); "However, size appears to vary with habitat type and time since fire (Dudley and Saab 2007, Rota et al. 2014). As populations of wood-boring beetle larvae decrease during the years after fire (McCullough et al. 1998), it is believed that Black-backed Woodpeckers enlarge their home ranges before eventually abandoning individual burned areas altogether (Dudley and Saab 2007, Rota et al. 2014)." (Tingley et al. 2014)	
9-11.1	Literature Citation	Siegel et al. 2013	An earlier report updated by Siegel et al 2014b.
9-12	**Alternative Suggestion**	Given that "the best strategy for protecting black-backed woodpecker habitat is to maintain large patches of high snag densities," and given the importance of very high snag density to nest sites, foraging sites, and home range size, it is imperative, and we therefore request, that the Project not log the following – areas that a) consisted of mature conifer forest pre-fire (CWHR 4M and above), and b) burned at moderate to high intensity. Further, we request that no post-fire logging occur during black-backed woodpecker nesting season, consistent with the recommendations of the Forest Service's own black-backed woodpecker Conservation Strategy (Bond et al. 2012).	Many aspects of the proposed action were designed around this species and the ecological importance of burned forest habitat for this species and other species of wildlife. The referenced Black-Backed Woodpecker Conservation Strategy was used in the development of the propose action, however by its very nature, this conservation strategy considers only one species. The Forest Service has to balance multiple priorities, objectives, uses, and species in its activities as a multiple use agency. The purpose and need of this project includes capturing the economic value of fire-killed trees, an objective that may be compromised if a full limited operating period for black-backed woodpeckers were required. Yet, the Forest also wishes to conserve burned forest habitat for the black backed woodpecker and other species. A reasonable balance between these two goals within the fire perimeter will be analyzed, realizing it is not possible to fully achieve

			both of these goals on every acre. Effects of the proposed action on black-backed woodpeckers will be discussed within the Management Indicator Species and black-backed woodpecker reports for this project.
9-12.1	Literature Citation	Bond et al. 2012	This conservation strategy was used in the design of the proposed action and will be used in the analysis of effects for black-backed woodpeckers.
9-13	Comment	**Additional Information Regarding Wildlife and the Post-Fire Landscape** The lack of specificity and precision as to old forests and complex early seral forest in the Projects will only lead to confusion and likely harm to wildlife. The details are important because the Forest Service is using general language to argue, for example, for logging post-fire early seral areas under the guise of more quickly returning the areas to "old forest." That approach is not scientifically sound as it does not acknowledge that the journey is just as important as the destination in regard to forest succession (e.g., Donato et al. 2012). Old forest derives from early forest in the sense that important components, like snags, downed wood, shrubs, and natural heterogeneity (from natural regeneration) derive, in large part, from complex early seral forest (e.g., Swanson et al. 2011, DellaSala et al. 2014). Put another way, it does not make sense to achieve ecological integrity by destroying complex early seral forest to more quickly achieve old forest – instead, both are damaged ecologically in such an effort. Moreover, the Forest Service's stated approach fails to recognize that complex early seral forest, created by high-severity fire, is even rarer than old forest, is as biodiverse—or more biodiverse—than mature/old forest, and is much more threatened since there are no meaningful protections for this habitat, and associated wildlife, in forest plans or under the 2004 Framework forest plan (DellaSala et al. 2014, Hanson 2014). Similarly, it is essential that the Forest Service use its platform to educate the public about the importance of intensely burned forest to wildlife. Again, we recognize that it is important to protect the public from hazard trees, but it is also essential to educate the public about the ecological role of intensely burned forest—the public can best appreciate something when they are well informed about it, and here it is critical to educate about wildlife and burned	No argument is made against the commenter's statements as to the value of early seral habitats and burned forest. Recognizing the value of non-coniferous vegetation on the landscape, this concept has been incorporated into many past projects' proposed action objectives to restore understory vegetation and to promote non-coniferous plants on the landscape. The National Forest Management Act (NFMA) sets policy to maintain appropriate forest cover in accordance with forest management, which, as it pertains to post-fire salvage, means to reforest after salvage activities are completed (USDA 2013b). Planting trees is a way to ensure this policy is met in areas where seed sources are lacking, and ensuring a diverse multi-species forest becomes established in a timely manner. Conifer seeds are not naturally dispersed long distances so conifer tree planting would ensure a variety of native conifer tree seedlings would be re-established in severely burned areas. Replanting severely burned areas with ecologically appropriate species would ensure timely replacement of burned conifer forest stands and improve tree species composition. The Forest Service recognizes that standing dead trees constitute an important habitat element, particularly in recently burned areas, and a preponderance of scientific evidence for various wildlife species supports this. This important habitat element has been

		forest in light of past attacks by the Forest Service on intense fire. Unfortunately, there also continues to be a generic argument that severe fire is to blame for loss of old forest. There is no basis for this argument as severe fire is currently in a deficit in the Sierras and is especially lacking on the Sierra Forest. Severe fire is also not an either/or. For many species, whiles severe fire changes their landscape, it can nonetheless continue to provide key habitat, albeit in a different form. Again, California spotted owls have been found, on the Sequoia National Forest after the McNally Fire, to preferentially select the mature conifer forest that burned severely for their foraging needs. Similarly, fishers have been found on the Sequoia National Forest to use severely burned mature conifer forest (Hanson 2013). And, of course, many species, such as the black-backed woodpecker, rely on these severely burned forests for high quality habitat, and are keystone species in that they create cavities for other birds and animals to use down the line (Manley and Tarbill 2012, Tingley et al. 2014, Siegel et al. 2014a, 2014b). In fact, many of the fires that the Forest Service points to as being uncharacteristic are fires that have been found to support great biodiversity, except in or near to areas where salvage logging has occurred – e.g., the Angora, the Storrie, the Moonlight, the McNally. There is strong evidence for this, namely, Bond et al. 2009, 2013; Buchalski et al. 2013; Burnett et al. 2010, 2012; Hanson and North 2008; Hanson 2013; Malison and Baxter 2010; Manley and Tarbill 2012; Seavy et al. 2012; Siegel et al. 2011, 2013, 2014a, 2014b, 2014c. Also neglected is the fact that conifer forests of the Region rely on fire of all severities to maintain ecosystem integrity and wildlife diversity, but currently, these forests are in an extreme fire deficit of all severities. (See, e.g., Beaty and Taylor 2001, Bekker and Taylor 2001, Bekker and Taylor 2010, Miller et al. 2012, Odion and Hanson 2013, Mallek et al. 2013, Hanson and Odion 2014, Odion et al. 2014, Baker 2014.) This fire deficit means that, generally speaking, when fires do occur, they are restorative events because they return fire and its ecological value to the landscape, providing, for example, essential (and very rare) wildlife habitat as already described above. And, contrary to assumptions, large, high-severity fire patches are not homogenous—rather, they can contain stand level heterogeneity because they vary in size and importantly, contain within them high levels of variation in regard to post-fire vegetation and snags. In addition, Siegel et al. (2011) explains that not only black-backed woodpeckers, but many other species, are utilizing complex early seral forest left unlogged: “Many more species occur at high burn severity sites	incorporated into the proposed action and management requirements that were developed to mitigate potential effects. This proposed action was built around the recognition of the importance of both burned forest and early seral vegetation. For instance, the 20% of treatment areas that are to be left in unsalvaged patches also would not be replanted in order to maintain approximately 20% of subsequent plantations in openings. Forest Plan direction following large, catastrophic disturbance events provides guidance for multiple forest management objectives, including economic recovery of fire-injured trees, reducing the potential for soil erosion, and maintaining critical wildlife habitat (SNFPA ROD, pp. 52-53). Several project specific examples where the purposes and needs of the project were balanced with needs for maintaining newly created shrubland habitat (described by the commenter as complex early seral forest) as well as burned snags throughout the Project Area include: (1) salvage units being dropped or modified in the proposed action based on preliminary analysis of available potentially suitable habitat; (2) snag retention guidelines developed to provide a measure of snag forest habitat connectivity through the salvage units; (3) salvage harvest not allowed in riparian buffers; and (4) inclusion of inoperable areas within treatment units that would not be harvested. Although these measures would not eliminate all potential adverse impacts of the proposed action on snags in burned forest habitat represented by the black-backed woodpecker (e.g., habitat loss and fragmentation), they would mediate these effects to some extent. In most of the western United States, recent research has indicated that fire size is increasing, large fires are becoming more frequent, and in at least some locations, the annual percentage of high severity fire is also increasing (Miller et al. 2012a). Recent research

		starting several years post-fire, however, and these include the majority of ground and shrub nesters as well as many cavity nesters. Secondary cavity nesters, such as swallows, bluebirds, and wrens, are particularly associated with severe burns, but only after nest cavities have been created, presumably by the pioneering cavity-excavating species such as the Black-backed Woodpecker. Consequently, fires that create preferred conditions for Black- backed Woodpeckers in the early post-fire years will likely result in increased nesting sites for secondary cavity nesters in successive years." Similarly, Burnett et al. (2012) found that "while some snag associated species (e.g. black-backed woodpecker) decline five or six years after a fire [and move on to find more recent fire areas], [species] associated with understory plant communities take [the woodpeckers'] place resulting in similar avian diversity three and eleven years after fire (e.g. Moonlight and Storrie)." Burnett et al. (2012) also noted that "there is a five year lag before dense shrub habitats form that maximize densities of species such as Fox Sparrow, Dusky Flycatcher, and MacGillivray's Warbler. These species have shown substantial increases in abundance in the Moonlight fire each year since 2009 but shrub nesting species are still more abundant in the eleven year post-burn Storrie fire. This suggests early successional shrub habitats in burned areas provide high quality habitat for shrub dependent species well beyond a decade after fire." And Manley and Tarbill (2012) found, in the post-fire area of the Angora fire, that woodpeckers play a keystone role that can only be accomplished when post-fire habitat is maintained, not logged: Although woodpecker species differed in their influence on recovery of birds and small mammals, all three species observed in our study played an important role in supporting the cavity-dependent community through habitat creation for nesting, resting, denning, and roosting. The Black-backed Woodpecker was a significant contributor to the establishment of bird and small mammal species and communities in areas with high burn intensities, and it appeared to have a more narrow range of suitable habitat conditions for nest site selection compared to the Hairy Woodpecker. Thus, the habitat requirements of the Black-backed Woodpecker serve as a useful threshold for managing burned sites for wildlife recovery. It is therefore imperative that Projects such as this one conserve the ecological integrity of post- fire, complex early seral habitat, especially the key characteristics, such as high snag density, extensive shrub cover, downed wood, and natural conifer regeneration. New literature continues to demonstrate our points. In Hanson 2014,	has also demonstrated there has been an increased proportion of high-severity fire in yellow pine and mixed-conifer forests in the Sierra Nevada between 1984 and 2010 (Long et al. 2014; Miller and Safford 2012; Miller et al. 2009). Average and maximum sizes of contiguous areas ("patches") of stand-replacing, high-severity fire within these conifer forests approximately doubled across the period of analysis. Increasing areas of high-severity fire and high severity patch size can occur when greater area is burned at constant proportion of high-severity fire, or when the proportion of high-severity fire within fire perimeters increases, or some combination of both (Miller and Safford 2012; Miller et al. 2009). According to the authors, these increases co-occur with rising regional temperatures and increased long-term precipitation (Long et al. 2014). In California, notable increases in fire activity are predicted. They are driven largely by projected increases in temperature and decreases in snow pack and, to a lesser extent, increased fuel production from carbon dioxide "fertilization" (Flannigan et al. 2000; Lenihan et al. 2003, 2008; Westerling et al. 2011). It is not clear how the increases in fire activity would affect the Sierra Nevada forests (Safford et al. 2012). Increased burn area does not necessarily result in increased proportions of high severity fire (Miller et al. 2012b). The size of high-severity patches may be a particularly important indicator of whether changes constitute a major shift, especially because natural recovery processes such as natural reseeding of conifers may be limited by the distance to live trees (Long et al. 2014; Crotteau et al. 2013). If high-severity proportions and patch sizes of fires are elevated (Miller and Safford 2012), decreased time between successive fires could lead to type conversion or local loss of a particular plant association (Safford et al. 2012). Even if proportions are not elevated but remain similar, this would translate into greater area burned at high severity as total burned area increases (Long et al.

		"Conservation concerns for Sierra Nevada birds associated with high-severity fire," the analysis found that all of the native Sierra Nevada birds positively associated, in the published scientific literature, with post-fire habitat created by high-intensity fire, and which have statistically significant population trends (Breeding Bird Survey), are experiencing persistent and ongoing declines. These declines of high-intensity fire associates are affecting all nesting guilds, including cavity nesters, canopy nesters, and shrub/ground nesters, the latter of which comprised the largest number of declining species. The study identified post-fire logging, and subsequent removal/eradication of native shrubs (through mechanical means and spraying of toxic herbicides) and artificial conifer plantation establishment, as well as ongoing fire suppression and mechanical thinning designed to further suppress fire, as serious threats and recommended a major change in current management direction to conserve these species and their habitat.	2014). If the proportion of high-severity fire continues to increase in concert with the proportion of area burned, increasing areas of old forest will be lost, emissions will rise, and fewer large diameter conifers – which store the most carbon and play a variety of other keystone ecological roles - will be retained (Miller and Safford 2012; Hurteau and Brooks 2011; National Research Council 2011; North and Hurteau 2011, Lutz et al. 2012). With continuing increases in the extent of high severity fire and high severity patch size, post-fire erosion, stream sedimentation, nutrient cycling, carbon sequestration and natural forest regeneration processes will also be increasingly impacted (Pickett and White 1985; Hobbs and others 1992; Gresswell 1999; Breashears and Allen 2002; Sugihara and others 2006; Allen 2007).
9-13.1	Literature Citation	Donato et al. 2012	This paper addresses the importance of early seral stage habitats and successional processes. See response to comment 9-13; recognition of the importance of early seral stages was incorporated when possible into the proposed action.
9-13.2	Literature Citation	Swanson et al. 2011	This paper addresses the importance of early seral stage habitats and successional processes. See response to comment 9-13; recognition of the importance of early seral stages was incorporated when possible into the proposed action.
9-13.3	Literature Citation	DellaSala et al. 2014	This paper addresses the importance of early seral stage habitats and successional processes. See response to comment 9-13; recognition of the importance of early seral stages was incorporated when possible into the proposed action.
9-13.4	Literature Citation	Hanson 2014	This paper addresses the importance of burned forest habitat to various bird species. The importance of

			burned forest habitat to a number of different wildlife species that is made in this paper and in many others that were used in the preparation for this project is not contested. The findings regarding burned forest habitat are recognized and have been applied within the proposed action for this project and in how treatment areas were located and treatments designed. The proposed action strikes a balance between the USFS's multiple use objectives and habitat considerations.
9-13.5	Literature Citation	Hanson 2013	This paper is in reference to the use of burned areas within the McNally Fire by fisher. Fisher were not analyzed within the Bald Fire due to a lack of detections during post fire monitoring. Therefore, this discussion is not relevant to the Bald Project area.
9-13.6	Literature Citation	Manley and Tarbill 2012	This paper addresses the importance of woodpeckers as keystone spp by their cavity excavation, and the importance of post-fire management for these species. See responses to comments 9-13 and 9-13.4.
9-13.7	Literature Citation	Tingley et al. 2014	This paper, and data obtained directly from the lead author, was used in preparation of the proposed action and in the analysis of effects.
9-13.8	Literature Citation	Siegel et al. 2014a	This paper was used in preparation of the proposed action and in the analysis of effects.
9-13.9	Literature Citation	Siegel et al. 2014b	This paper was used in preparation of the proposed action and in the analysis of effects.
9-13.10	Literature Citation	Bond et al. 2009	Potential value of burned forest as spotted owl habitat informed the proposed action, see response to comment 9-10.
9-13.11	Literature Citation	Bond et al. 2013	Potential value of burned forest as spotted owl habitat informed the proposed action, see response to

			comment 9-10.
9-13.12	Literature Citation	Buchalski et al. 2013	The potential use of burned areas as foraging by bats, and the potential use of fire-killed trees as roosts was recognized and used to help inform the proposed action, and this paper will be used in the analysis of effects within the biological evaluation.
9-13.13	Literature Citation	Burnett et al. 2010	See response to 9-2.1.
9-13.14	Literature Citation	Burnett et al. 2012	See response to 9-2.1.
9-13.15	Literature Citation	Hanson and North 2008	See response to 9-2.1.
9-13.16	Literature Citation	Malison and Baxter 2010	This paper addresses greater aquatic insect production along streams that burned at high severities. Study area was in a wilderness, thus it did not address salvage harvest.
9-13.17	Literature Citation	Seavy et al. 2012	This paper was used to help inform the proposed action, and will be used in the black-backed woodpecker report.
9-13.18	Literature Citation	Siegel et al. 2011	An earlier report updated by Siegel et al 2014a, reference below.
9-13.19	Literature Citation	Siegel et al. 2013	An earlier report updated by Siegel et al 2014b, reference below.
9-13.20	Literature Citation	Siegel et al. 2014c	This paper addresses the importance of certain snag characteristics used as roost trees by black-backed woodpeckers. Our snag retention scheme of leaving 20% of treatments units unharvested, as well as no proposed treatment (natural recovery) on

			approximately 19,000 acres within the fire perimeter will serve to capture this concern across a large area of the Bald Fire.
9-13.21	Literature Citation	Beaty and Taylor 2001	Same citation referenced for comment 9-9.18. See response to 9-9.18.
9-13.22	Literature Citation	Bekker and Taylor 2001	This study, located in the Thousand Lakes Wilderness of Lassen National Forest, analyzed variation in fire regime parameters (i.e., return interval, season, size, severity, and rotation period) with respect to forest composition, elevation, and potential soil moisture in an area of montane forest in the southern Cascades in the Thousand Lakes Wilderness. Fire regime parameters varied with forest composition, elevation, and potential soil moisture.
9-13.23	Literature Citation	Bekker and Taylor 2010	Same citation referenced for comment 9-9.19. See response to 10-9.19.
9-13.24	Literature Citation	Miller et al. 2012	Article focused on the Douglas Fir forest of Northwest CA, a different ecosystem, than that of the Bald Fire.
9-13.25	Literature Citation	Odion and Hanson 2013	The objective of this paper was to address how fire management affects the primary habitat of the black-back woodpecker and associated species in the Sierra Nevada and Cascades. The proposed action was designed to balance multiple uses and objectives on USFS lands, as per the USFS multiple use mission.
9-13.26	Literature Citation	Mallek et al. 2013	Reference not provided.
9-13.27	Literature Citation	Hanson and Odion 2014	Reference not provided.

9-13.28	Literature Citation	Odion et al. 2014	The primary objective of this paper was to address how prevalent mixed-severity fire regimes were historically in ponderosa pine, mixed conifer, and other low- to mid- elevation, montane forests of western North America. The study suggests there was more high severity fire in ponderosa pine and mixed-conifer forests, compared to what the results of past studies and historical documents have suggested. This study suggests that many other published studies and historical documents do not provide sufficient information to estimate high-severity fire rotations in these forests. The Fire and Fuels Report will address the fire history, fire regime, fire severity, fire hazard, and fire behavior for the Bald Fire project area.
9-13.29	Literature Citation	Baker 2014	Same citation referenced for comment 9-9.17. See response to 9-9.17.
9-14	Comment	In DellaSala et al. 2014. "Complex early seral forests of the Sierra Nevada: what are they and how can they be managed for ecological integrity?" the authors synthesized and summarized the existing scientific literature, and recommended that "Complex Early Seral Forest" (CESF) be recognized as an ecologically distinct forest habitat type, and that CESF should be mapped and monitored, and protected from post-fire logging. The authors also found that the Black-backed Woodpecker should be designated as a Species of Conservation Concern under the revised forest plans, due to its extreme rarity and vulnerability to further fire suppression and post-fire logging operations. Additionally, the authors recommended an expansion of mixed-intensity managed wildland fire to restore CESF on the landscape, given that the current science shows CESF to be in a substantial deficit relative to historical levels. This study provides important guidance for the Forest Service as to CESF.	See Response 9-13
9-14.1	Literature Citation	DellaSala et al. 2014	See Response 9-13
9-15	Comment	The scoping notice also proposes site preparation and subsequent planting	

		within the Projects. Natural regeneration is critical to allowing for heterogeneity and post-fire wildlife habitat. Siegel et al. (2011) concluded that native fire-following shrubs are vitally important to biodiversity in complex early seral forest (CESF) created by high-intensity fire: "Many more species occur at high burn severity sites starting several years post-fire, however, and these include the majority of ground and shrub nesters as well as many cavity nesters. Secondary cavity nesters, such as swallows, bluebirds, and wrens, are particularly associated with severe burns, but only after nest cavities have been created, presumably by the pioneering cavity-excavating species such as the Black-backed Woodpecker. Consequently, fires that create preferred conditions for Black- backed Woodpeckers in the early post-fire years will likely result in increased nesting sites for secondary cavity nesters in successive years." Similarly, Burnett et al have found that shrub dominated landscapes are critically important wildlife habitat: "while some snag associated species (e.g. black-backed woodpecker) decline five or six years after a fire [and move on to find more recent fire areas], [species] associated with understory plant communities take [the woodpeckers'] place resulting in similar avian diversity three and eleven years after fire (e.g. Moonlight and Storrie)." (Burnett et al. 2012). Burnett et al. (2012) also noted that "there is a five year lag before dense shrub habitats form that maximize densities of species such as Fox Sparrow, Dusky Flycatcher, and MacGillivray's Warbler. These species have shown substantial increases in abundance in the Moonlight fire each year since 2009 but shrub nesting species are still more abundant in the eleven year post-burn Storrie fire. This suggests early successional shrub habitats in burned areas provide high quality habitat for shrub dependent species well beyond a decade after fire." (Burnett et al. 2012). Moreover, natural conifer regeneration is generally substantial following high-severity fire—even in large patches—and native shrub cover does not inhibit natural conifer regeneration (Shatford et al. 2007, Crotteau et al. 2013), while post-fire logging kills most of the existing natural conifer regeneration (Donato et al. 2006), therefore the Forest Service's stated rationale does not have a sound scientific basis. Only one study has found relatively little natural post-fire conifer regeneration in high-severity fire areas—a study conducted by the Forest Service (Collins and Roller 2013)—but the authors failed to mention that the bulk of the areas studied had been clearcut prior to the fires (i.e., seed source had been removed before the fires even occurred) or were natural non-conifer, e.g., black oak, as our on-the-ground surveys of their plot locations revealed.	See the response to comment 9-13.

9-15.1	Literature Citation	Shatford et al. 2007	Study of Conifer regeneration following fires in the Klamath Siskiyou's Natural regeneration is a viable a management tool. It does require a seed source in proximity (this distance may vary depending upon site-specific factors) and the timeline to achieving a fully stocked stand may be extended far beyond what can be achieved with artificial regeneration. The Bald project is designed to incorporate this regeneration strategy in portions of the project
9-15.2	Literature Citation	Crotteau et al. 2013	This paper focused on mixed or moderate severity fires, and prioritizing areas for reforestation versus natural regeneration. The study models confirmed natural seedling densities vary spatially and compositionally across elevation and burn severity. This study showed that natural regeneration was generally abundant, except when a nearby seed source was absent. Areas with high severity burns typically had high levels of brush cover as opposed to conifer regeneration. Approximately 75 percent of the Eiler Fire burned at high severity, and due to the large patch size of the high severity burns, an existing seed source is not present, creating a need for artificial reforestation to maintain appropriate forest cover as per the National Forest Management Act of 1976.
9-15.3	Literature Citation	Donato et al. 2006	Brevia on Post-Fire logging in the Biscuit fire in Oregon. - No data presented.
9-15.4	Literature Citation	Collins and Roller 2013	Reference not provided
9-16	Comment	**Conclusion** We request that you withdraw the Projects as currently proposed and instead issue a document that incorporates and explains the importance of post-fire wildlife habitat, educates the public about it, and seeks to	Comment noted

		protect it.	
Respondent #10: Leonard Moty, Shasta County Board of Supervisors, letter dated January 6, 2015			
Comment #	**Identification**	**Summary of Comment**	**Responsible Official's Disposition**
10-1	Comment	Shasta County is pleased to provide comments on the proposed salvage and restoration project for the area burned in the Bald Fire. Shasta County appreciates the rapid manner in which you pulled together all of the current available information in order to move forward on this project. We hope the interdisciplinary team will continue to move as rapidly. Over 18,999 acres of forested land are classified as "severe". These areas need to be harvested and reforested within the next year. We appreciate your recognition of the importance of the Bald Project to capture remaining forest product economic value and benefit, reduce public safety hazards caused by the Bald Fire, reduce future fuel loads, and reforest suitable portions of the landscape deforested by the Bald Fire before the sites are fully occupied by completing vegetation. Reforestation will expedite the re-establishment of a forested landscape capable of producing a variety of wood products, wildlife habitat, and ecological services. We support your use of current open forest-wide roads and hope that this leads to a further process to ensure roads remain open and useable. The communities of the Hat Creek Valley, Burney Basin, and Fall River Valley, all in close proximity to the Bald Fire, are supported by an active timber industry and wood products infrastructure. There are two active sawmills and one active cogeneration facility in Burney. A viable timber industry and wood products infrastructure greatly improves the ability to treat and manage forest vegetation in a cost-effective and efficient manner, while ensuring long-term local employment.	Comment noted

APPENDIX A - Summary of Literature Received by Dick Artley, Individual, December 22, 2014

Comment #	Identification	Summary of Comment	Responsible Official's Disposition
1-15	Comment	**Opposing Views Attachment #2 -** Wildfire is a Natural Disturbance Event that Benefits many Natural Resources in the Forest in Spite of the Fact it Kills Conifer Tree Species Wildfire is Supposed to Kill Trees!!! That's how Fire Restores the Countless other Resources. Trees are Supposed to ROT Yet the Forest Service Continues to Eliminate this Crucial Natural Restoration Process on Publically Owned Land to Provide Short-Term Corporate Profit Opportunities. Here are the facts that USFS keeps secret from the public: 1) There are countless other natural resources in the forest besides conifer tree species that the agency conveniently and routinely ignores. This isn't surprising. The agency is populated by foresters trained in industrial forestry techniques. They focus on merchantable trees. The countless other resources that are trashed when logging contractors remove the merchantable trees are considered acceptable collateral damage. 2) The health of these "other" resources is improved by fire, thus fire enhances and promotes forest health which is contrary to what the agency tells the public. 3) Fire that does not threaten homes in the Wildland Urban Interface is a welcome event rather than a "catastrophe" as the agency claims. How many decades will it take before agency leaders learn that merchantable sized trees that aren't logged and hauled to the mill are not wasted? 4) The real reason the forest service always proposes to log the dead and dying trees in the post-fire landscape is to make their timber cut quota and spend all their NFTM funding in the FY it was allocated. Why? This pleases agency employees at higher levels. 5) Dead and dying trees resulting from wildfire are supposed to rot and decay in order to replenish the organic material in the soil. Any (emphasis added) USFS employee who claims otherwise is either 1) forested ecosystem clueless, or 2) so clinically obsessed with volume attainment they will lie to the people they serve in the blink of an eye and think they did their job.	
1-15.1	Literature	**Post Wildfire Logging Opposing View #1** - "When we, as scientists, see policies being developed that run counter to the lessons of science, we feel	The cited document is a letter to congress opposing the Forest Emergency Recovery and Research Act and the

	Citation	compelled to speak up. Proposed post-disturbance legislation (specifically the Forest Emergency Recovery and Research Act [HR 4200] and the related Forests for Future Generations Act [S. 2079]), crafted as a response to recent fires and other disturbances, is misguided because it distorts or ignores recent scientific advances." "Under the labels of "recovery" and "restoration," these bills would speed logging and replanting after natural disturbances. Although logging and replanting may seem like a reasonable way to clean up and restore forests after disturbances like wildland fires, such activity would actually slow the natural recovery of forests and of streams and creatures within them.' "Many scientist-reviewed studies and syntheses (please see the selected citations appended to this letter) have recently come to this conclusion. For example, no substantive evidence supports the idea that fire-adapted forests might be improved by logging after a fire. In fact, many carefully conducted studies have concluded just the opposite. Most plants and animals in these forests are adapted to periodic fires and other natural disturbances. They have a remarkable way of recovering - literally rising from the ashes - because they have evolved with and even depend upon fire." "In testimony before the House Subcommittee on Resources (November 10, 2005), eminent forest ecologist and University of Washington Professor Jerry Franklin noted that logging dead trees often has greater negative impacts than logging of live trees. He concluded that "timber salvage is most appropriately viewed as a 'tax' on ecological recovery." Beyond those concerns, post-disturbance logging often intensifies the potential severity of future fires by concentrating the slash from logging at or near the ground. Rather than leaving plant material standing - and providing perching, nesting, and feeding sites for wildlife - such logging abruptly moves the material to the ground. Most of this material would naturally fall to the ground, adding important supplies of nutrients and energy to the forest floor and structure in the form of woody debris to stream channels. But this naturally happens over decades, not in the relatively short time associated with a logging operation." From an August 1, 2006 letter to members of Congress http://www.conservationnw.org/library/otherpub/document-2006-03-15-7573536098 The 169 Ph.D. Scientists who signed this letter to Congress are: Signatures available upon request	Forests for Future Generations Act. The letter describes some potential negative effects of salvage logging as impeding ecological recovery and increasing future fire risks. Many understory plant species native to the Bald project area are fire adapted. Recovery may begin within weeks following wildfires. The nutrient flush, additional sunlight and reduced competition typically lead to increased productivity in the grass, forb, and shrub layers. Salvage logging is not expected to retard this natural process, though treatment of invasive plant species will likely be needed. See response to comment 1-11 regarding remaining snags and woody debris in the proposal. Salvage operations would be followed by fuels treatments that include treating activity generated slash and biomass, to reduce future fuel loading in the area (Scoping Document, page 7).

1-15.2	Literature Citation	**Post Wildfire Logging Opposing View #2** - "This crass timber industry pay-off is being justified as a means to ensure forest health and reduce the threat of forest fires. It will achieve neither. Salvage logging is known to increase erosion, impair streams and other wildlife habitat, further damage forests made more fragile by fires, and can actually increase fire risk due to the buildup of hazardous fuel and slash left by logging operations. A fire-adapted forest that burns naturally (most are on varying periodicities) and is left to recover is not a disaster - it is how many forests regenerate. Trees downed by forest fires provide habitat for wildlife and nutrients needed for their renewal and to help keep forests healthy. Rarely are whole forests destroyed - as clumps of live trees and surrounding intact forests provide materials to seed a new, healthier forest." Barry, Glen Ph.D. "Salvage Logging" Threatens Ancient Forest Renewal" Forest Conservation News Today, 2004 http://144.16.65.194/hpg/envis/doc99html/biodsal240618.html	This is an opinion piece expressing author's view on proposed post fire logging after the Biscuit Fire in SW Oregon. Does not cite specific scientific literature. IDFs are included in the project proposal to protect resources, including streams, soils, and wildlife habitat (Scoping Document, pages 11-16). For example, lopping and scattering activity slash across skid trails in riparian areas would occur to prevent erosion. See response to comment 1-11 regarding remaining snags and woody debris in the proposal. A majority of the fire burned at a very high intensity (66%, based on basal area mortality). Generally, the lower to moderate burn severity effects are found on the outer edges of the fire and the previously treated areas. The high severity burn effects, which account for the majority of the burned area, are found in the center of the fire with one patch exceeding 3,800 acres, and an average patch size of 214 acres. Very few green trees remain to act as a seed source to naturally regenerate the area as the commenter suggests.
1-15.3	Literature Citation	**Post Wildfire Logging Opposing View #3** - "Notably, the Administration's wildland fire policy does not rely on commercial logging or new road building to reduce fire risks and can be implemented under its current forest and land management polices. The removal of large, merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk. Fire ecologists note that large trees are "insurance for the future – they are critical to ecosystem resilience."10 Targeting smaller trees and leaving both large trees and snags standing addresses the core of the fuels problem.11 The Congressional Research Service (CRS) recently addressed the effect of logging on wildfires in an August 2000 report and found that the current wave of forest fires is not related to a decline in timber harvest on Federal lands. From a quantitative perspective, the CRS study indicates a very weak relationship between acres logged and the extent and severity of forest fires. To the contrary, in the most recent period (1980 through 1999) the data indicate that fewer acres burned in areas where logging activity was limited." Babbitt, Bruce (DOI Secretary) and Dan Glickman (USDA Secretary) "A Report	This report came out after the wildfires in 2000. It covers many aspects of wildfire and managing the impact of wildfire on communities and the environment. It is known that past practices have changed forest structure and that is one of the reasons for unnatural fuel buildups within the forest. The second section states that there is a relationship, although very weak, between acres logged, extent, and severity of acres burned. The first highlighted sections deal with reducing risk by cutting live trees. The second section does not take into account any other variables that come into play with fires. In addition, this was a human caused arson fire.

		to the President in Response to the Wildfires of 2000" September 8, 2000 http://www.forestsandrangelands.gov/reports/documents/2001/8-20-en.pdf	See response to 1-15.1.
1-15.4	Literature Citation	**Post Wildfire Logging Opposing View #4** - "Smokey the Bear's "Only you can prevent forest fires" mantra has been a very successful public relations campaign. However well intended, the program was ignorant of fire ecology. The mere possibility that fire has an important positive role in maintaining healthy forests was anathema to and censored by Forest Service leaders. It was only after the conversion of surplus war bombers (B17's and 24's) that fire fighters attacked remote areas-no longer constrained by roads of mule trains. For decades its official policy toward newly ignited fires was "out by 10 a.m. the next day". By an amazing coincidence, the policy ended when Congress repealed the emergency fire suppression fund in the mid-1980s." Baden, John A. Ph.D. and Pete Geddes "The Political Economy of Wildfires" Bozeman Daily Chronicle, June 08, 2000 http://www.free-eco.org/articleDisplay.php?id=33	This is a political article suggesting that firefighting is big business for the Forest Service and other land management agencies. The selected text references the success of Smokey the Bear. Smoky Bear has been successful in reducing unwanted fires. It is also recognized that fire is a natural part of the ecosystem and healthy. The Bald Project does not propose to change fire policy.
1-15.5	Literature Citation	**Post Wildfire Logging Opposing View #5** - "With respect to the need for management treatments after fires, there is generally no need for urgency, nor is there a universal, ecologically-based need to act at all. By acting quickly, we run the risk of creating new problems before we solve the old ones. Ecologically speaking, fires do not require a rapid human response. We should not talk about a "fire crisis" but rather of managing the landscape with the anticipation that fire will eventually occur. Given the high degree of variability and high uncertainty about the impacts of post-fire responses, a conservative approach is warranted, particularly on sites susceptible to on-site erosion." Beschta, Robert L. Ph.D., Christopher A. Frissell Ph.D., Robert Gresswell Ph.D. Richard Hauer Ph.D., James R Karr Ph.D., G. Wayne Minshall Ph.D. David A. Perry Ph.D. and Jonathan J. Rhodes 1995 "Wildfire and Salvage Logging" http://www.saveamericasforests.org/congress/Fire/Beschta-report.htm	The Beschta paper generally states that the best management after a wildfire is no management and let time recover the area, as these ecosystems are adapted to fire. Some exceptions to no management are mentioned, and one is alluded to in the selected text, "We should not talk about a 'fire crisis' but rather of managing the landscape with the anticipation that fire will eventually occur." Fire will eventually occur again in the Bald Project Area. See response to 1-15.2 for a further discussion on the need to manage the uncharacteristic fuels. Beschta also outlines several recommendations on post-fire practices, such as 1) prohibiting logging in sensitive areas, 2) leaving at least 50% of snags in all diameter classes, leaving all trees greater than 20" or 150 years old, leaving all live trees, 3) prohibiting new road building, and 4) limiting reseeding / replanting efforts. The Bald Project incorporates these ideas by 1) mitigating harvest activities in Riparian Conservation Areas and avoiding cindered areas greater than 20 percent slope, and 2) leaving approximately 25% of the

			units in un-treated leave islands, and leaving approximately 35% of the fire area to recover naturally.
1-15.6	Literature Citation	**Post Wildfire Logging Opposing View #6** - "The following practices are generally inconsistent with efforts to restore ecosystem functions after fire: seeding exotic species, livestock grazing, placement of physical structures in and near stream channels, ground-based postfire logging, removal of large trees, and road construction. Practices that adversely affect soil integrity, persistence or recovery of native species, riparian functions, or water quality generally impede ecological recovery after fire." Beschta, R.L. Ph.D., J.J. Rhodes, J.B. Kauffman Ph.D. R.E. Gresswell Ph.D., G.W. Minshall Ph.D., J.R. Karr Ph.D. D.A. Perry Ph.D., F.R. Hauer Ph.D., and C.A. Frissell 2004 "Postfire Management on Forested Public Lands of the Western United States" Conservation Biology 18(4): 957–96 http://www.cababstractsplus.org/abstracts/Abstract.aspx?AcNo=200431573 8	This paper discusses how wildfire, a natural disturbance, has been altered or changed due to human management. Post fire management practices were reviewed in the context of ecological restoration. The referenced section includes many activities that are not proposed within the project such as seeding nonnative species, livestock grazing, and placement of physical structures in and near stream channels. The Forest Plan provides for ecosystem restoration following large, catastrophic disturbance events. Restoration activities may be conducted in all land allocations and include objectives for managing disturbed areas for long-term fuel profiles, restoring habitat, and recovering the economic value of some dead and dying trees. Restoration projects can include salvage of dead and dying trees for economic value as well as for fuels reduction (SNFPA ROD, pp. 4 and 6). See response to 1-15.2. The Bald projects IDFs include mitigations for preventing invasive plant occurrence. If project implementation calls for mulches or fill, they would be certified weed-free. Seed mixes used for re-vegetation of disturbed sites would consist of locally adapted native plant materials to the extent practicable (Scoping Document IDF #8, page 12).
1-15.7	Literature Citation	**Post Wildfire Logging Opposing View #7** - "A recent report released by the American Lands Alliance has questioned whether logging trees in areas that have experienced wildfire is sound forest practice. ALA says in most cases burned forests should be left to recover naturally to preserve animal habitats, water sources and trees left behind from the fire." "Foresters, however, believe the benefits of logging burned areas include taking dead trees that would otherwise rot, and careful restoration	This is a newspaper article and the highlighted sections are somewhat misleading to the article as a whole. The author discusses both pros and cons to management after a wildfire citing the American Lands Alliance, Timber Products Company manager, Unified Forest Defense Campaign, and the California Forestry Association. The main point here is restoration after

		techniques that are part of after-the-fire logging." "The report says, "Logging after fires degrades soils, produces sediment endangering aquatic species and water quality, increases fire risks, and destroys terrestrial wildlife habitat. Consequently, logging after fires should not be thought of as restoration." " Boerger, Paul "After the Fire - To log or Not to Log" Mt Shasta Herald, December 2, 2005 http://www.klamathforestalliance.org/Newsarticles/newsarticle20051201.html	fire. See response to 1-15.2.
1-15.8	Literature Citation	**Post Wildfire Logging Opposing View #8** - "But salvage logging is considered to be more damaging than the bushfires. Experts say the forests need time to recover if they are to provide habitat and food sources for the future existence of wildlife." "Salvage logging is extremely detrimental," Ms Blair said. "The Government's response is basically anything that didn't burn we're going to log." " Brooks, Kim "Logging forcing possum to extinction" Reportage, November 2009 http://www.reportage-enviro.com/2009/11/logging-forcing-possum-to-extinction/	This is a news article discussing salvage logging after bushfires in Australia and its impact on an endangered animal. This article is not site specific to the Bald Project.
1-15.9	Literature Citation	**Post Wildfire Logging Opposing View #9** - "Following the 2008 California wildfires, the Forest Service has proposed to salvage log across riparian areas – home to several listed fish species – in order to "restore" the forest. Although researchers agree that post-fire salvage logging is a "tax" on the environment, and that unlogged recently burned forests are the rarest ecosystem in the West, the Forest Service nonetheless is proposing to recover the "economic value" of the timber from sensitive riparian areas, despite the lack of demand for wood products from federal public lands. Specifically, we recently filed a motion for a preliminary injunction to prevent logging of the Panther project, adjacent to the Marble Mountain Wilderness in northern California. The project proposed to salvage log 255 acres of forest that had been affected by the 2008 wildfires. The Forest Service subsequently canceled this timber sale! We are pleased that this sensitive and beautiful area is once again safe from the chainsaws." Brown, Susan Jane, Attorney "Protecting Valuable Post-Fire Ecosystems in California" Western Environmental Law Center http://westernlaw.org/our-work/cases/protecting-valuble-post-fire-	This article is a news brief to relay information on how lawsuits were progressing that the Western Environmental Law Center filed against several salvage logging. They specifically describe projects in California that proposed salvage logging in riparian areas or adjacent to a wilderness area. There is nothing to defend here, as it does not provide any research, only opinion.

		ecosystems-in-california	
1-15.10	Literature Citation	**Post Wildfire Logging Opposing View #10** - "In some areas the use of prescribed fire without any "thinning" would be the best restoration method. Indeed, many forests in the West do not require any treatment. These are forests that for thousands of years have burned at long intervals and only under drought conditions, and have been altered only minimally by 20th century fire suppression. These forests are still "healthy" and thinning would only disturb them, not "restore" them. In short, the variation among our forested landscapes is much too great for one treatment to be appropriate everywhere. Where thinning is used for restoration purposes in dry forest types, removal of small diameter material is most likely to have a net remedial effect. Brush and small trees, along with fine dead fuels lying atop the forest floor, constitute the most rapidly ignited component of dry forests (young forest stands regenerating after timber harvest often burn with the greatest intensity in western wildfires). They most surely post-date management-induced alteration of dry forest fire regimes. And their removal is not so likely to increase future fire intensity, for example from increased insolation and/or the drying effects of wind." Christensen, Jr., Norman L. et al. excerpt from a September 9, 2002 letter to President Bush http://docs.nrdc.org/land/files/lan_07062801g.pdf	This letter to President Bush, from scientists, addresses the efforts to reduce risks to fires from mechanical thinning and/or prescribed fire in the western U.S. in green landscapes. This letter does pertain to the Bald project, as this project deals with restoration of a post-fire landscape, not a green one.
1-15.11	Literature Citation	**Post Wildfire Logging Opposing View #11** - "Why isn't it true that 'the more wood removed the better'? Why should 'big, old' trees be retained? First, larger-diameter woody materials do not pose a significant threat for wildfire ignition or spread. It is largely the finer fuels (a few inches and less in diameter) that carry fire. More important, large, old trees actually provide protection from fire spread because they are resistant to fire and their shade maintains favorable moisture conditions in the understory fuels. Too much thinning of the forest canopy can produce more rapid drying of such fuels and, thereby, more frequent and severe wildfire risk. Furthermore, big, old trees provide critical habitat and maintain key ecosystem functions." Christensen, Norman L. Jr., Ph.D., Testimony before the Senate Committee on Agriculture, Nutrition and Forestry regarding H.R. 1904—the Healthy Forests Restoration Act of 2003 June 26, 2003 http://wwwpaztcn.wr.usgs.gov/fire/hr_1904_testimony_christensen.pdf	This is a transcript of a statement before the Senate Committee on Agriculture, Nutrition, and Forestry on the Healthy Forest Restoration Act of 2003. It discusses thinning of live trees to reduce hazardous fuels in certain fire regimes and to base prescriptions where risks are the highest to ignition and spread of wildfire. The main point is about working in green forests. The Bald project proposed to harvest dead or dying trees; therefore this citation does not pertain.

1-15.12	Literature Citation	**Post Wildfire Logging Opposing View #12** - "These research conclusions redefine the WUI fire problem as a home ignitability issue largely independent of wildland fuel management issues. Consequently, this description has significant implications for the necessary actions and accompanying economic considerations for fire agencies. "The congruence of research findings from different analytical methods suggests that home ignitability is the principal cause of home losses during wildland fires. Any WUI home fire loss assessment method that does not account for home ignitability will be critically under specified and likely unreliable. Thus, land classification and mapping related to potential home loss must assess home ignitability." "As stated, the evidence indicates that home ignitions depend on the home materials and design and only those flammables within a few tens of meters of the home (home ignitability). The wildland fuel characteristics beyond the home site have little if any significance to WUI home fire losses." "Because homeowners typically assert their authority for the home and its immediate surroundings, the responsibility for effectively reducing home ignitability can only reside with the property owner rather than wildland agencies." Cohen, Jack D. Ph.D., US Forest Service Employee USDA Forest Service Gen.Tech.Rep. PSW-GTR-173. 1999 http://www.fs.fed.us/rm/pubs_other/rmrs_1999_cohen_j001.pdf	Generally, this research paper states that most homes/structures will burn due to its fire brands and the homes ignitability rather than directly from a wildfire (immediate flame front). Therefore, it is up to homeowners to make the change and not modifying the adjacent wildlands (forests). The Forest Service has no ability to compel private homeowners to modify their structures or land to reduce the threat of ignition from a wildfire. Portions of this area are identified as a WUI and the work the Forest Service can do is modify the surrounding forest/vegetation to reduce the threat of severe wildfire and make it easier to control if wildfire does occur.
1-15.13	Literature Citation	**Post Wildfire Logging Opposing View #13** - "These results suggest that to reduce ignitions, the distances from a structure for managing vegetation are much smaller than the lofting distances for firebrands. Thus, beyond some relatively short distance from the structure (depending on the vegetation and topography), vegetation management has no significant benefit for reducing flame generated ignitions. Vegetation management, on the other hand, cannot be extensive enough, in a practical sense, to significantly reduce firebrand ignitions. Therefore, the structure and its immediate surroundings should be the focus for activities intended for improving ignition risk." "In high-density residential areas containing highly flammable structures (e.g., residences with flammable roofs), vegetation management may not be sufficient to prevent widespread fire destruction." (pg. 92) Cohen, Jack D. Ph.D. US Forest Service Employee, 2003. "Structure Ignition	This article was part of a symposium on fire issues and solutions in the urban interface and wildland ecosystems. This article is about a program the forest service is developing that looks at rating the potential for structure (home) ignitions under worst-case scenarios. The preliminary results for SIAM (Structure Ignition Assessment Model) indicate that the greatest benefit is to modify/improve the structure and immediate surroundings rather than the surrounding forest/landscape. See response to 1-15.12.

		Assessment Model (SIAM)" USDA Forest Service Gen. Tech. Rep. PSW-GTR-158. 1995. http://www.fs.fed.us/psw/publications/documents/psw_gtr158/psw_gtr158_05_cohen.pdf	
1-15.14	Literature Citation	**Post Wildfire Logging Opposing View #14** - "It is a common misconception that a tree that dies in the forest without being harvested is wasted. Nothing could be further from the truth." "Trees have been dying in forest ecosystems for as long as there have been forests, and the function they perform is critical to maintaining the integrity of those ecosystems." "Snags and down logs provide animal and plant habitat; build, diversify, and protect soils and aquatic ecosystems; and provide sites for microbial activity critical to forest productivity. In many cases, fire plays an important role in the creation of dead trees." "Logs on the forest floor fulfill a number of functions. Like snags, logs provide important habitat for vertebrates as diverse as salamanders, shrews, and bears. While working as a research biologist, former Forest Service Chief Jack Ward Thomas identified 179 species that use dead wood in the Blue Mountains of northeastern Oregon, amounting to over half of the vertebrate species in the region. "Dead Trees and Healthy Forests: Is Fire Always Bad?" Wilderness Society Science & Policy Brief, March 2003, Number 3 http://www.wildfirelessons.net/documents/Dead-Trees-and-Healthy-Forests.pdf	Generally, this policy brief is about fire and other disturbances being essential to renewing forests, dead trees are a part of the ecosystem, thinning is not appropriate for all forest types, and salvage logging does not necessarily prevent future fires. See response to 1-11.
1-15.15	Literature Citation	**Post Wildfire Logging Opposing View #15** - "Some land managers and forest scientists advocate the widespread use of silvicultural treatments (of which thinning is the most widely proposed harvest-based fuels reduction method) in western roadless areas to reduce fuel loads and tree stocking levels, and thereby decrease the probability of large, intense fires. Although thinning within the context of intensive forestry is not new, its efficacy as a tool for fire hazard reduction at the landscape scale is controversial, largely unsubstantiated, and fundamentally experimental in nature thereby requiring caution particularly when applied across large landscapes." (FEMAT 1993, Henjum et al. 1994, DellaSala et al. 1995, SNEP 1996, USDA Forest Service 2000)	This article discusses fire hazard and vegetation conditions in roaded managed lands vs. roadless areas. The main emphasis was that roadless areas, of which the majority are higher elevation and are the least altered from historic conditions, should have reduced mechanical fuels reduction and fire suppression is less effective in roadless areas. Emphasis of restoration work should be in roaded areas first and roadless last. This article is focused on green projects. There are no Inventoried Roadless Areas (IRAs) within

		"There have been only a few empirical studies that have tested the relationship between thinning or fuels treatment and fire behavior on even a limited basis. In spite of hypothesized benefits, these studies, as well as anecdotal information and analysis of recent fires, suggest that thinning treatments have highly variable results. In some instances, thinning treatments intended to reduce fire hazard appear to have the opposite effect (Huff et al. 1995, van Wagtendonk 1996, Weatherspoon 1996). Such treatments may reduce fuel loads, but they also allow more solar radiation and wind to reach the forest floor. The net effect is usually reduced fuel moisture and increased flammability." (Countryman 1955, Agee 1997) DellaSala, Dominick A. Ph.D. and Evan Frost. 2001 "A Comprehensive Strategy for Roadless Area Cconservation and Fuels Reduction in Priority Areas" http://www.kettlerange.org/salvagelogging/DellaSala&Frost_Comprehensive_Strategy.html	the Bald fire perimeter.
1-15.16	Literature Citation	**Post Wildfire Logging Opposing View #16** - "3. If trees are dead, why not log them anyway? Dead and dying trees are the vital components of a new forest and are the "food" for regenerating ecosystems. Disturbances like fire often generate a primary source of large dead and downed trees that forests will depend on for decades to centuries. The dying trees still contain seeds that can renew a forest after fire and the large dead and downed trees perform unique ecosystem functions, including preventing erosion by anchoring soils, providing shade and "nurse logs" for seedling establishment, and wildlife and fish habitat for numerous birds, small mammals, bats, and fish, many of which help keep insects in check after a disturbance event. Logging removes these vital 'legacy' trees that "lifeboat" a forest through its rejuvenating stages. In congressional testimony to the House Subcommittee on Resources (November 10, 2005), prominent forest ecologist and University of Washington Professor Jerry Franklin said 'logging large dead trees likely has greater negative impacts on forest ecosystems than even logging green trees.' " DellaSala, Dominick A. Ph.D. "Post-Fire Logging Q & A" http://www.nccsp.org/files/Postfire%20Q%20-%20A.pdf	This is a paper done for the World Wildlife Fund. This paper answers some questions brought up by the Donato et al. paper in Science. Main points: Salvage logging quickly does not change impacts to natural seedlings; salvage logging adds additional damage to the environmental damage from fire – no ecological benefits from cutting fire killed trees; and dead and dying trees are vital for the new forest and provide shade for seedlings and wildlife habitat ("remove these vital 'legacy' trees that 'lifeboat' a forest through its rejuvenating stages."). No mechanized would occur within RCAs of perennial streams, thus the ecosystem services provided by dead and dying trees to the stream and aquatic habitat would not be affected by the Bald Project. See response to 1-15.1.
1-15.17	Literature Citation	**Post Wildfire Logging Opposing View #17** - "While knowledge will never be complete, available information clearly indicates that post-disturbance logging and related activities impede or prevent ecosystem regeneration.	This is an unpublished report for the World Wildlife Fund. It lists some facts about the Biscuit Fire and then goes on to say the following: post-fire logging inhibits

		Strittholt and Rustigian (2003) examined 23 studies of salvage logging, concluding that there was no scientific evidence to support the claim that such logging benefits forest ecosystem health or promotes late-successional forest characteristics – in fact, most of the scientific papers document damage from this activity. Lindenmayer et al. (2004) raise similar concerns in Science, and other scientific syntheses (Karr et al. 2004, Beschta et al. 2004) conclude that post-fire logging can be a significant deterrent to forest regeneration following natural disturbances (Donato et al. 2006). In congressional testimony to the House Subcommittee on Resources (November 10, 2005), prominent forest ecologist and University of Washington Professor Jerry Franklin said 'timber salvage is most appropriately viewed as a tax on ecological recovery. The tax can either be very large or relatively small depending upon the amount of material removed and the logging techniques that are used.' " DellaSala, D.A. Ph.D., G. Nagle Ph.D. , R. Fairbanks, D. Odion Ph.D. J.E. Williams Ph.D., J. R. Karr Ph.D., C. Frissell Ph.D., and T. Ingalsbee Ph.D. 2006. "The facts and myths of post-fire management: a case study of the Biscuit fire, southwest Oregon" http://www.nccsp.org/files/Biscuit%20White%20Paper%20-%20January%2010,%202006.pdf	regenerative processes; planting seedlings in most instances is not necessary as natural seedlings will come in and one needs to wait longer; post-fire logging degrades forest landscapes and old growth forest components are delayed; post-fire logging actually increases fire hazard as fine fuels are brought down to the ground surface instead of slowly dropping from snags; burned landscapes provide habitat for many species; post-fire logging costs are greater than the returns for the timber; and finally, public participation is important in making decisions on a project. The data discussed in the report is for forest types that are not within our project area so one cannot with any certainty say those results would be the same here. The salvage logging also occurred several years after the fire where there is greater potential for natural regeneration to have become established. The proposed Bald project would salvage log the dead and dying trees within the first to just within the beginning of the second year following the wildfire. The possibility of natural regeneration showing up within that time frame is low.
1-15.18	Literature Citation	**Post Wildfire Logging Opposing View #18** - "post-fire activities most likely to be inconsistent with ecosystem restoration are: seeding non-native species, livestock grazing, installation of instream structures, ground-based logging and soil disruption, removal of large trees, road and landing construction, and logging of ecologically sensitive areas including roadless areas, riparian areas, and areas with moderate to serve burns." "in research on post-fire logging on the Winema National Forest (Oregon), Sexton (1998) found that post-fire logged sties produced only about 38% of the understory biomass of unlogged sites and one year later produced only about 27% of understory biomass. Salvaged areas, compared to unsalvaged sites, one and two years later had significantly reduced vegetation biomass, reduced species diversity, reduced species richness, reduced growth of planted seedlings, and reduced survival of planted seedlings." DellaSala, Dominick A. Ph.D. February 2006 "Post-fire Logging Summary of	This is a compilation of various reports discussing post-fire activities. The first deals with activities inconsistent with ecosystem restoration. It is part of a sentence taken from the paper in View #6. The second is a Range thesis for a Master of Science degree. This research took place on the Winema NF and looked at recovery actions and compared them to control plots. The recovery actions looked at were salvage logging and grass seeding. See response to 1-15.6.

		Key Studies and Findings" http://www.nccsp.org/files/Postfire%20Summary%20of%20Key%20Findings.pdf	
1-15.19	Literature Citation	**Post Wildfire Logging Opposing View #19** - "The priority for fuels management should be the wildland-urban interface (WUI) and municipal watersheds, not fire-burned trees in the backcountry. Points to the need to reintroduce natural fire regimes in wilderness areas. Reducing fuels while destroying soils or watersheds does more harm than good." Dr. Mike Dombeck, (USFS Chief), M.P. Williams, J.E., Wood, C.A. "Wildfire Policy and Public Lands: Integrating Scientific Understanding with Social Concerns across Landscapes" Published in Conservation Biology 18(4):883-889, 2004 http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/FireScienceResearch/FireEcology/FireEcology-Dombeck04.pdf	This article discusses the history of fire management in the forest service and how conditions have changed due to exotic species, fire suppression, past management practices and more home construction along wildland boundaries. The quotes listed here are not found within this article. This project is not within a WUI. The project follows forest plan direction concerning soils and watersheds.
1-15.20	Literature Citation	**Post Wildfire Logging Opposing View #20** - "Trees killed by wildfire and left standing take on roles that change the ecological services they previously provided as components of a green-tree system. They still offer some shade, which in a burned environment can slow the heating of surface waters and the soil surface. They may also provide more rapid recruitment of large wood into streams. Decomposing fallen trees provide nutrients, shelter, and early structure for a rejuvenating forest floor." "Burned forests typically support significantly different bird communities, with many species dependent on stand-replacement fires to maintain their populations across the landscape. Usually there's an increase in cavity-nesting, insectivorous birds such as woodpeckers and certain species of flycatchers." Duncan, Sally, a Ph.D. candidate in environmental sciences at Oregon State University. Published in the October 2002 issue of Science Findings, a publication of the Pacific Northwest Research Station, USDA Forest Service http://www.fs.fed.us/pnw/sciencef/scifi47.pdf	This article in the PNW Science Findings describes what happens to the trees killed by wildfire. Trees become homes to a variety of birds, attract insectivorous birds due to the increase of bark beetles, offer shade among a number of other things. This information is not disputed. See response to 1-15.1. It has long been recognized that snags and downed logs have values for wildlife. The Lassen Forest Plan includes direction for snag and downed-log retention. Project design features include an emphasis on retention of larger diameter snags in leave islands. Not all of the area burned within the Bald Fire is proposed for logging. The project analysis recognizes the need for coarse woody debris (CWD) in forest function; CWD will be left in accordance with the Forest Plan.
1-15.21	Literature Citation	**Post Wildfire Logging Opposing View #21** - "Summary of Findings: Scientific Review of Fire, Recovery, and Post-Fire Management	This cited text was taken from a list titled "Scientific Review of Fire Recovery, and Post-Fire Management".

		•Dead and dying trees provide important ecological functions to natural forest ecosystems. •Post-fire salvage logging causes many of the same impacts to natural biodiversity as do green tree harvests. •The elimination of post-fire habitat and regenerative processes by human intervention has made this habitat type rare. •Any contention that an immediate and aggressive post-fire response is needed to protect forests is unfounded." "Ecological Issues Underlying Proposals to Conduct Salvage Logging in Areas Burned by the Biscuit Fire" Conservation Biology Institute, January 2004 http://www.consbio.org/what-we-do/ecological-issues-underlying-proposals-to-conduct	Along with the four bullet points cited, there are several others which were left out, include points that emphasize the importance of fire regime (see response to 1-15.1), and the idea that "post-fire salvage logging may be chosen on purely economic grounds, and it may be possible to minimize the ecological cost in some instances". Several mitigation measures are recommended to minimize the impacts of the Bald Project (Scoping Document pages 11-16). The Bald Project recognizes the ecological value of snags and coarse wood. See response to 1-11.
1-15.22	Literature Citation	**Post Wildfire Logging Opposing View #22** - "Fresh, dry slash of any species makes a high-intensity, unapproachable fire. A fire started in dry, fresh slash can become uncontrollable in seconds." (pg.12) "It appears significant that many large fires in the western United States have burned almost exclusively in slash. Some of these fires have stopped when they reached uncut timber; none has come to attention that started in green timber and stopped when it reached a slash area." (pg. 14) Fahnestock, G.R. 1968. "Fire hazard from pre-commercially thinning ponderosa pine." Research Paper 57, USDA, Forest Service. http://www.fs.fed.us/pnw/pubs/journals/pnw_1968_fahnestock001.pdf	This statement is from a document that assesses the risk of pre-commercial thinning slash of ponderosa pine. Pre- commercial thinning is not proposed in the Bald Project at this time.
1-15.23	Literature Citation	**Post Wildfire Logging Opposing View #23** - "The FEMAT scientists recognized that … Salvage of dead trees has significant effects on the development of future stands and the suitability as habitat for a number of organisms. Snag removal results in long-term impacts on the forest community because large snags are not produced by the new stand until trees become large and begin to die from natural mortality (often a period of 50-100 years). Snags are used extensively by cavity nesting birds and mammals such as woodpeckers, nuthatches, chickadees, squirrels, red tree voles, and American marten. Removal of snags following disturbance can significantly reduce the carrying	This document summarizes information gathered about post-fire logging from a variety of sources. The selected text comes from the Forest Ecosystem Management Assessment Team document (pg. 25). The Bald Project recognizes the ecological value of snags and coarse wood. See response to Comment 1-11. In addition, approximately 19,000 acres within the fire perimeter is proposed to have no treatment of any kind and recovery naturally.

		capacity of these specie for many years." FEMAT, a USFS Publication, 1993, page IV-37 Published in "Post-Fire Logging Summary of Key Studies and Findings, February 2006" http://library.ceres.ca.gov/docs/data/1700/1720/HYPEROCR/hyperocr.html	
1-15.24	Literature Citation	**Post Wildfire Logging Opposing View #24** - "Although our review under the arbitrary and capricious standard is deferential, it does not condone a "clear error of judgment." Marsh, 490 U.S. at 378 . In this case, the Forest Service made a clear error of judgement in its decision to prepare only an EA for the Big Tower project and in its failure to analyze the combined effects of several salvage sales in the same watershed developed as part of a coordinated fire recovery strategy. Accordingly, we REVERSE and REMAND to the district court with directions that it remand to the Forest Service for further proceedings consistent with this opinion. The injunction issued by this Court on November 5, 1998, as clarified on November 9, 1998, shall remain in full force and effect until the Forest Ser-vice satisfies its NEPA obligations." Fletcher, Betty B. and A. Wallace Tashima, Circuit Judges Opinion in Blue Mountains v. Blackwood 161 F.3d 1208, 1214-16 (9th Cir. 1998) http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?court=9th&navby=case&no=9835783	Impacts of proposed activities will be analyzed for wildlife, botanical resources, fisheries, soils and vegetation will be available in the analysis documentation and BA/BEs in the project file. The Bald Project also includes several design features / mitigation measures to limit or eliminate potential effects (Scoping Document, pages 11-16). The decision document for this project will outline the decision rationale used to make the decision. As well as, how the best available scientific information was used to inform the assessments and decisions made for this project.
1-15.25	Literature Citation	Post Wildfire Logging Opposing View #25 - "Black-backed Woodpeckers' strong affinity for stands of dead trees makes their population vulnerable to excessive post-fire salvage logging and other management activities that might reduce the number of recently killed trees across the Sierra landscape. (Pg. 8) "IBP scientists are engaged in pioneering research on the impacts of wildfire on Spotted Owls. Severe fire is often viewed as a major threat to the species, but our Sierra Nevada field studies revealed that Spotted Owls whose territories had recently burned in mixed-severity fires preferentially foraged in high-severity burn patches (see figure, right), and appeared able to thrive in partially burned landscapes, at least in the initial years after wildfire. These results have important implications for post-fire timber salvage projects, and more generally, for the management of recently burned forest stands throughout the Sierra Nevada." (Pg. 8) "Forest Birds and Wildfire in the Sierra Nevada" The Institute for Bird Populations 2009 Annual Report	This document is a newsletter on the various projects that the Institute for Bird Populations compiled in 2009. The cited text is taken from studies on black-backed woodpeckers and spotted owls on page 8. Black-backed woodpecker was taken into consideration during project design. The snag retention scheme of leaving 20% of treatments units unharvested, as well as no proposed treatment (natural recovery) on approximately 19,000 acres within the fire perimeter will serve to capture this concern across a large area of the Bald Fire. Analysis specific to the species will be addressed in the EA. No spotted owls in project area

		http://www.birdpop.org/DownloadDocuments/2009_annual_report.pdf	
1-15.26	Literature Citation	**Post Wildfire Logging Opposing View #26** - "Finally, as mentioned above, wildfires can also generate benefits. Many plants regrow quickly following wildfires, because fire converts organic matter to available mineral nutrients. Some plant species, such as aspen and especially many native perennial grasses, also regrow from root systems that are rarely damaged by wildfire. Other plant species, such as lodgepole pine and jack pine, have evolved to depend on stand replacement fires for their regeneration; fire is required to open their cones and spread their seeds. One author identified research reporting various significant ecosystems threatened by fire exclusion — including aspen, whitebark pine, and Ponderosa pine (western montane ecosystems), longleaf pine, pitch pine, and oak savannah (southern and eastern ecosystems), and the tallgrass prairie. [57] Other researchers found that, of the 146 rare, threatened, or endangered plants in the coterminous 48 states for which there is conclusive information on fire effects, 135 species (92%) benefit from fire or are found in fire-adapted ecosystems." [58] "Animals, as well as plants, can benefit from fire. Some individual animals may be killed, especially by catastrophic fires, but populations and communities are rarely threatened. Many species are attracted to burned areas following fires — some even during or immediately after the fire. Species can be attracted by the newly available minerals or the reduced vegetation allowing them to see and catch prey. Others are attracted in the weeks to months (even a few years) following, to the new plant growth (including fresh and available seeds and berries), for insects and other prey, or for habitat (e.g., snags for woodpeckers and other cavity nesters). A few may be highly dependent on fire; the endangered Kirtland's warbler, for example, only nests under young jack pine that was regenerated by fire, because only fire-regenerated jack pine stands are dense enough to protect the nestlings from predators." "Forest Fire/Wildfire Protection" CRS Report for Congress February 14, 2005 http://www.coloradofirecamp.com/congressional_research/forest-fire-wildfire-effects.htm	This excerpt is from a Congressional Research Service Report to Congress. The document talks about the many effects of wildfire. More specifically, the quoted text talks about the effects of wildfire on plants and animals. The Bald Project does not dispute these claims; therefore, this does not represent an opposing view. The effects of the Bald project on plants and animals will be discussed in the EA and resource reports.
1-15.27	Literature Citation	**Post Wildfire Logging Opposing View #27** - "Undisturbed patches can amplify the diversity of the entire post-fire landscape. Over many years, repeated fires may burn in similar patterns in specific places leading to long-term varied distribution of species, organic matter, wetlands, etc."	The cited text could not be found in the document, which discusses the implications of disturbance (hurricanes, floods, tornadoes, fires, volcanoes) on several forest components. Also, the document speaks

		Foster, D.R.; Knight, D.H.; and J.F. Franklin. 1998. "Landscape Patterns and Legacies Resulting from Large Infrequent Forest Disturbances" Ecosystems 1: 497-510. http://www.jstor.org/pss/3658751	in terms of Large Infrequent Disturbances (LIDS). The Bald Fire would likely not be considered a large disturbance when compared to the example of the 1988 Yellowstone Fire.
1-15.28	Literature Citation	Post Wildfire Logging Opposing View #28 - "One indirect consequence of natural disturbance and pest and pathogen outbreaks that is often overlooked is that salvage or preemptive harvesting may affect a larger area or create a greater impact on forest ecosystems than the disturbance itself (Frothingham 1924; Irland 1998; Radeloff et al. 2000)." (Pg 966) "Many decisions to harvest before or after a disturbance or to attempt to increase forest resistance or resilience to disturbance and stress are based on the incorrect notion that forest ecosystems are damaged, destroyed, or impaired following major disturbance and that this situation should be avoided or remediated (Maloney 2005)." (Pp. 966 and 967) "Although intuitive support exists for the development of "protection forests" through silvicultural approaches to increase the resistance and resilience of forests to pests, pathogens, and natural disturbances, empirical data to support the approach are lacking. Not only is there sparse evidence that such approaches achieve their goals of increasing resistance and resilience, little evidence suggests that natural disturbances yield negative functional consequences. Therefore, current management regimes aiming to increase long-term forest health and water quality are ongoing "experiments" lacking controls. In many situations good evidence from true experiments and "natural experiments" suggests that the best management approach is to do nothing." (Pg. 968) Foster, David R., Ph.D. and David A. Orwig Ph.D. "Preemptive and Salvage Harvesting of New England Forests: When Doing Nothing Is a Viable Alternative" Conservation Biology, Volume 20, No. 4, August 2006 http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/SalvageLoggingScience/Salvage-Foster06.pdf	This document primarily focuses on preemptive salvage logging of live trees in the Northeast due to anticipated forest insect infestations. This type of salvaging is not included in the Bald Project.
1-15.29	Literature Citation	**Post Wildfire Logging Opposing View #29** - "We question the assumption that canopy fuel reduction through commercial thinning is necessary or sufficient for reducing wildfire hazards and/or introducing prescribed fire. We cite evidence that logging-induced changes in fuel composition, vegetation, and microclimate can result in increased rate of fire spread,	This document looks at projects under the Hazardous Fuels Reduction Act that propose commercial thinning to reduce wildfire hazards. The Bald Project is not being pursued under the Hazardous Fuels Reduction Act and does not propose commercial thinning.

		higher fireline intensity, and more severe fire effects. This, in turn, can affect firefighter safety and efficiency, and inflate suppression costs. Instead, treatment of surface and ladder fuels through prescribed fire combined with manual pre-treatments (for example, non-commercial thinning, pruning, and hand-piling) can effectively reduce the risk of crownfires, increase firefighter safety, and improve ecosystem health. These methods also promise employment opportunities for wildland firefighters and other forest workers." Fox, Joseph W., Ph.D. and Timothy Ingalsbee, Ph.D. "Fuel Reduction for Firefighter Safety." Published in the Proceedings of the International Wildland Fire Safety Summit Winthrop, WA, Oct. 26-29, 1998. http://www.fire-ecology.org/research/fuel_reduction.htm	
1-15.30	Literature Citation	Post Wildfire Logging Opposing View #30 - "Natural forest disturbances, including fire, kill trees but remove very little of the total organic matter. Combustion rarely consumes more than 10 to 15 percent of the organic matter, even in stand-replacement fires, and often much less. Consequently, much of the forest remains in the form of live trees, standing dead trees, and logs on the ground. Also, many plants and animals typically survive such disturbances. This includes living trees, individually and in patches. These surviving elements are biological legacies passed from the predisturbance ecosystem to the regenerating ecosystem that comes after. Biological legacies are crucial for ecological recovery. They may serve as lifeboats for many species, provide seed and other inocula, and enrich the structure of the regenerated forest. Large old trees, snags, and logs are critical wildlife habitat and, once removed, take a very long time to replace. Management of postburn areas, including timber salvage, needs to incorporate the concept of biological legacies. Salvaging dead and damaged trees from burns involves the ecology of a place, not simply economics and fuels. In addition to effects on postfire wildlife habitat, there are also effects of salvage logging on soils, sediments, water quality, and aquatic organisms. Significant scientific information exists on this topic as well as on biological legacies." "Management of postburn areas, including timber salvage, needs to incorporate the concept of biological legacies. Salvaging dead and damaged trees from burns involves the ecology of a place, not simply economics and fuels. In addition to effects on postfire wildlife habitat, there are also effects of salvage logging on soils, sediments, water quality, and aquatic organisms.	The objective of this document is to start the discussion on developing a comprehensive, national fire policy. The cited text talks about retaining biological legacies in fire areas, however if the citation had went one paragraph further, the following statement would have been included: "On the other hand, uncharacteristic stand-replacement fires in dry forests can produce uncharacteristic levels of postfire fuels, including standing dead and down trees. Removing portions of that particular biological legacy may be appropriate as part of an intelligent ecological restoration program, and not simply as salvage" This statement is relevant to the Bald Project because it occurs in a dry forest that recently experienced an uncharacteristic stand replacing fire. The paper also states that remaining live trees, standing dead trees, and logs on the ground are biological legacies that will enrich the regenerated forest. Within the logged stands, snag and downed log retention is included in project design. These project design features have been developed to maximize longevity and utility, focusing on patches of large

		Significant scientific information exists on this topic as well as on biological legacies. Biological legacies differ by orders of magnitude in natural forests, a fact that should guide restoration programs. Where stand-replacement fires are characteristic, such as with lodgepole pine and Pacific Coast Douglas fir forests, massive areas of standing dead and down trees are usual; salvage operations generally are not needed and do not contribute to ecological recovery, even though they do provide economic return." Franklin, J.F. Ph.D., and J. Agee Ph.D. 2003 "Forging a Science-Based National Forest Fire Policy" Issues in Science and Technology Online. Fall 2003. http://inr.oregonstate.edu/atthecrossroads/download/franklin_agee.pdf	diameter snags interspersed with younger age classes, as preferred by many post-fire associated cavity-nesting species.
1-15.31	Literature Citation	**Post Wildfire Logging Opposing View #31** - "Types and amounts of biological legacies persisting on impacted sites are probably the most important variable in assessing the actual ecological impacts of a disturbance because of their important roles in recovery. The most conspicuous and among the most important of the biological legacies are the surviving live trees, standing dead trees (snags), and logs and other woody debris on the forest floor and in the streams. The living trees, snags, and logs play critical roles in lifeboating many animal, plant, fungal, and microbial organisms, such as by providing essential habitat (e.g., places to live and hide) and keeping the microclimate of the disturbed site within acceptable levels. The trees, snags, and logs also greatly enrich the structure of the young forest as it develops, increasing diversity and rate at which species that have been displaced and which need structural complexity--such as Northern Spotted Owls--can return to the site." "In conclusion, the scientific lessons regarding biological legacies and the importance of retaining snags, logs, and other woody debris are being applied in regular timber harvesting practices (i.e., structural retention) but have not yet been fully incorporated into restoration policy. Timber salvage may be carried out for economic reasons. However, timber salvage will rarely achieve any positive ecological benefit as has been pointed out in a recent article in Science (Lindenmayer et al. 2004)." Franklin, Jerry F. Ph.D. Statement submitted for the record to the House Subcommittee on Forests and Forest Health July 15, 2004 http://ftp.resource.org/gpo.gov/hearings/108h/94996.txt	This citation is from Dr. Franklin's statement to the House Subcommittee on Forests and Forest Health. Several of the same points are discussed as were presented in Opposing View #30. See response to 1-15.30 above.
1-15.32	Literature Citation	**Post Wildfire Logging Opposing View #32** - "Research had documented that, in some situations, wildfires brought ecological benefits to the burned areas — aiding regeneration of native flora, improving the habitat of native fauna,	This excerpt is from a Congressional Research Service Report to Congress regarding wildfires. The quoted text more specifically talks about some of the beneficial

		and reducing infestations of pests and of exotic and invasive species." (pg 2) Gorte, Ross W. Ph.D., Specialist in Natural Resources Policy Resources, Science, and Industry Division CRS Report for Congress, January 18, 2006 http://www.ncseonline.org/nle/crsreports/06Feb/RL30755.pdf	effects of wildfire on plants and animals. None of the effects of wildfire on plants and animals is disputed. This comment does not require a response.
1-15.33	Literature Citation	**Post Wildfire Logging Opposing View #33** - "Ecologists and fire experts unanimously agree that fire has served an essential role in certain ecosystems for millennia. The ecological benefits of fire include: the creation of critical wildlife habitat in standing dead trees, increased nutrients and productivity in soil systems when burned material decomposes, improved conditions for surviving old growth trees when a surface fire moves through a system, and the regeneration of some fire dependent trees like lodgepole pine (Pinus contorta). Fire also increases availability of other fundamental building blocks of ecosystems such as moisture and sunshine by opening up the canopy and returning nutrients to the soil. Natural fire cycles maintain the diversity of habitats available to all the species in the ecosystem, from wildlife to wildflowers to fungi." Gregory, Lisa Dale Ph.D. "Wildland Fire Use: An Essential Fire Management Tool" A Wilderness Society Policy and Science Brief December 2004 http://wilderness.org/Library/Documents/upload/ScienceBrief-WildlandFireUseEssentialTool.pdf	This quotation summarizes the role and benefits of fire within certain ecosystems. The role and benefits of wildland fire on the landscape are not disputed. This comment does not require a response.
1-15.34	Literature Citation	**Post Wildfire Logging Opposing View #34** - "It has been shown that salvage logging reduces the species richness and abundance of the boreal plant community. These effects were noticed across all burn severities but were the most prominent in the moderate burn sites. Salvage logging these areas tends to create longer lasting effects on the successional growth. This is a concern as forest managers target these sites as the main areas for salvage as they are the most valuable for the production of pulp and saw timber (Pshebnicki per. comm. 2004).")Pg. 108) Guedo, Dustin C. 2007 "The Effects of Fire and Salvage Logging on Early Post-Fire Succession in Mixedwood Boreal Forest Communities of Saskatchewan" http://library2.usask.ca/theses/available/etd-09122007-165113/unrestricted/guedo_d.pdf	This paper documents the effects of salvage logging on mixed wood boreal forests of Saskatchewan. The vegetative habitat within the Bald Project is vastly different from those studied in Saskatchewan.
1-15.35	Literature	**Post Wildfire Logging Opposing View #35** - "Fire is a natural process in the boreal forest. The plants and the animals rely on fire to maintain a natural	This paper discusses impacts of logging in boreal forests. The discussion pertaining to boreal forests is

	Citation	balance of vegetation and wildlife abundance. Without habitat mosaics created by fire throughout the boreal forest, many species would not exist." Haggstrom, Dale A and Thomas F. Paragi, Wildlife Biologists With the Alaska Dept. of Fish and Game http://wildlife.alaska.gov/index.cfm?adfg=fire.fire5	not relevant to the Bald Project area.
1-15.36		Opposing View #36 was not included	
1-15.37	Literature Citation	**Post Wildfire Logging Opposing View #37** - "Native species have evolved with fire over millennia in western forests, and many depend upon post-fire habitat. Interestingly, some of the highest levels of native biodiversity among animals and higher plants are found in unlogged forested areas that have burned at high severity (Noss and others 2006, Frontiers in Ecology and Environment, Vol. 4). It's important for people to know the facts about fire, ecosystems, and climate. Unfortunately, the timber industry is less interested in the truth than it is in misleading people to serve its own economic goals." Hanson, Chad T. Ph.D. "Logging Industry Misleads on Climate and Forest Fires" NewWest, July 11, 2008 http://www.newwest.net/topic/article/logging_industry_misleads_on_climate_and_forest_fires/C41/L41/	This is an opinion article, particularly the second statement regarding the timber industry. The rest of the cited text describes the evolutionary relationship between fires and native plant and animal species, and brings up concerns regarding plant and animal species.
1-15.38	Literature Citation	**Post Wildfire Logging Opposing View #38** - "Logistic regression modeling in the northern Rocky Mountains, based upon nesting presence or absence, found nest-site selection for Black-backed Woodpeckers to be strongly associated with high density of small snags within 11.3 m of the nest tree (Saab et al. 2002, 2004). This has led some land managers to conclude that a high-quality Black-backed Woodpecker territory consists of dense stands of small, young fire-killed trees. The results of our study, however, indicate why it is important to distinguish nest-site characteristics from foraging habitat (Hutto 2006). The Black-backed Woodpecker did not forage in the high severity and logged condition, despite high densities of small snags." Hanson, Chad T. Ph.D. and Malcolm P. North Ph.D., "Postfire Woodpecker Foraging in Salvage-Logged and Unlogged Forests of the Sierra Nevada" The Condor, Vol. 110, Number 4, pages 777-782, October 2008 http://www.plantsciences.ucdavis.edu/affiliates/north/Publications/Postfire	This document describes the nesting and foraging behavior of three different woodpeckers in post-fire habitats. Of specific concern is the black-backed woodpecker. Black-backed woodpecker was taken into consideration during project design. 5,300 acres is being allowed to recover naturally. T that had portions that burned at a high intensity. Analysis specific to the species will be addressed in the EA.

		%20woodpecker%20foraging%20Hanson%20North%20Condor.pdf	
1-15.39	Literature Citation	**Post Wildfire Logging Opposing View #39** - “It may seem counterintuitive, but the scientific evidence is telling us that some of the very best and richest wildlife habitat in western U.S. forests occurs where fire kills most or all of the trees. These areas are relatively rare on the landscape, and the many wildlife species that depend upon the habitat created by high-intensity fire are threatened by fire suppression and post-fire logging.” “Specifically, the report (available at www.johnmuirproject.org) finds: Patches of high-intensity fire (where most or all trees are killed) support among the highest levels of wildlife diversity of any forest type in the western U.S., and many wildlife species depend upon such habitat. Post-fire logging and ongoing fire suppression policies are threatening these species.” Hanson, Chad Ph.D. February 2, 2010 “New Report Debunks Myth of ‘Catastrophic Wildfire’ “ http://johnmuirproject.org/documents/Myth%20of%20Catastrophic%20Wildfire%20Media%20Release.pdf	This document claims to debunk the myth of catastrophic wildfire. The cited text suggests that recently burned areas can be beneficial for wildlife and that postfire logging can threaten these species. The Bald Project recognizes the ecological benefits of snags and coarse wood for wildlife and would retain them to desired conditions. A majority of the fire burned at a very high intensity
1-15.40	Literature Citation	**Post Wildfire Logging Opposing View #40** - "Personally, I've come to think we need to change our thinking on salvage logging. There are other values in the forest. In fact, a burned area is probably the most sensitive place you could be working in. The public really hasn't caught on to this yet. People still want to get the cut, get the trees they see as wasting away. They want the economic value. We talk about forest restoration after a fire, but it just got restored. That's what fire does. We know that, but we can't seem to get the message out. Until you start thinking like a black-backed woodpecker, you just ain't going to get it." Hutto, Richard L. Ph.D. “Birds in the Black: Through following avian wildlife, a UM scientist has discovered that burned forests play a critical role in the health and diversity of the Western landscape” By Michael Jamison of the Missoulian, August 11, 2005. http://www.missoulian.com/lifestyles/recreation/article_285770c7-1611-56bd-9b5a-db855da65841.html	This is an opinion piece in the Missoulian newspaper. It brings up research that Dr. Richard Hutto has conducted after the Yellowstone fires of 1988 and on forest service land. Out of the many species that depend on fire, a key species he only found in great numbers after wildfires, mainly severe, were black-backed woodpeckers. See response to 1-15.38.
1-15.41	Literature Citation	**Post Wildfire Logging Opposing View #41** - “We need to change our thinking when it comes to logging after forest fires. There is potential economic value in the timber, yes, but there are numerous other values in a burned forest.	This article is from the Seattle Times and has the same point as View #40.

		And the prospect of losing those values must be weighed against the potential gain that may accompany post-fire timber harvest. The scientific facts also reveal that burned areas are probably the most ecologically sensitive places from which we might extract trees." Hutto, Richard Ph.D. "Post-fire logging is bad for forests and wildlife" Seattle Times, December 8, 2005 http://community.seattletimes.nwsource.com/archive/?date=20051208&slug=burnedforests08	See response to 1-15.1.
1-15.42	Literature Citation	**Post Wildfire Logging Opposing View #42** - "We investigated the effects of postfire salvage logging on cavity-nesting birds by comparing nest densities and patterns of nest reuse over a three-year period in seven logged and eight unlogged patches of mixed-conifer forest in the Blackfoot-Clearwater Wildlife Management Area, Montana. We found 563 active nests of 18 cavity-nesting birds; all species were found nesting in the uncut burned forest plots, but only eight nested in the salvage-logged plots. All except one species nested at a higher density in the unlogged areas, and half of the species were significantly more abundant in the unlogged plots. Every timber-drilling and timber-gleaning species was less abundant in the salvage-logged plots, including two of the most fire-dependent species in the northern Rocky Mountains—American Three-toed (Picoides dorsalis) and Black-backed (P. arcticus) Woodpeckers. Lower abundances in salvage-logged plots occurred despite the fact that there were still more potential nest snags per hectare than the recommended minimum number needed to support maximum densities of primary cavity-nesters, which suggests that reduced woodpecker densities are more related to a reduction in food (wood-boring beetle larvae) than to nest-site availability. Because cavities were present in only four of 244 randomly selected trees, and because frequency of cavity reuse by secondary cavity-nesters was higher in salvage-logged than in unlogged plots, nest-site limitation may be a more important constraint for secondary cavity-nesters in salvage-logged areas. These results suggest that typical salvage logging operations are incompatible with the maintenance of endemic levels of most cavity-nesting bird populations, especially populations of primary cavity-nesting species." Hutto, Richard J. Ph.D. and Susan M. Gallo "The Effects of Postfire Salvage Logging on Cavity Nesting Birds" The Condor 108(4):817-831. 2006 http://www.bioone.org/doi/abs/10.1650/0010-5422(2006)108%5B817:TEOPSL%5D2.0.CO%3B2	This quote is from the abstract of this research paper. The main point is that uncut burned forestland provides habitat for a greater number of species as well as increasing the nesting density. Effects to other migratory and cavity nesting birds are discussed in Migratory Bird Report and MIS Report. Snags and hardwoods will be retained at or above S&G levels after treatment. Important habitat components such as large snags will be retained in leave islands throughout the treatments to provide for future habitat quality for birds that depend on snags.

1-15.43	Literature Citation	**Post Wildfire Logging Opposing View #43** - "With respect to birds, the effects of postfire salvage harvesting are uniformly negative. In fact, most timber-drilling and timber-gleaning bird species disappear altogether if a forest is salvage-logged. Therefore, such places are arguably the last places we should be going for our wood." Hutto, Richard L. Ph.D. "The Ecology of Severely Burned Forests" Counterpunch, July 19 / 20, 2008 http://www.counterpunch.org/hutto07192008.html	This is a commentary piece published in the online political newsletter, "Counterpunch". The EA will analyze the effects the Bald Project has on wildlife. See response to 1-15.1.
1-15.44	Literature Citation	**Post Wildfire Logging Opposing View #44** - "Logging after the Biscuit fire, the study found, has harmed forest recovery and increased fire risk. What the short study did not say -- but what many critics of the Bush administration are reading into it -- is that the White House has ignored science to please the timber industry. The study is consistent with research findings from around the world that have documented how salvage logging can strip burned forests of the biological diversity that fire and natural recovery help protect." "In Fire's Wake, Logging Study Inflames Debate" Washington Post, February 27, 2006 http://www.washingtonpost.com/wp-dyn/content/article/2006/02/26/AR2006022601287.html	This is a newspaper article that discusses the Donato study of the Biscuit fire and a hearing on a bill pending in Congress to relax procedures for post-fire logging. The main point is that research showing negative effects of salvage logging is being ignored. See response to 1-10.2 and 1-15.1.
1-15.45	Literature Citation	**Post Wildfire Logging Opposing View #45** - "Given the NWFP's declared "open season" on salvage logging in Reserves, one can easily imagine timber-starved foresters praying for storms to come and sow the seeds of their future harvests. It is almost as if the agency has evolved into a kind of timber vulture, waiting ever so impatiently for trees to succumb to the elements before moving in for the feast. Some of the agency's timber sale clientele, though, may not be so willing to wait patiently for "acts of God" to create salvage opportunities. Large-scale wildfire disturbances have increasingly abnormal causes in Cascadia, these days. Incidents of arson attacks against public forests have been steadily rising ever since the first "spotted owl" restrictions on commercial logging. It does not take a rocket scientist to predict that arson attacks on Reserves will continue to increase as means of generating new salvage sales. The NWFP has given the prescription for arson fires: they must be a minimum of 10 acres in size in order to be salvageable. Essentially, then, all the scientific analysis and forest protection measures in the NWFP can be vetoed with the strike of an arsonist's match."	This commentary piece is about the Northwest Forest Plan and salvage logging allowed within the plan. The proposed project is outside the area covered by the NWFP.

		Ingalsbee, Timothy, Ph.D. “Looking Past the Salvage Rider, Forward to Post-Rider Salvage” Published in "Wildfire!: an endangered ecosystem process." Vol. 2, Cascadia Fire Ecology Education Project, 1997 http://fireecology.org/research/post_rider_salvage.htm	
1-15.46	Literature Citation	**Post Wildfire Logging Opposing View #46** - “Fire-created snags and logs serve many vital ecological functions for forest soils, streams, vegetation, and wildlife. Large-diameter snags and logs can also help mitigate conditions that lead to high-intensity fires, and aid post-fire natural recovery processes. Conversely, commercially extracting fire-killed trees via salvage logging causes significant short- and long-term adverse effects on forest ecosystem structures, functions and processes. Considering the wide array of vital ecological services that snags and logs provide, the term "salvage" is appropriate only for logging operations in which the primary management objective is extraction of commodity timber values at the expense of other economic and ecological values. Given these environmental impacts and ecological tradeoffs, the claim that salvage logging is a valid tool for forest recovery, rehabilitation, or restoration must be challenged. The more scientists learn about the ecological values of large fire-killed snags and logs, the more clear it becomes that "salvaging" burned trees is scuttling forest ecosystems.” Ingalsbee, Timothy Ph.D., 2003 “Salvaging Timber; Scuttling Forests” http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/SalvageLoggingScience/Salvage-Ingalsbee.pdf	The quote listed here is the conclusion for this paper. One of the points of this article is that salvage logging does not help with forest recovery, rehabilitation, or restoration; it is just an action that takes out a commodity. See response to 1-15.1.
1-15.47	Literature Citation	**Post Wildfire Logging Opposing View #47** - “Although logging and replanting may seem like a reasonable way to clean up and restore forests after disturbances like wildland fires, such activity would actually slow the natural recovery of forests and of streams and creatures within them. Many scientist-reviewed studies and syntheses (please see the selected citations appended to this letter) have recently come to this conclusion. For example, no substantive evidence supports the idea that fire-adapted forests might be improved by logging after a fire. In fact, many carefully conducted studies have concluded just the opposite. Most plants and animals in these forests are adapted to periodic fires and other natural disturbances. They have a remarkable way of recovering-literally rising from the ashes because they have evolved with and even depend upon fire.” Karr, James R. Ph.D., Reed Noss, Ph.D., Jon Rhodes, Tania Schoennagel, Ph.D.,	This is a duplicate literature citation. See response to 1-15.1.

		Dominick A. DellaSala, Ph.D. A 2004 letter to Congress regarding HR4200	
1-15.48	Literature Citation	**Post Wildfire Logging Opposing View #48** - "Recent changes in the forest policies, regulations, and laws affecting public lands encourage postfire salvage logging, an activity that all too often delays or prevents recovery." "Postfire salvage logging generally damages soils by compacting them, by removing vital organic material, and by increasing the amount and duration of topsoil erosion and runoff (Kattleman 1996), which in turn harms aquatic ecosystems. The potential for damage to soil and water resources is especially severe when ground-based machinery is used." (Pg. 1,029) "Postfire salvage logging has numerous ecological ramifications. The removal of burned trees that provide shade may hamper tree regeneration, especially on high-elevation or dry sites (Perry et al. 1989). The loss of future soil organic matter is likely to translate into soils that are less able to hold moisture (Jenny 1980), with implications for soil biota, plant growth (Rose et al. 2001, Brown et al. 2003), and stream flow (Waring and Schlesinger 1985). Logging and associated roads carry a high risk of spreading nonindigenous, weedy species (CWWR 1996, Beschta et al. 2004)." (Pg. 1,029) Karr,James R Ph.D., Johnathan J. Rhodes. G. Wayne Minshall Ph.D. F. Richard Hauer Ph.D., Robert L. Beschta Ph.D., Christopher A. Frissell and David A. Perry Ph.D. "The Effects of Postfire Salvage Logging on Aquatic Ecosystems in the American West" Bioscience, November 2004 / Vol. 54 No. 11 http://www.earthjustice.org/library/reports/the-effects-of-positive-salvage-logging.pdf	This article deals with post-fire logging and that action, in most cases, causes more problems for forest recovery than waiting for it to happen on its own time. See response to 1-15.1 and 1-15.6.
1-15.49	Literature Citation	**Post Wildfire Logging Opposing View #49** - "Local scientists and activists have also done an excellent job of monitoring the negative impacts of the Biscuit logging and providing the public and the media with graphic photos, which, to even a casual observer, clearly demonstrates that post-fire industrial logging has absolutely nothing to do with forest restoration or recovery." Koehler, Matthew "Does Post-Fire Logging make Ecological or Economic Sense?" Counterpunch, January 21 / 22, 2006 http://www.counterpunch.org/koehler01212006.html	This is a commentary piece published in the online political newsletter, "Counterpunch". This piece discusses the Biscuit fire. See response to1-10.2 and 1-15.1.
1-15.50	Literature	**Post Wildfire Logging Opposing View #50** - "While the logging industry, Bush administration - and apparently the Missoulian - believe that post-fire salvage	This document poses several arguments that post-fire salvage logging should not be considered restoration. It

	Citation	logging has an insignificant ecological impact and plays a beneficial role in the recovery of burned forests, the best available science confirms that post-fire salvage logging is one of the most ecologically-destructive forms of commercial logging." "Let's not forget that salvage logging can also harm fish and wildlife species. In fact, at least 62 species of birds and mammals use burned, diseased or otherwise "defective" trees because these trees provide them with ideal habitat. One particularly important bird species, which researchers have found prefers unlogged burned forests, is the black backed woodpecker. These woodpeckers feed almost exclusively on the larvae of wood-boring beetles and may consume over 13,000 annually, helping to naturally control the spread of insects." Kreilick, Jake 2003 "Post-Fire Salvage Logging is Not Restoration" http://www.nativeforest.org/campaigns/wildfire_info_center/post_fire_9_7_03.htm	also goes on to discuss several other projects that might be more suited to forest restoration than salvage logging. A desired condition included in the proposed action is "Ecological services that provide wildlife habitat and production of food, and; regulates carbon sequestration and decomposition; supports nutrient cycling and improves recreational benefits and aesthetics". Salvage logging is only a portion of the proposed action. Other actions include fuels treatments, and reforestation (using strategies that promote diversity on the landscape).
1-15.51	Literature Citation	**Post Wildfire Logging Opposing View #51** - "Overall, our results showed that salvage logging significantly alters forest structure, tree regeneration, and understory plant community composition and diversity as compared to unsalvaged post-wildfire stands. Some of these effects were still evident 34 years after salvage logging." (Pg. 10) "Salvaged stands also do not host the same understory communities that are found in unsalvaged wildfire stands in the early post-disturbance period. This creates some concern that in the long term, extensive post-fire salvage logging could lead to substantial declines in abundance of plant species which are specialists for early post-fire conditions of mesic stands. Additionally, over time, salvage logging could result in increased populations of introduced and weedy species." (Pg. 10) Kurulok, Stephanie Ph.D. and Ellen Macdonald, Ellen Ph.D. "Impacts of post-burn salvage logging on plant biodiversity and tree regeneration of the mixedwood boreal forests of Alberta" http://www.sfmnetwork.ca/docs/e/PR_200304macdonaldeimpa7.pdf	This document looks at regeneration and forest structure in mixedwood boreal forests of Alberta. The vegetative habitat within the Bald Project is vastly different from those studied in Alberta. Due to the high severity of the Bald fire, there are little trees remaining to provide seed to the landscape. Understory vegetation was taken into consideration during project development, and will be promoted with different strategies used across the landscape. IDFs have been included to prevent the spread of invasive plants in the project area (Scoping Document, pages 11-12).
1-15.52	Literature Citation	**Post Wildfire Logging Opposing View #52** - "Salvage logging and replanting will convert a structurally complex landscape into a simplified and biologically depraved landscape. Unsalvaged, naturally regenerated, young stands are one of the rarest forest types in the Pacific northwest, and their biodiversity	This book was specific to the Pacific Northwest and does not pertain to the Bald Fire. Due to the high severity of the Bald fire, there are little trees remaining to provide seed to the landscape.

		rivals that of old-growth forests. Indeed, naturally developed early successional forest habitats, with their rich array of snags and logs and nonarborescent vegetation, are probably the scarcest habitat in the current regional [Pacific Northwest] landscape." Lindenmayer, D.L., D. Perry Ph.D., and J.F. Franklin Ph.D. 2002. "Conserving Forest Biodiversity: A Comprehensive Multiscale Approach" Island Press. Washington, DC: 69. http://search.barnesandnoble.com/Conserving-Forest-Biodiversity/David-B-Lindenmayer/e/9781559639347	Restoration, including reforestation is needed to replace seed sources that were lost during the fire.
1-15.53	Literature Citation	**Post Wildfire Logging Opposing View #53** - "[N]atural disturbances are key ecosystem processes rather than ecological disasters that require human repair. Recent ecological paradigms emphasize the dynamic, nonequilibrial nature of ecological systems in which disturbance is a normal feature and how natural disturbance regimes and the maintenance of biodiversity and productivity are interrelated." "[R]emoval of large quantities of biological legacies can have negative impacts on many taxa. For example, salvage harvesting removes critical habitat for species, such as cavity-nesting mammals, [and] woodpeckers. Large-scale salvage harvesting is often begun soon after a wildfire, when resource managers make decisions rapidly, with long lasting ecological consequences…." Lindenmayer, D.B. Ph.D. and Reed F. Noss Ph.D., "Salvage Logging, Ecosystem Processes, and Biodiversity Conservation" Conservation Biology Volume 20, No. 4, August 2006 http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/SalvageLoggingScience/Salvage-Lindenmayer06.pdf	This paper gives a summary of the importance of natural disturbances, the habitat they provide, and the effects of large-scale harvesting. Concepts discussed in this paper will be incorporated into the wildlife analysis. The concept that natural disturbances are key ecosystem processes was considered during the design of this project. The pros and cons of logging were acknowledged during project development and the project was designed considering these factors.
1-15.54	Literature Citation	**Post Wildfire Logging Opposing View #54** - "Fire releases nutrients and uncovers bare soil. The blackened, bare soil warms quickly, which stimulates soil microbial activity, nutrient cycling, and plant growth. In forests, fire opens up part of the canopy to sunlight, which allows sun-loving plant species to recolonize the site. In prairies, fire can remove dead vegetation that hinders new growth, reduce invasive plants, encourage native species, and create wildlife habitat." "Following fires, plant communities go through successional changes. Many native wildlife species and popular game species, such as bobwhite quail,	This document is a brochure developed by the NRCS to inform private landowners about the ecological importance of disturbances on the landscape. The Bald Project does not dispute the importance of disturbances in the landscape. This comment does not require a response.

		white-tailed deer, and wild turkey, are dependent on periodic fire to create and maintain suitable habitat. Surface fires can stimulate the growth of herbaceous foods for deer, elk, moose, and hares, and can enhance berry production for black bears and other wildlife. Small mammal populations generally increase in response to new vegetation growth, providing a food source for carnivores. Fire can also reduce internal and external parasites on wildlife." (pg. 2) "natural disturbance such as fires, floods, and herbivory are critical in maintaining valuable ecosystem functions and creating and restoring wildlife habitat." (pg. 7) Marks, Raissa Wildlife Habitat Council Fish and Wildlife Habitat Management Leaflet number 37 Published by the Natural Resources Conservation Service, USDA, April 2006 ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/Wild/ImportofDisturbInHabMgt.pdf	
1-15.55	Literature Citation	**Post Wildfire Logging Opposing View #55** - "Fires can have substantial and seemingly negative effects on streams, particularly smaller streams. Fires may affect the delivery of sediment, the availability of woody debris and other organic materials, and the cycling of nutrients. While fires rarely kill fish outright, fires may directly affect the food chains that ultimately support the fish. Most importantly, fires can sometimes radically accelerate the delivery of sediment to stream channels which -- if compounded by management -- can produce chronic and substantial loss of in-channel habitat, and seriously delay the biological recovery of the stream. However, viewed at the right scale of time and space, fires are not disasters for streams, indeed fires can induce natural ecological changes that benefit streams and the species that depend on them. The natural recovery of streams after fires can result in improved fish habitat if we do not interfere with the natural recovery processes that initiate themselves soon after the fires are gone. Fire-killed trees are a vital part of both watershed and stream recovery, providing part of the natural environment of the reseeding and vegetative recovery of the watershed, and providing vital stabilizing structure in stream channels and floodplains. If fire-killed trees are logged out of the watershed, these functions, among others, are lost for decades, even centuries." Minshall, G. Wayne Ph.D., James R. Karr Ph.D. Judy L. Meyer Ph.D., Christopher A. Frissell Ph.D. and Jack A. Stanford From a letter to President Clinton September 19, 1994	This quotation is taken from a letter to President Clinton regarding salvage logging. An offer to help develop a post- fire policy on public lands is made at the end of the letter. The importance of fire-killed trees in stream channels and floodplains is recognized in the Bald Project. Riparian conservation areas would be established 150 feet on either side of intermittent streams and 300 feet on either side of perennial streams and special aquatic features within the project area. IDFs were developed to protect these features during project implementation

		http://www.saveamericasforests.org/congress/Fire/Scientists-Anti-Salvage%20Logging-1992.htm	
1-15.56	Literature Citation	**Post Wildfire Logging Opposing View #56** - "As you know, a forest is composed of more than just trees, it also includes the rivers, streams, lakes, wetlands, and the biological, physical, and chemical processes and ecological functions that link all these pieces together. All these parts and the way that they fit together and the interactions among them constitute the integrity of the ecosystem. It is the maintenance of this integrity that must guide the way we manage forests so that they benefit this and future generations." "There is a widespread, but incorrect, assumption that dead or so-called rotting trees provide no ecological value if left in place." "Burned dead and dying trees are important to the ecological integrity of the forests and streams and serve an important function in the post-fire recovery of these ecosystems. Their indiscriminate or overzealous removal can significantly impede recovery." Minshall, Wayne Ph.D. Testimony at the oversight hearings Before the Task Force on salvage timber and forest health of the Committee on Resources, House of Representatives (pg. 89) October 1995 http://www.archive.org/stream/salvagetimberfor01unit/salvagetimberfor01unit_djvu.txt	This citation is taken from Dr. Minshall's testimony to the task force on salvage timber and forest health. His views are framed around the assumptions that fire is viewed as an ecological catastrophe and that salvage projects are being marketed to the public as restoration projects. Further, Dr. Minshall states that "salvage logging can be done to minimize its negative effects", and in fact, several of the practices Dr. Minshall recommends are design features in the Bald Project, such as staying out of sensitive areas, and limiting removal (retention of snags consistent with the Forest Plan). As alluded to above, the Bald Project does recognize the ecological value of snags and coarse wood. This project would retain snags and coarse wood to the desired conditions outlined in comment response 1-11.
1-15.57	Literature Citation	**Post Wildfire Logging Opposing View #57** - "However, it is know that virtually all forms of postfire logging can have various adverse effects on stream ecosystems (e.g., Mehahan, 1983; Smith et al., 1993a, b; Stout et al., 1993; Ketcheson and Megahan, 1996)." "In addition, fire lines should be obliterated prior to logging, and road construction or other major ground-disturbing activities should be avoided in order to prevent additional runoff and erosion. Salvage harvest yields responses (e.g., ground disturbance, woody debris removal, interruption of normal infiltration pathways, and acceleration of surface flows) that interact with the direct and indirect effects of fire to make these actions so potentially damaging. In addition, the negative effects extend many years beyond the actual time of salvage activities because of the harvest of snags that normally fall and become incorporated into stream channels and forest floors over several decades or more (Lyon, 1984). These wood inputs are important to create habitat, increase nutrients, and retard runoff and channel alteration	This document largely focuses on the effects of fire; however, it does include some discussion on a variety of land management actions, including salvage logging. Minshall suggests that postfire removal should be appropriately spaced across the landscape and in proportion to the size classes of the trees present. In the case of the Bald Project, snags would be retained to the desired conditions outlined in comment response 1-11.

		during what is normally the most critical stage of stream and riparian vegetation recovery (Minshall et al., 1989; Lawrence and Minshall, 1994)." Minshall, G.W. Ph.D., "Responses of stream benthic macroinvertebrates to fir" Forest Ecology and Management, 178 (2003) 155–161 http://www.famu.org/mayfly/pubs/pub_m/pubminshallg2003p155.pdf	
1-15.58	Literature Citation	**Post Wildfire Logging Opposing View #58** - "Second, post-fire (salvage) logging does not contribute to ecological recovery; rather, it negatively affects recovery processes, with the intensity of impacts depending upon the nature of the logging activity (Lindenmayer et al. 2004). Post-fire logging in naturally disturbed forest landscapes generally has no direct ecological benefits and many potential negative impacts (Beschta et al. 2004; Donato et al. 2006; Lindenmayer and Noss 2006). Trees that survive fire for even a short time are critical as seed sources and as habitat that sustains biodiversity both above- and belowground." Noss, Reed F. Ph.D., Jerry F Franklin Ph.D., William L Baker Ph.D., Tania Schoennagel Ph.D., and Peter B Moyle Ph.D. "Managing fire-prone forests in the US" The Ecological Society of America, 2006 http://plantbio.berkeley.edu/~bruns/espm134/papers/Noss.2006.pdf	This document looks at the management of fire-prone forests and discusses a variety of management practices prior to, during, and after wildfires. Since the Bald Fire burned at such a high intensity, very few live trees (potential seed sources) remain on the landscape. Several design features and mitigation measures are recommended to eliminate or limit many potential negative impacts described in the document. See recommended mitigations in the project file for more details. Additionally, this document references fire regimes and suggests that fire regimes on many forests are not representative of historic fire regimes. Retention of snags and coarse wood to desired conditions would help ensure that future fuel conditions are more representative of a non-lethal fire regime and reduce overstory mortality.
1-15.59	Literature Citation	**Post Wildfire Logging Opposing View #59** - "The wildland fires of 2000, 2002, and 2003 created many opportunities to conduct post-fire logging operations in the Inland Northwest. Relatively little information is available on the impact of post-fire logging on long-term soil productivity or on the best method for monitoring these changes." "Our results indicate that post-fire logging during the summer creates more detrimental disturbance (50% of the stands) than winter harvesting (0% of the stands). In addition, on the sites we sampled, equipment type (tractor - forwarder - rubber-tired skidder) also influenced the amount of detrimental disturbance."	This document was written to explore the most appropriate methods of measuring soil impacts in postfire logging areas. The selected text is a generalized statement that summer harvesting can create more detrimental disturbance than winter harvesting. Affects to soils from mechanical treatments will be analyzed in the EA.

		Page-Dumroese, Deborah Ph.D., Martin Jurgensen Ph.D.; Ann Abbott, Tom Rice Ph.D. Joanne Tirocke, Sue Farley, Sharon DeHart. 2006. "Monitoring Changes in Soil Quality from Post-fire Logging in the Inland Northwest" In: Andrews, Patricia L.; Butler, Bret W., comps. 2006. Fuels Management-How to Measure Success: Conference Proceedings. 28-30 March 2006 Portland, OR. Proceedings RMRS-P-41. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. p. 605-614. http://www.treesearch.fs.fed.us/pubs/25982	
1-15.60	Literature Citation	**Post Wildfire Logging Opposing View #60** - "Rather, as I see it, legislation should focus on enabling those who live in or near woodlands to protect themselves, as my family and I have for more than half a century without federal intervention or pork-barreling. The U.S.D.A. Forest Service currently is not directed to work with individuals to enable protecting individual properties. This can be changed immediately with little or no additional costs and with considerable positive impact on those of us who live in the woods." "The "fire protection zone" around dwellings is a mere 150-200 feet. This is the only place where removing flammable material, such as weeds, brush, shrubs, etc. will help in "fire-proofing" buildings in forest fire prone areas. Logging in forests beyond this narrow area will not reduce fires, it will only increase them." Partridge, Arthur Ph.D. "Forest Fires, the Correct Way to Protect Buildings From Fire Damage, and How Legislation In Congress Which Claims to Reduce Fires and Fire Damage Will Achieve the Opposite Effect" Testimony to the Agriculture, Nutrition and Forestry Committee, United State Senate June 26, 2003 http://www.saveamericasforests.org/congress/Fire/PartridgeSenate03.htm	This document is a 2003 testimony to the senate pertaining to the Healthy Forest Restoration Act. The cited text speaks to creating legislation that incentivizes private landowners to protect their land from wildfire. This concern is outside of the scope of the Bald Project.
1-15.61	Literature Citation	**Post Wildfire Logging Opposing View #61** - "Can salvage timber sales be compatible with ecosystem-based management? Our findings suggest that this type of harvesting is not compatible with contemporary ecosystem-based management. Ecosystem-based management would emphasize removing smaller green trees with greater attention to prevention of mortality rather than removal of large dead trees." "The authors start off the discussion by saying 'They (salvage harvest timber sales) can be (compatible with ecosystem base management), but much depends on the types of stand structures that are harvested.' Most of the	This document discusses a variety of issues aimed at the Interior Columbia Basin. Only a portion of this document is relevant to salvage logging (pg. 178). The author also states that salvage logging can be compatible with ecosystem-based management, but is dependent on the type of stand structures harvested. The Bald Project would retain snags to the desired conditions outlined in comment response 1-11.

		discussion in this section is in reference to other than post-fire salvage. The authors do go on to suggest that 'Salvage harvest methods in burned areas will also need to consider minimizing surface soil disturbance and reducing road-related sediment problems.' These concepts were taken into consideration in the development of the WFR project design. Specifically, in reference to the type of stand structure that is harvested, the project design includes a series of salvage units adjacent to untreated corridors and drainages creating a mosaic of salvage and no-salvage logged areas. Within the salvage units, a proportion of the dead trees larger than 14" as well as the majority of the dead trees less than 14" will be left standing." (Pgs. 103 and 104) Quigley, Thomas M. Ph.D., tech. ed. 1996; "The Interior Columbia Basin Ecosystem Management Project: Scientific Assessment." Gen. Tech. Rep. PNW-GTR-382; Page 178. Published in Post-Fire Logging Summary of Key Studies and Findings, February 2006 http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/36016_FSPLT1_014160.pdf	Affects to soils from mechanical treatments will be analyzed in the EA.
1-15.62	Literature Citation	**Post Wildfire Logging Opposing View #62** - "The potential effects of postfire logging in riparian areas depend on the landscape context and disturbance history of a site; however, available evidence suggests two key management implications: (1) fire in riparian areas creates conditions that may not require intervention to sustain the long-term productivity of the aquatic network and (2) protection of burned riparian areas gives priority to what is left rather than what is removed." Reeves, G. H. Ph.D., P. A. Bisson Ph.D., B. E. Rieman Ph.D., and L. E. Benda Ph.D. 2006. "Postfire logging in riparian areas" All of the authors are researchers for the USFS Conservation Biology. Volume 20, Number 4, Pages 994-1004. http://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/SalvageLoggingScience/Salvage-Reeves06.pdf	This document discusses the potential ecological consequences of postfire logging in riparian areas. The Bald Project was designed to mitigate these impacts. See Scoping Document, pages 14-15).
1-15.63	Literature Citation	**Post Wildfire Logging Opposing View #63** - "Disturbances, from windthrown trees to fires, are natural in forests and are essential for forest ecosystem well being. For example, fire is a disturbance in forests, but it is also beneficial. While disturbances kill some individuals, they also open up ecological living space for recolonization by many previously excluded species. Without fire, natural succession is upset. In a forest where fire has been	This document is Dr. Reice statement in support of the Act to Save America's Forests. Dr. Reice specifically addresses concerns regarding clearcutting and road building. Clearcutting is not proposed in the Bald Project. See project proposal in

		unnaturally suppressed for many years (50 or more), fire intolerant trees grow unchecked, suppressing and outcompeting the normally dominant fire resistant trees. Overall biodiversity is reduced. As the tree diversity declines, the habitat becomes unsuitable for a large portion of the forest species. Animal species are lost, since the animals use the fire tolerant variety of tree species for food, shelter and nest sites. Clearcutting is not ecologically equivalent to fire, and it does not mimic the beneficial effects of fire. We need large tracts of unfragmented forests so that fires can return as a normal part of the overall forest ecosystem. If fire is unnaturally suppressed, a Southeastern longleaf pine savannah is transformed into an oak-hickory forest. The most famous fire dependent species of the longleaf pine ecosystem is the Red Cockaded Woodpecker. In order to nest and reproduce, it needs the tall, old, isolated pines which have survived repeated fires. Without fire, the Red Cockaded Woodpecker will go extinct. Scientific understanding of forest ecosystems has advanced tremendously since the establishment of the national forests. The Act to Save America's Forests would harmonize federal forest management with these new understandings, and would restore and maintain dynamic living ecosystems with native plants and animals for the long term benefit of future generations of Americans." Reice, Seth, Ph.D., Associate Professor of Biology in the Department of Biology and Curriculum in Ecology University of North Carolina. Dr. Reice has over 20 years of research experience in forest watershed ecology and disturbance regimes.from a press conference with Senator Robert Torricelli, April 28, 1998, http://www.saveamericasforests.org/news/ScientistsStatement.htm	the project file for more information. This document also discusses the detrimental effects fire suppression can have on an ecosystem – using the example of the Red Cockaded Woodpecker. Fire suppression is outside the scope of the Bald Project. The Red Cockaded Woodpecker does not occur on the Lassen National Forest, however the Bald Project's effect on wildlife will be analyzed in the EA.
1-15.64	Literature Citation	**Post Wildfire Logging Opposing View #64** - "Expedited logging after forest fires may harm forests, according to nearly 170 scientists responding to efforts in the U.S. Congress to pass the Forest Emergency Recovery and Research Act. The issue of salvage logging was highlighted by a forum in Washington, D.C. this month, during which the impacts of logging in a forest following fires or other natural events were discussed, including the role these events play in maintaining wildlife and "healthy" forests." "A burned area may be the most ecologically sensitive place for logging, said Dr. Richard Hutto, professor and director of the Avian Science Center at the University of Montana. "We talk about forest restoration after a fire, but it	This article describes a response to congress concerning the proposed Forest Emergency Recovery and Research Act. The cited text refers salvage logging as forest restoration after a fire.

		just got restored by fire itself," he said. "That's what fire does." "Scientists: Salvage logging following a forest fire hinders recovery, restoration" Cyberwest, March 26, 2006 http://www.cyberwest.com/forest-ecology/post-forest-fire-salvage-logging.shtml	
1-15.65	Literature Citation	**Post Wildfire Logging Opposing View #65** - "Post-fire logging causes extreme damage and often irrecoverable loss of sensitive forest soils, pollutes watersheds, destroys wildlife habitat, reduces natural regeneration, kills or damages surviving vegetation, creates a myriad of future restoration costs, and increases fuel hazards and wildfire risks. Although post-fire logging is often billed as a restoration or hazardous fuels reduction management practice, credible scientific evidence suggested the contrary. There is little evidence in the scientific literature to support claims that post-fire logging is necessary for restoration. However, there is ample research, including research reviewed by the U.S. Forest Service (see McIver and Starr, 2000), which concludes that post-fire logging itself may actually increase the rate of spread, intensity, and severity of fires." Sequoia ForestKeeper, "Post-fire Logging in America's National Forests" Media Tip Sheet, November 2003 http://www.nativeforest.org/pdf/SALVAGE_REPORT_FOR_WEB.pdf	The link provided by Mr. Artley did not work.
1-15.66	Literature Citation	**Post Wildfire Logging Opposing View #66** - "Suspended sediment concentrations were 6-times higher in burned watersheds and 11-times higher in post-fire salvage logged watersheds than in unburned watersheds. Sediment availability was greater in both burned and post-fire salvage logged watersheds but varied with flow condition; particularly during the snowmelt freshet and stormflow. In burned watersheds, sediment yield was 5-times higher during snowmelt and 13-times higher during stormflow than in unburned watersheds. Post-fire salvage logging produced much greater impacts than wildfire alone, with mean sediment yield 19-times higher during snowmelt and 9-times higher during stormflow compared to unburned watersheds." Silins, Uldis Ph.D., Michael Stone Ph.D., Monica Emelko Ph.D. and Kevin Bladon Ph.D. "Sediment Dynamics in Changing Environments" From the proceedings of a symposium held in Christchurch, New Zealand December 2008). IAHS, Publ. 325, 2008, 510-515.	This abstract summarizes the results of management actions on the Oldman Watershed, one of seven watersheds that burned in the 21,000-hectare Lost Creek Fire of 2003 in Alberta Canada. The Forest Service agrees that burned watersheds have greater available sediment due to consumption of vegetation and ground cover. This makes bare areas more prone to mass wasting and other erosion events. Implementation of IDFs will reduce the potential of negative effects from soil disturbing activities. Affects to soils from mechanical treatments will be analyzed in the EA.

		http://iahs.info/redbooks/a325/iahs_325_0510.pdf	
1-15.67	Literature Citation	**Post Wildfire Logging Opposing View #67** - “One of the authors of the Northwest Forest Plan, Jerry Franklin, said, "Salvage logging of large snags and down boles does not contribute to recovery of late-successional (older forests) forest habitat; in fact, the only activity more antithetical to the recovery process would be removal of surviving green trees from burned sites." forests cannot be "engineered" through salvage logging and tree farming without significantly affecting biodiversity and increasing the risk of fire. Naturally recovering post-fire landscapes are some of the most fragile and rare ecosystems in the Northwest. While Mother Nature can certainly use a boost in some places through tree thinning in plantations and carefully managed prescribed fire, salvage logging and widespread tree farming are anything but a post-fire remedy. The reality is salvage logging has nothing to do with ecological recovery and is purely an economic activity.” Strittholt, James Ph.D. and Dominick DellaSala Ph.D. “Salvage logging has no environmental benefits” Published in the Corvallis Gazette Times, April 13, 2004 http://consbio.org/press-room/press-clips/salvage-logging-has-no-environmental-benefits	This is an opinion article, in response to an Op-Ed piece written by Michael Newton.
1-15.68	Literature Citation	**Post Wildfire Logging Opposing View #68** - “The new study is part of a growing body of literature that questions the ecological value of post-fire logging. Dominick DellaSala, a forest ecologist with the World Wildlife Fund, says that there is an emerging consensus among scientists that logging burned areas can exacerbate soil damage and erosion, harm waterways, increase fire danger, and hinder natural forest recovery by killing seedlings. More importantly, it removes the big dead trees that contribute to habitat diversity and critical forest processes such as nutrient cycling.” “Study questions value of post-fire logging” High Country News, February 6, 2006 http://www.hcn.org/issues/315/16079	This article was published in High Country News and largely discusses the debate over postfire salvage logging resulting from a study conducted on the Biscuit fire. The quotation briefly lists generalized effects that salvage logging may have on several resources.
1-15.69	Literature Citation	**Post Wildfire Logging Opposing View #69** - “Ecological benefits of fire • Promotes flowering of herbaceous species and fruit production of woody species.	This document is a brochure distributed by the Cooperative Extension Service at the University of Florida informing the public of the ecological benefits of fire in Florida ecosystems. While the ecosystems of

		• Improves nutritional quality of plants for both wild and domestic animals. • Enhances nutrient cycling of some elements and elevates soil pH. • Maintains required habitat conditions for fire-adapted plant and animal species. • Results in a more heterogenous and diverse habitat--if natural fires are patchy--leaving pockets of unburned areas. • Prohibits wildfire conditions from developing (i.e., vast accumulation of highly-flammable, dead vegetation.)" Tanner, G.W. Ph.D., W.R. Marion Ph.D., and J.J. Mullahey Ph.D. "Understanding Fire: Nature's Land Management Tool" A Florida Cooperative Extension Service publication, July, 1991 http://edis.ifas.ufl.edu/UW124	this area are vastly different, the concept of fire as a natural disturbance and as part of the ecosystem is relevant, and not disputed in the Bald project. This comment does not require a response.
1-15.70	Literature Citation	**Post Wildfire Logging Opposing View #70** - "On March 24, 2006, the Ninth Circuit Court of Appeals temporarily enjoined two post-fire timber projects in the El Dorado National Forest. Earth Island Inst. v. United States Forest Serv., --F.3d--, 2006 WL 767012 (9th Cir. 2006). The Court scolded the U.S. Forest Service (USFS), opining that the government appeared more interested in allowing timber harvesting to proceed than thoroughly reviewing their environmental impacts. Id. at ** 26-27." Till, Dustin, "Ninth Circuit Burns Forest Service over Post-Fire Timber Salvage Projects" Marten Law, April 5, 2006 http://www.martenlaw.com/news/?20060405-timber-salvage	Impacts of proposed activities will be analyzed for wildlife, botanical resources, fisheries, soils and vegetation will be available in the analysis documentation and BA/BEs in the project file. The Bald Project also includes several design features / mitigation measures to limit or eliminate potential effects The decision document for this project will outline the decision rationale used to make the decision. As well as, how the best available scientific information was used to inform the assessments and decisions made for this project.
1-15.71	Literature Citation	**Post Wildfire Logging Opposing View #71** - "The new studies provide the first "real, direct data'" showing that more forests burned historically, creating more post-fire forest habitat, said Chad Hanson, a forest ecologist and director of the John Muir Project who is helping lead the listing effort and suing the Forest Service to block post-fire logging in woodpecker habitat near Lake Tahoe. "It indicates the woodpeckers had more habitat historically than they do now,'" Hanson said. Williams said when he started the study he had "the same general ideas most	This article describes a study that challenges the idea that fires today are burning hotter and more intense than fires in the past. This topic is outside the scope of the Bald Project. Specifically this article does bring up concerns about the black-backed woodpecker, however it pertains to the historical range of these birds and the implications that varying fire regimes have had on their populations, not the effects of salvage logging.

		people have — that the forests were less dense and there were frequent, less severe fires to maintain that structure." Now, he believes thinning and post-fire salvage operations should be re-examined and emphasis placed on maintaining high-density stands in certain circumstances that would not threaten people or homes. "We shouldn't be managing just for low-density forests," he said. "We should not be unhappy with — or perhaps even manage for — higher severity fires in the forests." " "The Forest Service did not immediately respond to a request for comment." Sonner, Scott AP, "Study challenges views about Western forest fires" Published in the Daily World, July 23, 2012 http://www.thedailyworld.com/sections/newswire/northwest/study-challenges-views-about-western-forest-fires.html	.
1-15.72	Literature Citation	**Post Wildfire Logging Opposing View #72** - "Salvage logging typically delays or prevents natural recovery in several important ways (Karr 2004)1. Soils are damaged by compaction and removal of vital organic material. This increases the amount of erosion and runoff leading to more turbidity and sediment deposition in streams, which reduces habitat quality for fish and other aquatic species, as well as requiring more water treatment to meet state drinking water standards." "Karr concludes that for forest and aquatic ecosystem health, large and old trees ought to be retained. In addition to providing habitat for many species, they reduce soil erosion and aid soil formation. Karr also states, "[N]o logging should be done on moderately and severely burned areas and on other sites prone to soil damage and excessive sedimentation." Much of the Lockheed Fire terrain is steep and burned at moderate and high intensity." Frediani, Jodi, "Post-fire Salvage Logging Good for the Forest?" A publication of the Trees Foundation, August 11, 2011 http://www.treesfoundation.org/publications/article-460	This document discusses past management actions that occurred after the Mendocino Lightning Complex Fire and the Lockheed Fire in Central Coastal California, and suggests that these types of projects may not receive proper agency review when implemented under emergency exemptions. The cited text describes potential effects due to salvage logging, and not effects that were seen after the specific events discussed in the beginning of the article.
1.14-73	Literature Citation	**Post Wildfire Logging Opposing View #73** - "In Earth Island Institute v. Forest Service (2003), and again in an identically titled 2006 case, the Ninth Circuit heard arguments concerning post-fire timber sales in Northern California's Eldorado National Forest. In both cases, the Ninth Circuit determined that the district courts improperly denied preliminary injunctions because the	Impacts of proposed activities will be analyzed for wildlife, botanical resources, fisheries, soils and vegetation will be available in the analysis documentation and BA/BEs in the project file. The Bald Project also includes several design features /

		plaintiffs would likely succeed on the merits of their claims alleging that the U.S. Forest Service failed to comply with various provisions of the National Environmental Policy Act (NEPA) and the National Forest Management Act (NFMA). In concurring opinions in both cases, Judge Noonan suggested that the U.S. Forest Service may be disqualified as a decision maker in post-fire logging issues given the agency's financial interest in such sales. That proposition, grounded in Fifth Amendment procedural due process principles, casts doubt on the Forest Service's capacity to act neutrally where it stands to gain off-budget revenue from so-called "salvage" sales." "Post-fire timber sales are an acute illustration of the skewed incentives driving Forest Service timber sales generally. As the revenue from traditional timber sales has declined, post-fire timber sales offer a new way to substantially augment the Forest Service budget. While the agency's extractive bent is likely due to a variety of factors apart from financial incentives,[346] the ability to derive off-budget revenue from timber sales is undeniably enticing. While the procedural due process principles Judge Noonan espoused in his Earth Island I and Earth Island II concurrences cannot gain traction without a liberty or property interest, those terms are not stagnant. Just as the rise of welfare benefits and other government entitlements programs wrought a fresh conception of property in Goldberg, so might future courts come to recognize the moral frailty of current entitlements doctrine. A stilted view of liberty and property should not cripple the right to a neutral decision maker in post-fire logging adjudications." Saylor, Austin, "The Quick and the Dead: Earth Island v. Forest Service and the Risk of Forest Service Financial Bias in Post-Fire Logging Adjudication" Published in Lewis & Clark Law School's Environmental Law Online, 2012 http://www.elawreview.org/elaw/373/the_quick_and_the_dead_earth_i.html	mitigation measures to limit or eliminate potential effects. The decision document for this project will outline the decision rationale used to make the decision. As well as, how the best available scientific information was used to inform the assessments and decisions made for this project.
1-15.74	Literature Citation	**Post Wildfire Logging Opposing View #74** - "But Bob Ekey, northern Rockies regional director for the Wilderness Society, says logging will cause serious damage, particularly to streams. Overlooked, he says, is the ecological value of leaving dead trees in place to serve as erosion barriers, to fertilize the soil as they decay, and to provide habitat for cavity-nesting birds and other wildlife. "This is all part of the Bush administration's push to cater to the timber and mining and oil and gas industries, while at the same time excluding the	Mitigation measures were included in project design to protect streams during project implementation (see Scoping Document pages 14-15). Protections include no mechanical equipment zones and riparian conservation areas. In addition, no mechanical treatments would occur in the RCAs for perennial streams in the project area. Additional snag retention would occur in RCAs, to provide for future woody debris recruitment that would provide habitat structure and hydrologic

		concerned public from being involved in public-land decisions," Mr. Ekey claims. It's ironic, however, that while the Bush administration wants the salvage operation to proceed to create jobs and benefit the local economy, there are no sawmills left in the Bitterroot Valley. All have gone out of business - several over the past 20 years - as total timber volumes cut on national forests fell from 12 billion board feet at the end of the 1980s to less than 3 billion board feet today." Wilkinson,Todd, "Move to log fire-damaged trees ignites controversy" Special to The Christian Science Monitor / December 17, 2001 Source: http://www.csmonitor.com/2001/1217/p2s2-usgn.html	function such as sediment trapping (Scoping Document, page 6).
1-15.75	Literature Citation	**Post Wildfire Logging Opposing View #75** - "As professional scientists with backgrounds in ecological sciences and natural resources management, we are greatly concerned that post-disturbance legislation addressed in HR 1526, which passed the House in September 2013, would suspend federal environmental protections to expedite and increase logging of post-fire habitat and mandate increased commercial logging of unburned forests on national forests. In addition, HR 3188, as currently proposed in the House, would override federal environmental laws to mandate post-fire clearcutting operations in national forests, Yosemite National Park, and designated Wilderness areas within the 257,000-acre Rim fire on the Stanislaus National Forest and Yosemite National Park. Both bills ignore the current state of scientific knowledge, which indicates that such activity would seriously undermine the ecological integrity of forest ecosystems on federal lands. Though it may seem at first glance that a post-fire landscape is a catastrophe ecologically, numerous scientific studies tell us that even in patches where forest fires burned most intensely the resulting post-fire community is one of the most ecologically important and biodiverse habitat types in western conifer forests. Post-fire conditions serve as a refuge for rare and imperiled wildlife that depend upon the unique habitat features created by intense fire. These include an abundance of standing dead trees or "snags" that provide nesting and foraging habitat for woodpeckers and many other wildlife species, as well as patches of native flowering shrubs that replenish soil nitrogen and attract a diverse bounty of beneficial insects that aid in pollination after fire. Small mammals find excellent habitat in the shrubs and downed logs, deer and elk browse on post-fire shrubs and natural conifer regeneration, bears eat the berries often found in substantial quantities after	Comment noted

		intense fire, and morel mushrooms, prized by many Americans, spring from the ashes in the most severely burned forest patches. This post-fire habitat, known as "complex early seral forest," is quite simply some of the best wildlife habitat in forests and is an essential stage of natural forest processes. Moreover, it is the least protected of all forest habitat types and is often as rare, or rarer, than old-growth forest, due to damaging forest practices encouraged by post-fire logging policies. While there remains much to be discovered about fire in our forests, the scientific evidence indicates that complex early seral forest is a natural part of historical fire regimes in nearly every conifer forest type in the western U.S. (including ponderosa pine and mixed-conifer forests) and that small and large patches of it occur. Much of the current scientific information on the ecological importance of post-fire habitat can be found in several excellent videos1. Numerous studies also document the cumulative impacts of post-fire logging on natural ecosystems, including the elimination of bird species that are most dependent on such conditions, compaction of soils, elimination of biological legacies (snags and downed logs) that are essential in supporting new forest growth, spread of invasive species, accumulation of logging slash that can add to future fire risks, increased mortality of conifer seedlings and other important re-establishing vegetation (from logs dragged uphill in logging operations), and increased chronic sedimentation in streams due to the extensive road network and runoff from logging operations. We urge you to consider what the science is telling us: that post-fire habitats created by fire, including patches of severe fire, are ecological treasures rather than ecological catastrophes, and that post-fire logging does far more harm than good to the nation's public lands. Sincerely, 1 http://www.fs.usda.gov/detail/r5/news-events/audiovisual/?cid=stelprdb5431394; https://vimeo.com/75533376; http://vimeo.com/groups/future/videos/8627070; http://www.youtube.com/watch?v=iTl-naywNyY&list=PL7F70F134E853F520&index=15; http://www.youtube.com/watch?v=1BmTq8vGAVo&feature=youtu.be; http://vimeo.com/3428311 Open Letter to Members of Congress from 250 Scientists Concerned about Post-fire Logging, October 30, 2013 http://www.oregonwild.org/fish_wildlife/wildlife-	

		pages/Scientist_Letter_Postfire_2013.pdf Signatures available upon request	
1-15.76	Literature Citation	**Post Wildfire Logging Opposing View #76** - "Through soil disturbance, especially the construction of roads, logging with ground-based equipment and cable yarding can exacerbate this effect, increasing erosion and altering hydrological function at the local scale. Effects on aquatic systems of removing trees are mostly negative, and logging and transportation systems that disturb the soil surface or accelerate road-related erosion can be particularly harmful unless disturbances are mitigated. Cavity-nesting birds, small mammals, and amphibians may be affected by harvest of standing dead and live trees, with negative effects on most species" From "Effects of timber harvest following wildfire in western North America" Authors David L. Peterson, biological scientist, USFS James K. Agee, professor emeritus, College of Forest Resources, University of Washington Gregory H. Aplet, forest ecologist, The Wilderness Society Dennis P. Dykstra, research forest product technologist, USFS Russell T. Graham, research forester, USFS John F. Lehmkuhl,research wildDonald F. Potts, professor, College of Forestry and Conservation, University of Montana Robert F. Powers, emeritus research forester, USFS John D. Stuart, professor, Department of Forestry and Watershed Management, Humboldt State University Gen. Tech. Rep. PNW-GTR-776, 2009 http://www.fs.fed.us/pnw/pubs/pnw_gtr776.pdflife biologist, USFS David S. Pilliod, research ecologist, U.S.D.I, USGS, Forest and Rangeland Ecosystem Science Center	Comment noted. See response to 1-15.74.
1-15.77	Literature Citation	**Post Wildfire Logging Opposing View #77** - "With respect to birds, the effects of postfire salvage harvesting are uniformly negative. In fact, most timber-drilling and timber-gleaning bird species disappear altogether if a forest is salvage-logged. Therefore, such places are arguably the last places we should be going for our wood. We need to change our thinking when it comes to logging after forest fires. There is potential economic value in the timber, yes, but there are numerous other values in a burned forest. And the prospect of losing those values must be weighed against the potential economic gain that may accompany postfire timber harvest. Burned areas are probably the most ecologically sensitive places from which we might extract trees." Hutto, Richard Ph.D., The Ecology of Severely Burned Forests Published online	This is a duplicate literature citation. See response to 1-15.43.

		by Counterpunch, July 2008 http://www.counterpunch.org/2008/07/19/the-ecology-of-severely-burned-forests/	
1-15.78	Literature Citation	Post Wildfire Logging Opposing View #78 - Authors: Published in Science. January 20, 2006 page 352 http://www.scribd.com/doc/36191953/Science-Volume-311-Issue-5759-2006-Science-Magazine-5759-2006-01-20 [FS Note: Full text of article was found at: http://www.sciencemag.org/content/311/5759/352.full]	The Bald Fire burned with sufficient intensity to leave virtually no seed source in the project area. The stands proposed for treatment are highly unlikely to regenerate with conifers within one or two growing seasons after the fire. The Bald Project would facilitate rapid regeneration by planting of mixed conifer species following harvest of fire-killed trees and treatment of fuels while meeting other resource needs, including elevated snag levels. Rapid conifer regeneration would help to stabilize soils by providing soil binding root mass, and return the site to conifer vegetation cover. In addition, fuels treatment prior to planting would reduce post-fire and post-logging fuel loads to acceptable levels.
1-15.79	Literature Citation	**Post Wildfire Logging Opposing View #79** - "Based on its strict reading of the term "live trees," the Ninth Circuit concluded that plaintiffs had established a very strong likelihood of success on the merits of their NFMA claim and remanded the matter back to the district court with instructions to enter a preliminary injunction prohibiting the Forest Service from harvesting any trees of the requisite size demonstrating signs of life (e.g., trees with green needles).[18]" "Conclusion The Ninth Circuit's holding in Lands Council threatens the Forest Service's ability to follow its routine practice of harvesting dying trees as part of salvage timber operations in eastern Oregon and Washington. Although the Ninth Circuit noted that the Forest Service "is free, of course, to amend the Eastside Screens to allow logging of old-growth dying trees, either by adding a definition of the term 'live trees' or by changing the requirements to maintain all live trees of a certain size." Until the Forest Service does so, or the district court reaches a decision on the merits of plaintiffs' claim, conservation groups have a new tool to enjoin post-fire salvage projects in eastside old-growth forests.[19]"	Comment noted. Fire salvage marking guidelines are based upon the fire-injured tree marking guidelines (Report #RO-011-01, Smith and Cluck, May 2011) developed by Region 5 Forest Health Protection at the 0.7 probability of mortality level (Pm = 0.7). The guideline criteria for delayed conifer tree mortality are based on percent crown length killed. The objectives of these guidelines are to 1) remove those trees that are dead or have a high probability of mortality due to fire-injury and 2) retain those trees that would likely survive to maintain wildlife habitat and desired forest cover. (Scoping Document, page 7).

		"Not Dead Yet": Ninth Circuit Bars Harvest of "Fire-Damaged" Trees During Timber Salvage Operations" A Marten Law publication, March 14, 2007 http://www.martenlaw.com/newsletter/20070314-tree-harvest-ban	
1-15.80	Literature Citation	**Post Wildfire Logging Opposing View #80** - "In recent post-fire logging litigation, there have been at least four common themes. First, the Forest Service routinely attempts to expedite the logging process as soon as possible. However, these attempts have been largely unsuccessful, and as a result, the Forest Service recently changed rules to allow for more flexibility. Second, the Forest Service has been largely unwilling to disclose or address the available scientific evidence that cautions against logging after severe wildfires. Third, the Forest Service has failed, thus far, to account for the substantial environmental impacts of its previous firefighting activities within the proposed areas." (page 201) "Along with the Forest Service's attempts to expedite the administrative process for post-fire logging projects, the most common theme in post-fire timber sale cases has been the Forest Service's unwillingness to disclose and address unfavorable science in EAs and EISs for the logging proposals." (page 212) "Despite recent setbacks in court, the Forest Service shows no signs of insulating itself from the controversies surrounding post-fire logging of national forests. To the contrary, the Forest Service has significantly increased the number and size of post-fire logging proposals." (page 220) "Logging After Wildfire: Salvaging Economic Value or Mugging a Burn Victim?" Author: Marc Fink, J.D., with Certificate in Environmental and Natural Resources Law, Northwestern School of Law of Lewis and Clark College (1995). The author is an attorney with the Western Environmental Law Center and has litigated a number of post-fire logging cases. Published in the Journal of Environmental Law and Litigation, Volume 19, 2004 http://law.uoregon.edu/org/jell/docs/191/Fink.pdf	Comment noted. Deterioration will be discussed in the Relevant Information for the ESD.
1-16	Comment	**Opposing Views Attachment #8** - The Natural Resources in the Forest Benefit from Fire. Introduction: There are negative effects caused by nearly all actions … this includes the actions that manipulate and change the landscape after a fire. When such manipulation is proposed on public land, the public owners deserve to know the pros and cons of the project. The only time a wildfire should e considered "catastrophic" is when it burns	

		homes. The following statements describe why post-fire landscapes should e left alone and never manipulated for money.	
1-16.1	Literature Citation	**Wildfire benefits Opposing View #1** - "Recently burned areas represent an important type of habitat that many species of animals have evolved to utilize. Snags (standing dead trees) provide critical nesting and foraging habitat for birds and small mammals, and as they decay and fall, create additional habitat for small mammals and terrestrial amphibians as coarse woody debris." Campbell, John L. Ph.D, Dan C. Donato, Joe B. Fontaine J. Boone Kauffman Ph.D., Beverly E. Law Ph.D., and Doug Robinson "Biscuit Fire Study." Oregon State University Department of Forest Science Terrestrial Ecosystem Research and Regional Analysis. 2003. http://zircote.forestry.oregonstate.edu/terra/biscuit.htm	This document is a summary of a study that would look into the effects of wildfire, subsequent burns, and postfire logging on carbon pools/transfer, vegetation and wildlife. The selected text states that burned areas are important habitat types for a variety of species and highlights the importance of snags and coarse wood on the landscape. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.2	Literature Citation	**Wildfire benefits Opposing View #2** - "Yellowstone is a 'fire-adapted ecosystem,' which means wildfire helps maintain the health of the area's wildlife and vegetation. Most park fires are caused by lightning and, whenever possible, monitored and managed, but not necessarily extinguished." Chronicle Staff, "Yellowstone fires have potential to grow much larger" BozemanDailyChronicle.com, September 24, 2009 http://bozemandailychronicle.com/articles/2009/09/25/news/70fires.txt	This document is a news article discussing the several fires burning within Yellowstone National Park in the summer of 2009. The selected text highlights that the Yellowstone ecosystem is adapted to fire and that fire is an important natural process. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.3	Literature Citation	**Wildfire benefits Opposing View #3** - "Finally, as mentioned above, wildfires can also generate benefits. Many plants regrow quickly following wildfires, because fire converts organic matter to available mineral nutrients. Some plant species, such as aspen and especially many native perennial grasses, also regrow from root systems that are rarely damaged by wildfire. Other plant species, such as lodgepole pine and jack pine, have evolved to depend on stand replacement fires for their regeneration; fire is required to open their cones and spread their seeds. One author identified research reporting various significant ecosystems threatened by fire exclusion — including aspen, whitebark pine, and Ponderosa pine (western montane ecosystems), longleaf pine, pitch pine, and oak savannah (southern and eastern ecosystems), and the tallgrass prairie. [57] Other researchers found that, of the 146 rare, threatened, or endangered plants in the coterminous 48 states	This excerpt is from a Congressional Research Service Report to Congress. The document talks about the many effects of wildfire. More specifically, the quoted text talks about the effects of wildfire on plants and animals. The Bald Project does not dispute this statement. This comment does not require a response. The effects of the Bald project on plants and animals will be included in the EA analysis.

		for which there is conclusive information on fire effects, 135 species (92%) benefit from fire or are found in fire-adapted ecosystems." [58] "Animals, as well as plants, can benefit from fire. Some individual animals may be killed, especially by catastrophic fires, but populations and communities are rarely threatened. Many species are attracted to burned areas following fires — some even during or immediately after the fire. Species can be attracted by the newly available minerals or the reduced vegetation allowing them to see and catch prey. Others are attracted in the weeks to months (even a few years) following, to the new plant growth (including fresh and available seeds and berries), for insects and other prey, or for habitat (e.g., snags for woodpeckers and other cavity nesters). A few may be highly dependent on fire; the endangered Kirtland's warbler, for example, only nests under young jack pine that was regenerated by fire, because only fire-regenerated jack pine stands are dense enough to protect the nestlings from predators." Congressional Research Service Report "Forest Fire/Wildfire Protection" February 14, 2005 http://www.coloradofirecamp.com/congressional_research/forest-fire-wildfire-effects.htm	
1-16.4	Literature Citation	**Wildfire benefits Opposing View #4** - "Forested landscapes may be thought of as living "crazy quilts," with patches formed occasionally through the action of natural and human-caused disturbances like fire, windstorms, and logging. Prior to the advent of modern logging technology, virtually every North American forest experienced occasional renewal through the action of fire. In some places, fire was a frequent visitor, killing very few large trees as it burned harmlessly through the forest litter and grass. In most places, though, fire burned only occasionally, creating patches of severely burned forest as it raced through the canopy under extreme weather conditions. In these patches, old forests were killed, soon to be replaced by young, rejuvenated stands. This cycle of forest maturation, death, and replacement was critical to maintaining the diversity and vitality of the ecosystem." "Dead Trees and Healthy Forests : Is Fire Always Bad?" The Wilderness Society, March 2003 http://www.wildfirelessons.net/documents/Dead-Trees-and-Healthy-Forests.pdf	The selected quotation talks about how and why fire – and other natural disturbances – is an important process for forest renewal. Further, it very generally describes the life cycle of forested landscapes. The Bald Project does not dispute this statement. This comment does not require a response. The rest of the document speaks to thinning, dead trees and salvage logging. Thinning is not proposed in this project. The importance of snags and coarse wood is described above. Proposed salvage logging strives to reduce a portion of the dead trees and manage the uncharacteristic fuel loads in the project area. This reduction of future down fuel loads will allow future trees to more readily withstand a fire by reducing heat generated by a potential ground fire.

1-16.5	Literature Citation	**Wildfire benefits Opposing View #5** - "Trees killed by wildfire and left standing take on roles that change the ecological services they previously provided as components of a green-tree system. They still offer some shade, which in a burned environment can slow the heating of surface waters and the soil surface. They may also provide more rapid recruitment of large wood into streams. Decomposing fallen trees provide nutrients, shelter, and early structure for a rejuvenating forest floor." "Burned forests typically support significantly different bird communities, with many species dependent on stand-replacement fires to maintain their populations across the landscape. Usually there's an increase in cavity-nesting, insectivorous birds such as woodpeckers and certain species of flycatchers." Duncan, Sally Ph.D. "Postfire Logging: Is it Beneficial to a Forest?" USDA Forest Service. PNW Science Findings issue 47. October 2002. http://www.fs.fed.us/pnw/sciencef/scifi47.pdf	This document explores many of the effects of postfire logging and makes several recommendations of how effects may be limited. The results of the Summit study on postfire logging suggest that "logging can be done, with acceptable effects on soils and minimal sediment transport off-site, provided the right equipment and approach are used". In general, the Bald Project has very gentle slopes and most of the material can be accessed by using the existing road system and a few additional skid trails to concentrate disturbance. The cited text describes the variety of roles that snags can play after a wildfire, and explains that although the habitat has changed, different bird communities can still use, and in fact may prefer, the altered habitat. The Bald Project does not dispute these statements; therefore, this does not represent an opposing view.
1-16.6	Literature Citation	**Wildfire benefits Opposing View #6** - "Since those early days, millions of dollars have been spent on campaigns to prevent forest fires. But researchers now know that fire is not necessarily bad. It can be a natural part of a healthy grassland or forest ecosystem. Fire reduces the buildup of dead and decaying leaves, logs and needles that accumulate on the forest floor. It reduces or eliminates the overhead forest canopy, increasing the sunlight that stimulates new growth from seeds and roots. Many plants and animals have adapted to fire. Both lodgepole pine and jack pine have resin-sealed cones that stay on trees for many years. The heat of fire melts the resin and the cones pop open. Thousands of seeds then scatter to the ground and grow into new stands of pine. Woodpeckers feast on bark beetles and other insects that colonize in newly burned trees. And so, 20 years ago, Parks Canada decided that it wouldn't interfere in natural processes such as fire, insects and disease unless it had to — that is, unless people or neighbouring lands were threatened."	This article talks about several aspects about fighting fires in Canada, including fire suppression history, tactics, and resources. A small section of this article discusses the ecological benefits of fire, which represents the cited text. The Bald Project does not dispute this statement. This comment does not require a response. The last paragraph in the cited text refers to the idea of letting wildfires burn unless people or neighboring lands were threatened. Addressing fire suppression policy is not the purpose of the Bald Project and is beyond the scope of this project. The effects of the Bald project on plants and animals will be analyzed in the EA.

		"Fighting fire in the forest" CBC News, June 17, 2009 http://www.cbc.ca/canada/story/2009/06/17/f-forest-fires.html	
1-16.7	Literature Citation	**Wildfire benefits Opposing View #7** - "Wildfires are a natural occurrence and serve important ecosystem functions. Forest landscapes are dynamic and change in response to variations in climate and to disturbances from natural sources, such as fires caused by lightning strikes. Many tree species have evolved to take advantage of fire, and periodic burns can contribute to overall forest health. Fires typically move through burning lower branches and clearing dead wood from the forest floor which kick-starts regeneration by providing ideal growing conditions. It also improves floor habitat for many species that prefer relatively open spaces." "Forest Fires" The Environmental Literacy Council, 2008 http://www.enviroliteracy.org/article.php/46.html	This article discusses how wildfires can benefit an ecosystem and reset the successional pathways in a forest. The cited text describes how wildfires are natural events and part of the renewal process of a forest. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.8	Literature Citation	**Wildfire benefits Opposing View #8** - "Animals, as well as plants, can benefit from fire. Some individual animals may be killed, especially by catastrophic fires, but populations and communities are rarely threatened. Many species are attracted to burned areas following fires — some even during or immediately after the fire. Species can be attracted by the newly available minerals or the reduced vegetation allowing them to see and catch prey. Others are attracted in the weeks to months (even a few years) following, to the new plant growth (including fresh and available seeds and berries), for insects and other prey, or for habitat (e.g., snags for woodpeckers and other cavity nesters). A few may be highly dependent on fire; the endangered Kirtland's warbler, for example, only nests under young jack pine that was regenerated by fire, because only fire-regenerated jack pine stands are dense enough to protect the nestlings from predators. In summary, many of the ecological benefits of wildfire that have become more widely recognized over the past 30 years are generally associated with light surface fires in frequent-fire ecosystems. This is clearly one of the justifications given for fuel treatments. Damage is likely to be greater from stand replacement fires, especially in frequent-fire ecosystems, but even crown fires produce benefits in some situations (e.g., for the jack pine regeneration needed for successful Kirtland's warbler nesting)." "Forest Fire/Wildfire Protection" Congressional Research Service Report for Congress, February 14, 2005 http://www.coloradofirecamp.com/congressional_research/forest-fire-	This excerpt is from a Congressional Research Service Report to Congress. The document talks about the many effects of wildfire. More specifically, the quoted text talks about the effects of wildfire on plants and animals. The Bald Project does not dispute this statement. This comment does not require a response. The effects of the Bald project on plants and animals will be analyzed in the EA.

		wildfire-effects.htm	
1-16.9	Literature Citation	**Wildfire benefits Opposing View #9** - "Natural forest disturbances, including fire, kill trees but remove very little of the total organic matter. Combustion rarely consumes more than 10 to 15 percent of the organic matter, even in stand-replacement fires, and often much less. Consequently, much of the forest remains in the form of live trees, standing dead trees, and logs on the ground. Also, many plants and animals typically survive such disturbances. This includes living trees, individually and in patches." "These surviving elements are biological legacies passed from the pre-disturbance ecosystem to the regenerating ecosystem that comes after. Biological legacies are crucial for ecological recovery. They may serve as lifeboats for many species, provide seed and other inocula, and enrich the structure of the regenerated forest. Large old trees, snags, and logs are critical wildlife habitat and, once removed, take a very long time to replace." Franklin, Jerry F. Ph.D. and James K. Agee Ph.D. "Forging a Science-Based National Forest Fire Policy." Issues in Science and Technology Fall 2003. http://inr.oregonstate.edu/download/forging_a_science_based_national_forest_fire_policy.pdf	This paper discusses the need for a comprehensive, science-based, National Forest fire policy and the various aspects that should be considered in developing this policy. This is outside the scope of the EA. The paper also states that remaining live trees, standing dead trees, and logs on the ground are biological legacies that will enrich the regenerated forest. Within the logged stands, snag and downed log retention is included in project design. These project design features have been developed to maximize longevity and utility, focusing on patches of large diameter snags interspersed with younger age classes, as preferred by many post-fire associated cavity-nesting species.
1-16.10	Literature Citation	**Wildfire benefits Opposing View #10** - "Research had documented that, in some situations, wildfires brought ecological benefits to the burned areas — aiding regeneration of native flora, improving the habitat of native fauna, and reducing infestations of pests and of exotic and invasive species." (pg 2) Gorte, Ross W. Ph.D. from a CRS report for Congress, January 18, 2006 http://www.ncseonline.org/nle/crsreports/06Feb/RL30755.pdf	This document is a congressional research service report to congress discussing forest fires and wildfire protection. The cited text occurs in a part of the document that describes the evolution of a federal fire policy. The Bald Project does not dispute this statement. This comment does not require a response. This part of the document discusses the benefits of fire to regeneration, wildlife habitat, and reducing the spread of noxious weeds. The effects of the Bald Project on these will be analyzed in the EA.
1-16.11	Literature Citation	**Wildfire benefits Opposing View #11** - "Ecologists and fire experts unanimously agree that fire has served an essential role in certain ecosystems for millennia. The ecological benefits of fire include: the creation of critical wildlife habitat in standing dead trees, increased nutrients and productivity in soil systems when burned material decomposes, improved conditions for surviving old growth trees when a surface fire moves through a system, and	This quotation summarizes the role and benefits of fire within certain ecosystems. The role and benefits of wildland fire on the landscape are not disputed. This comment does not require a response. The broader context of this document discusses

		the regeneration of some fire dependent trees like lodgepole pine (Pinus contorta). Fire also increases availability of other fundamental building blocks of ecosystems such as moisture and sunshine by opening up the canopy and returning nutrients to the soil. Natural fire cycles maintain the diversity of habitats available to all the species in the ecosystem, from wildlife to wildflowers to fungi." Gregory, Lisa Dale Ph.D. "Wildland Fire Use: An Essential Fire Management Tool" A Wilderness Society Policy and Science Brief December 2004 http://wilderness.org/Library/Documents/upload/ScienceBrief-WildlandFireUseEssentialTool.pdf	Wildland Fire Use as a management practice. Managed wildfire is not proposed in this project.
1-16.12	Literature Citation	**Wildfire benefits Opposing View #12** - "We do not need to be afraid of the effects of wildland fire in our forests. Fire is doing important and beneficial ecological work," said the report's author, Dr. Chad Hanson, a forest and fire ecologist and Director of the John Muir Project. "It may seem counterintuitive, but the scientific evidence is telling us that some of the very best and richest wildlife habitat in western U.S. forests occurs where fire kills most or all of the trees. These areas are relatively rare on the landscape, and the many wildlife species that depend upon the habitat created by high-intensity fire are threatened by fire suppression and post-fire logging." Hanson, Chad Ph.D. February 2, 2010 "New Report Debunks Myth of 'Catastrophic Wildfire' " http://johnmuirproject.org/documents/Myth%20of%20Catastrophic%20Wildfire%20Media%20Release.pdf	This document claims to debunk the myth of catastrophic wildfire. The cited text suggests that recently burned areas can be beneficial for wildlife and that postfire logging can threaten these species. The Bald Project recognizes the ecological benefits of snags and coarse wood for wildlife and would retain them to desired conditions outlined in response to comment 1-11.
1-16.13	Literature Citation	**Wildfire benefits Opposing View #13** - "As summer wildfire season begins in earnest throughout much of the West, it's important for the public and policymakers to recognize the important role that severely burned forests play in maintaining wildlife populations and healthy forests. Severely burned forests are neither "destroyed" nor "lifeless." From my perspective as an ecologist, I have become aware of one of nature's best-kept secrets - there are some plant and animal species that one is hard-pressed to see anywhere outside a severely burned forest." "An appreciation of the biological uniqueness of severely burned forests is important because if we value and want to maintain the full variety of organisms with which we share this Earth, we must begin to recognize the healthy nature of severely burned forests. We must also begin to recognize	This article explores the ecosystems of burned forests. The author goes on to discuss some of the plants and animals that can flourish in these ecosystems. The selected text encourages the reader to recognize that postfire logging can remove some of the biological legacies that snags provide in a postfire environment. The effects of the Bald project on plants and animals will be analyzed in the EA.

		that those are the very forests targeted for postfire logging activity. Unfortunately, postfire logging removes the very element - dense stands of dead trees - upon which many fire-dependent species depend for nest sites and food resources." Hutto, Richard L. Ph.D. "The Ecology of Severely Burned Forests" Counterpunch, July 19 / 20, 2008 http://www.counterpunch.org/hutto07192008.html	
1-16.14	Literature Citation	**Wildfire benefits Opposing View #14** - "Trees in a burned landscape, both dead and alive, continue to provide homes for wildlife after a fire and form the building blocks of new forests." Karr, James R. Ph.D., "Nature doesn't Benefit from Logging Fire-Damaged Lands". Op-Ed Tacoma News Tribune. December 8, 2005. http://www.docstoc.com/docs/122585663/Nature-doesn%EF%BF%BDt-benefit-from-logging-fire-damaged-lands	The link provided by Mr. Artley did not work.
1-16.15	Literature Citation	**Wildfire benefits Opposing View #15** - "For Pyne and many others who study wildfires, the conventional understanding of firefighting has led us to the misguided conclusion that this is a struggle we can win. In much of the West, fire is an ordinary part of the landscape, a feature as essential to many ecosystems as rivers and grasses. Periodic fires are nothing more than regular disturbances; it is us who have made them into disasters." Mark, Jason "Mission Impossible" Earth Island Journal, winter 2009 http://www.earthisland.org/journal/index.php/eij/article/mission_impossible/	This article discusses the merits of spending federal money to fight fires. It also discusses the effectiveness of firefighting efforts and questions whether fire suppression is the most efficient use of taxpayer dollars. The cited text indicates that fire is a normal part of the ecosystems in certain areas and that it provides periodic disturbance to the landscape. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.16	Literature Citation	**Wildfire benefits Opposing View #16** - "Fire releases nutrients and uncovers bare soil. The blackened, bare soil warms quickly, which stimulates soil microbial activity, nutrient cycling, and plant growth. In forests, fire opens up part of the canopy to sunlight, which allows sun-loving plant species to recolonize the site." "Following fires, plant communities go through successional changes. Many native wildlife species and popular game species, such as bobwhite quail, white-tailed deer, and wild turkey, are dependent on periodic fire to create and maintain suitable habitat. Surface fires can stimulate the growth of herbaceous foods for deer, elk, moose, and hares, and can enhance berry production for black bears and other wildlife. Small mammal populations	This document is a brochure developed by the NRCS to inform private landowners about the ecological importance of disturbances on the landscape. The Bald Project does not dispute the importance of disturbances in the landscape. This comment does not require a response.

		generally increase in response to new vegetation growth, providing a food source for carnivores. Fire can also reduce internal and external parasites on wildlife." (pg. 2) "natural disturbance such as fires, floods, and herbivory are critical in maintaining valuable ecosystem functions and creating and restoring wildlife habitat." (pg. 7) Marks, Raissa Fish and Wildlife Habitat Management Leaflet number 37 Published by the Natural Resources Conservation Service, USDA, April 2006 ftp://ftp-fc.sc.egov.usda.gov/NHQ/ecs/Wild/ImportofDisturbInHabMgt.pdf	
1-16.17	Literature Citation	**Wildfire benefits Opposing View #17** - "During recent decades, ecologists have learned that forest fires were a pervasive phenomenon in practically all forests of the world, even the rainforests. Humans have severely disrupted the natural pattern of fire across the landscape, especially during the last 100 years. Therefore, if forests are to be returned to their more 'natural' state, fire will have to be reintroduced." Martinez, Lori "Applications of Tree-Ring Dating" Laboratory of Tree-Ring Research at the University of Arizona February, 2000 http://www.ltrr.arizona.edu/lorim/apps.html	This document discusses dendrochronology, or tree ring dating, and how it can be applied to learn about disturbance and climate events of the past. The selected text discusses how fires were common, natural disturbance events in many forests of the world, and briefly, references fire suppression as having a negative effect on these natural fire regimes. The Forest Service does not dispute the need to reintroduce fire into landscape. Prescribed fire, including underburning is included in the Bald Project.
1-16.18	Literature Citation	**Wildfire benefits Opposing View #18** - "Contrary to what you may think, a forest fire does not reduce everything to a lifeless ash. Instead, it leaves behind a landscape of blackened trees interspersed with remnants of green, intact forest. Post-fire specialists such as wood-boring insects quickly colonize the dead trees (snags), attracting an array of woodpeckers." "Identifying the ecological value of a post-fire structure and the characteristics that make it attractive to wildlife is important." Nappi, Antoine Ph.D., Pierre Drapeau Ph.D., Jean-François Giroux Ph.D. and Jean-Pierre Savard Ph.D. "Snag use by foraging black-backed woodpeckers (Picoides articus) in a recently burned eastern boreal forest." The Auk 120(2): 505-511. 2003. http://www.borealcanada.ca/research_arc_hot_e.cfm	This document discusses the importance of snags to certain woodpecker species, such as the black-backed woodpecker. Black-backed woodpecker was taken into consideration during project design. The snag retention scheme of leaving 20% of treatments units unharvested, as well as no proposed treatment (natural recovery) on approximately 19,000 acres within the fire perimeter will serve to capture this concern across a large area of the Bald Fire. Analysis specific to the species will be addressed in the EA.
1-16.19	Literature Citation	**Wildfire benefits Opposing View #19** - "Trees that survive the fire for even a short period of time are critical as seed sources and as habitat that will	This document looks at the management of fire- prone forests and discusses a variety of management

		sustain many elements of biodiversity both above and below ground. The dead wood, including large snags and logs, is second only to live trees in overall ecological importance." Noss, Reed F. Ph.D., Jerry F. Franklin Ph.D., William Baker, Ph.D., Tania Schoennagel, Ph.D., and Peter B. Moyle, Ph.D. "Ecological Science Relevant to Management Policies for Fire-prone Forests of the Western United States" Society for Conservation Biology, February 24, 2006 http://www.nifc.gov/fuels/downloads/planning/EcologicalScience.pdf	practices prior to, during, and after wildfires. The cited text refers to the ecological importance of trees that survive a fire. The Bald Project recognizes the importance of these trees and only proposes to harvest dead and dying trees.
1-16.20	Literature Citation	**Wildfire benefits Opposing View #20** - "Disturbances, from windthrown trees to fires, are natural in forests and are essential for forest ecosystem well being. For example, fire is a disturbance in forests, but it is also beneficial. While disturbances kill some individuals, they also open up ecological living space for recolonization by many previously excluded species." "Without fire, natural succession is upset. In a forest where fire has been unnaturally suppressed for many years (50 or more), fire intolerant trees grow unchecked, suppressing and outcompeting the normally dominant fire resistant trees. Overall biodiversity is reduced. As the tree diversity declines, the habitat becomes unsuitable for a large portion of the forest species. Animal species are lost, since the animals use the fire tolerant variety of tree species for food, shelter and nest sites." Reice, Seth, Ph.D. from a press conference with Senator Robert Torricelli, April 28, 1998, http://www.saveamericasforests.org/news/ScientistsStatement.htm	This document is Dr. Reice statement in support of the Act to Save America's Forests. He highlights that disturbances such as fire are natural and can be good for the forest. The Bald Project does not dispute this statement. This comment does not require a response. Dr. Reice specifically speaks about how fire suppression can lead to a disturbance of natural succession. Fire suppression is outside the scope of the Bald Project;
1-16.21	Literature Citation	**Wildfire benefits Opposing View #21** - "As a rule of thumb, timber experts say that any particular chunk of ground in the forest should be touched by intense fire every 50 to 100 years. But the power of the fire is just the first step in forest regrowth. Weather patterns in the affected area over the nest year will play a big role in how the new forests develop. A summer of drought could kill the newly released seeds and short-circuit any new growth. That could give new species of trees a chance to grow in the area. Normal rains mixed with the nutrients left on the ground from the fire could be a great booster shot to getting the seeds off to a flying start. Other natural benefits can be seen from fires. For instance, the once-rare black-backed woodpecker is now a regular site in the BWCA with the	This article talks about the several different ways a forest can regenerate after a fire, depending on several factors such as weather. Specific ecological benefits regarding the black-backed woodpecker were identified in the selected text. The Bald Project does not dispute this statement. This comment does not require a response.

		abundance of dead trees from recent smaller fires and the 1999 wind blow down of trees. New shrubs and ground vegetation is appealing to different kinds of wildlife to snack on." "Rising from the ashes: Forest fires give way to new growth" Science Buzz, May 2007 (supported by the National Science Foundation) http://www.sciencebuzz.org/blog/rising_from_the_ashes_forest_fires_give_way_to_new_growth	
1-16.22	Literature Citation	**Wildfire benefits Opposing View #22** - "Rotting logs are a very common feature of wild ecosystems. Rotting logs recycles nutrients back into the soil and provides a healthy habitat for a wide range of insects, plants, and animals. Rotting log provides homes for small mammals, insects, worms, and spiders. The rich, organic soil provides a unique habitat for fungi, tree seedlings, wildflowers, mosses, and ferns." "Rotting Wood and how it affects the Environment" MamasHealth.com http://www.mamashealth.com/saveearth	This article is from a blog that briefly discusses the role of snags, their importance to woodpeckers, and the importance of rotting coarse woody debris. The selected text describes some of the roles that coarse woody debris can play, however this part of the document is describing rotting logs in the context of a garden. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.23	Literature Citation	**Wildfire benefits Opposing View #23** - "More and more woodlot owners are taking a broader view of their forests. They look for values other than the immediate return on wood harvested. These values include other forest products such as ground hemlock and mushrooms; carbon storage; water purification; leaving a legacy for their children; and healthy wildlife populations. Wildlife trees (dead or dying trees used for nesting, feeding, denning and roosting) go through several stages that can start with ants tunneling into the rotting centre to flycatchers perching on the bare branches. For cavity-nesting birds they are critical habitat. Some species excavate cavities for their nests, while others take over and enlarge existing holes. Many of these birds in turn help the forest, eating insects which can damage trees." Schneider, Gary"Dead trees (they're still full of life!)" 2008 Macphail Woods Ecological Forestry Project http://www.macphailwoods.org/wildlife/deadtrees.html	This document discusses various ways that owners of timbered lands may choose to manage their lands. The highlighted text points out some of the benefits of snags to wildlife. The Bald Project does not dispute this statement. This comment does not require a response.
1-16.24	Literature Citation	**Wildfire benefits Opposing View #24** - "Species that breed exclusively in the first 30 years after fire may be difficult to maintain in the ecosystem without fire. Fire exclusion and post-fire salvage of dead trees after fire may reduce	This document describes a variety of effects of fire on wildlife within a variety of historical fire regimes. The cited text is found on page 33 under the section describing stand replacing (lethal) fire regimes. The

		populations of these species over large geographic areas." Smith, Jane Kapler, ed. "Wildland Fire in Ecosystems: Effects of Fire on Fauna" USDA Forest Service Rocky Mountain Research Station. General Technical Report RMRS-GTR-42-volume 1. January 2000. http://nps.gov/fire/download/fir_eco_wildlandfireJan2000.pdf	Bald Project does not dispute these statements about the effects of fire. This comment does not require a response.
1-16.25	Literature Citation	**Wildfire benefits Opposing View #25** - "Ecological benefits of fire: •Promotes flowering of herbaceous species and fruit production of woody species. •Improves nutritional quality of plants for both wild and domestic animals. •Enhances nutrient cycling of some elements and elevates soil pH. •Maintains required habitat conditions for fire-adapted plant and animal species. •Results in a more heterogenous and diverse habitat--if natural fires are patchy--leaving pockets of unburned areas. •Prohibits wildfire conditions from developing (i.e., vast accumulation of highly-flammable, dead vegetation.)" Tanner, G.W. Ph.D., W.R. Marion Ph.D., and J.J. Mullahey Ph.D. "Understanding Fire: Nature's Land Management Tool" A Florida Cooperative Extension Service publication, July, 1991 http://edis.ifas.ufl.edu/UW124	This document is a brochure distributed by the Cooperative Extension Service at the University of Florida informing the public of the ecological benefits of fire in Florida ecosystems. While the ecosystems of the region are vastly different, the concept of fire as a natural disturbance and as part of the ecosystem is relevant, and not disputed in the Bald Project. This comment does not require a response.
1-16.26	Literature Citation	**Wildfire benefits Opposing View #26** - "In retrospect, it is amazing that forest managers did not realize that dead wood was a critical habitat component for vertebrate and invertebrate wildlife and for the forest itself." Thomas, Jack Ward Ph.D., US Forest Service Chief "Dead Wood: From Forester's Bane to Environmental Boon". Keynote address at the symposium on ecology and management of deadwood in western forests, Reno, Nevada. 1999. http://www.fs.fed.us/psw/publications/documents/gtr-181/003_Thomas.pdf	This document is a keynote address from retired Forest Service Chief Jack Ward Thomas. This document chronicles the ideas about down, dead woody material in the practice of forestry and the Forest Service. The selected text, when taken in context, refers to the common conception of down wood in the environment prior to 1970. The author then states that, "By the 1970s, researchers and forest managers were becoming increasingly aware of the role of dead wood in the ecology of the managed forest". The Bald Project does not dispute these statements. This comment does not require a response.

1-16.27	Literature Citation	**Wildfire benefits Opposing View #27** - “Wildfires have been a natural part of our environment since time began. Under the right circumstances these wildfires can be beneficial to an ecosystem.” “Wildfires consume vegetation that would otherwise become overgrown, creating ideal conditions for a catastrophic wildfire. Wildfires allow more open spaces for new and different kinds of vegetation to grow and receive sunlight. This, in turn, provides fresh nutrients and shelter for forest plants and animals. Wildfires also keep our forests healthy by consuming harmful insects and diseases.” Vernetti, Toni “Are You Wildfire Aware?” June 07, 2005 http://www.googobits.com/articles/p0-547-are-you-wildfire-aware.html	This document explores many aspects of forest fires and fire management. The cited text describes fire as being a part of the environment and discusses some of the benefits associated with fires, such as regulating the fire regime. The Bald Project does not dispute these statements. This comment does not require a response.
1-16.28	Literature Citation	**Wildfire benefits Opposing View #28** - "Fire is an essential, natural and necessary part of Western forest ecology. Many species of trees can only reproduce after fires occur. Wildland fires burn underbrush and return important nutrients to the soil." Voss, René, Ph.D. “Getting Burned by Logging,” July 2002 The Baltimore Chronicle http://www.baltimorechronicle.com/firelies_jul02.shtml	This is an opinion article encouraging people to support the National Forest Protection and Restoration Act. The quotation states the role fire plays in the ecology of Western forests. The contents of the selected text are not disputed. This comment does not require a response.
1-16.29	Literature Citation	**Wildfire benefits Opposing View #29** - “Wildfire is a natural part of most ecosystems across British Columbia. It helps to renew the forest, maintain the diversity of plant and animal life, and keep insects and disease in check. It opens up dense forest to allow the growth of shrubs and grasses, creating browse for deer, moose, elk and other animals. It releases nutrients locked in slowly decaying logs.” “Wildfire in British Columbia” BC Forest Facts, September 2003 http://www.llbc.leg.bc.ca/public/PubDocs/bcdocs/364421/wildfire_bc.pdf	This document is a brochure that discusses wildfire in British Columbia. It discusses how wildfires can be managed and discusses fires role in the environment. The selected text is taken from the introduction and summarizes the benefits of fire on the forest, plants, and animal life. The Bald Project does not dispute these statements. This comment does not require a response.
1-16.30	Literature Citation	**Wildfire benefits Opposing View #30** - “ "People are bombarded with the negative aspects of fire," Paragi said. "You hear terms like 'destroyed thousands of acres of forest,' and the thought of destruction gets embedded in the public mind. But fire is a natural part of the ecosystem and it is actually very important." “ “Fire opens up the forest canopy and allows sunlight to reach the ground, stimulating the organisms that decompose organic matter and make	This document was published as an educational document to inform the public that fire is not entirely negative, and to shine a light on the several positive aspects of wildland fire. The Bald Project does not dispute these statements. This comment does not require a response.

		nutrients available to plants. Fire burns off the insulating layer of moss and duff, allowing sunlight to further warm the soil. The ash can release nutrients back into the soil and change soil chemistry, promoting plants growth." Woodford, Riley "Regeneration Following Fire Creates Fertile Habitat for Wildlife" Alaska Fish and Wildlife News, August 2003 http://www.wildlife.alaska.gov/index.cfm?adfg=wildlife_news.view_article&issue_id=5&articles_id=60	
1-16.31	Literature Citation	**Wildfire benefits Opposing View #31** - "Healthy ecosystems burn, and often burn by the tens of millions of acres. The spate of large wildfires we are experiencing now are not "abnormal" or an indication of "unhealthy" forest. Rather, we are seeing the natural response of a healthy forest ecosystem. Given that wildfire was so common for thousands of years, it is not surprising that recent research shows that wildfires, particularly severe wildfires, increase biodiversity. If anything, we probably need more wildfire, not less. With global warming we will probably get it, as vegetative communities adapt to new climatic realities." Wuerthner, George. "Logging, thinning would not curtail wildfires" The Register - Guard (Eugene Ore.), December 26, 2008 http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html	This is an opinion article in response to a guest viewpoint presented in The Register-Guard, the daily newspaper for Eugene, Oregon. The guest viewpoint discusses wildfires and why a stronger agency role is needed in assisting communities to develop, implement, and monitor local efforts to reduce hazardous fuels on public and private land. The selected text states that fire is a natural part of many forested ecosystems and can increase biodiversity. It further goes on to suggest that wildfire is underrepresented on the landscape and will likely continue to increase with global warming. The Bald Project does not dispute these statements. This comment does not require a response.
1-17	Comment	**Opposing Views Attachment #14** - Dead and Dying Trees are Important to the Survival of many Natural Resources in the Forest and should not be Removed to Provide Opportunities for Corporate Profit or to Produce Private Industrial Tree-Farm Conditions	Comment noted
1-17.1	Literature Citation	**Dead Trees Opposing View #1** - "Intensified forest management, responding to the ever-increasing demand for forest products, will have a strong influence on the amount and distribution of woody material that remains as wildlife habitat through present and future stand rotations. Leaving the perpetuation of large down material to chance will probably result in its disappearance from the managed forests of the future, along with the loss of dependent plant and wildlife species." Bartels, Ronald, John D. Dell, Richard L. Knight Ph.D. and Gail Schaefer "Dead	This article is taken from the Region 6 web site and is part of the Animal Inn program that focuses on the value of dead, dying, and hollow trees for wildlife. Although this article specifically talks to forest conditions on the west side of the Cascade Mountains, the concepts presented are relevant to forests elsewhere. It has long been recognized that snags and downed logs

		and Down Woody Material" Animal Inn http://www.fs.fed.us/r6/nr/wildlife/animalinn/hab_8ddwm.htm	have values for wildlife. The Lassen Forest Plan includes direction for snag and downed-log retention. Project design features include an emphasis on retention of larger diameter snags in leave islands. The analysis for wildlife species that use snags and downed logs will also be incorporated into the analysis. The Bald Project MIS and Wildlife Specialist Reports will contain a discussion and analysis of snags and downed logs. The Bald Project is addressing dead wood through project design feature requirements to leave volumes of coarse woody debris (CWD) that are appropriate for the ecosystem and the burned landscape condition.
1-17.2	Literature Citation	**Dead Trees Opposing View #2** - "Wuerthner has long argued that dead trees are critical to a healthy forest ecosystem and don't necessarily need to be removed from a forest to lessen the danger of catastrophic wildfires." "Wuerthner said logging as a preventive measure might slow down the infestation, but research shows that anywhere from 50 to 80 percent of the trees need to be removed if conditions are ripe for a major attack. " "So you have to ask yourself, what's the point? That is the Vietnam approach to forestry — kill all the trees so you can 'save' them," Wuerthner wrote, adding that logging isn't benign and is expensive. "So you further have to ask whether the costs in terms of ecosystem impacts (the spread of weeds on logging roads for instance) are worth the presumed benefits." " Byron, Eve "Wuerthner to speak on forest ecology and value of dead trees" Published in the Helena Independent Record, November 17, 2009 http://www.helenair.com/news/local/article_7cac58d2-d339-11de-abfc-001cc4c002e0.html	This article (commentary) discusses that not all dead trees need to be cut to keep a forest healthy or increase the chance of wildfire. A key aspect of this article is dealing with beetle infestations and reducing the risk to beetles. The Bald Project would cut dead and/or imminently dead trees with crown scorch being the key determining factor. This project is not proposing to cut trees to reduce the threat of insect infestations.
1-17.3	Literature Citation	**Dead Trees Opposing View #3** - "When many of us think of a healthy forest, we think of tall, green trees. It's hard to imagine how a tree killed by mountain pine beetle could be good for a forest. However, to be truly healthy and support all the wildlife that depends on it, there must be a variety of young, old and dead trees in a forest ecosystem. At "endemic" or normal levels, mountain pine beetles help maintain this diversity by colonizing and killing old or damaged trees, therefore kick-starting the invaluable process of decomposition. Decomposing wood returns nutrients	This is an article on the Parks Canada website on mountain pine beetle and the role it plays in forest diversity. Within the proposed harvest area, snags will be left at desired conditions outlined in comment 1-11 response. See response to 1-17.1.

		to the system while providing shelter and food for many plants and animals. Standing dead trees host a diversity of organisms that would not be present without them." "Dead Trees are Good Homes" Parks Canada, 2009 http://www.pc.gc.ca/eng/docs/v-g/dpp-mpb/sec1/dpp-mpb1b.aspx	
1-17.4	Literature Citation	**Dead Trees Opposing View #4** - "Things are not always what they seem. At first glance a dead or dying tree seems like a tragic loss of a valuable resource. But on further inspection it becomes clear that a dead tree is simply a part of nature. And as a part of nature it serves an important purpose that isn't always obvious to us. Dead trees and dead parts of trees are critically important to birds and mammals for nesting, rearing of young, feeding and as shelter. With a little forethought and tolerance we can maintain our organized, structured lifestyle and at the same time provide wildlife the habitat it needs to survive. In the long run, we'll be the better for it." Kreil, Randy "Bare Trees" North Dakota Outdoors, March 1994 http://www.und.nodak.edu/org/ndwild/oldtree.html	This educational article from North Dakota's nongame program discusses the benefits of dead trees in the landscape – both urban and rural. The Lassen National Forest agrees that dead trees are an important part of the landscape. See response to 1-17.1.
1-17.5	Literature Citation	**Dead Trees Opposing View #5** - "The forest floor is a living, breathing factory of life and death. The out-reaching roots of a great tree search out from that chemical stew we call soil not only moisture but those elements it needs while its solar panels, or leaves, exchange carbon dioxide and oxygen. Years later, when this aged giant completes its cycle and falls, crashing to earth, those very organisms and creatures which sustained it in life will gradually disassemble its biomass, returning to the soil those molecules which the next generation of seedlings, already sprouting, require for sustenance." "Forest biologists such as Herbert Kronzucker, Ph.D., point out that dead and dying trees sustain the coming generations, are not a hazard, and are essential to the health of the forest." Alaskan fire management official John LeClair has noted that dead trees left standing, rather than increasing the hazard of fires, burned more slowly, retarding the conflagration in contrast to the "explosive inferno" when a live tree full of inflammable resins caught fire." Miller, Edward W. "Savage or Salvage Logging?" The Coastal Post -	This starts as commentary against salvage logging non-native species in Marin County CA. The commentary then goes to the quotes shown – dead trees provide many things to continue life. The Lassen National Forest agrees that dead trees are an important part of the landscape. See response to 1-17.1.

		September, 1998 http://www.coastalpost.com/98/9/13.htm	
1-17.6	Literature Citation	**Dead Trees Opposing View #6** - "Dead and down woody materials have long been viewed by foresters as unsalvaged mortality, the utilization of which is an important objective of good timber management. This material is also viewed as a fire hazard, and steps are frequently taken to reduce the amount of flashy fuels from timber harvest areas. Woody materials are also recognized as home for small vertebrate animals that are considered "pests" which impede reforestation. These are all valid considerations, but dead and down woody material in various stages of decay serves many important functions, one of which is habitat for wildlife. Instead of viewing logs left in a forest as unsalvaged mortality or a fire hazard, this chapter examines their role as wildlife habitat. Elton (1966, p. 279) put it this way: When one walks through the rather dull and tidy woodlands--say in the managed portions of the New Forest in Hampshire [England]-that result from modern forestry practices, it is difficult to believe that dying and dead wood provides one of the two or three greatest resources for animal species in a natural forest, and that if fallen timber and slightly decayed trees are removed the whole system is gravely impoverished of perhaps more than a fifth of its fauna." Maser, Chris Ralph G. Anderson, Kermit Cromack, Jr. Ph.D. Jerry T. Williams and Robert E. Martin, Ph.D. "Dead and Down Woody Material" From Wildlife Habitats in Managed Forests the Blue Mountains of Oregon and Washington http://www.fs.fed.us/r6/nr/wildlife/animalinn/hab_6ddwm.htm	It has long been recognized that snags and downed logs have values for wildlife. The Lassen Forest Plan includes direction for snag and downed-log retention. Project design features include an emphasis on retention of larger diameter snags in clusters. The analysis for wildlife species that use snags and downed logs will also be incorporated into the analysis. The Bald Project MIS and Wildlife Specialist Reports will contain a discussion and analysis of snags and downed logs. The Bald Project is addressing dead wood through project design feature requirements to leave volumes of coarse woody debris (CWD) that are appropriate for the ecosystem and the burned landscape condition.
1-17.7	Literature Citation	**Dead Trees Opposing View #7** - "Cavity trees are dead or dying trees that contain one or more holes or cavities that could be used by wildlife for a variety of purposes — nesting and raising young, denning, roosting, resting, feeding, caching food, escaping predators and hibernating." "The majority of wildlife species that use cavities cannot excavate their own holes and rely on those created by primary cavity users or on holes that form naturally. This group is called secondary cavity users. The kestrel, some owls such as the saw-whet and barred owls, ducks such as the common goldeneye and wood duck, and songbirds like the eastern bluebird, great-crested flycatcher and white-breasted nuthatch are all secondary cavity users. Many mammals are in this category too. These include deer mice, red squirrels,	This article talks about the uses of cavity trees and their abundance now and into the future. See response to 1-17.1.

		grey squirrels, flying squirrels, weasels, martens, fishers, raccoons, porcupines and black bears." Naylor, Brian, Ph.D. "Cavity Trees – Nature's Refuge" The Ontario Woodlot Association Newsletter, Winter / Spring 2006, Vol. 42 http://www.ontariowoodlot.com/pages_pdf_new/cavitytree_S&W.pdf	
1-17.8	Literature Citation	**Dead Trees Opposing View #8** - "Dead wood and dead trees provide essential habitat for a wide variety of native animals and are important to the functioning of many ecosystems. The removal of dead wood can have a range of environmental consequences, including the loss of habitat (as they often contain hollows used for shelter by animals), disruption of ecosystem process and soil erosion." "Removal of dead old trees (either standing or on the ground) results in the loss of important habitat such as hollows and decaying wood (Gibbons & Lindenmayer 2002) for a wide variety of vertebrates, invertebrates and microbial species and may adversely affect the following threatened species: Broad-headed Snake, Orange-bellied Parrot, Regent Parrot (eastern subspecies), Five-clawed Worm-skink, Nurus atlas, Nurus brevis, Meridolum corneovirens, Pale-headed Snake, Stephens' Banded Snake, Rosenberg's Goanna, Pink Cockatoo, Red-tailed Black-cockatoo, Glossy Black-cockatoo, Turquoise Parrot, Scarlet-chested Parrot, Barking Owl, Superb Parrot, Masked Owl, Hoary Wattled Bat, Spotted-tailed Quoll, Eastern False Pipistrelle, Eastern Freetail-bat, Squirrel Glider, Brush-tailed Phascogale, Glandular Frog, Red-crowned Toadlet, Brown Treecreeper (eastern subspecies)." "Removal of dead wood and dead trees was listed as a KEY THREATENING PROCESS" Schedule 3 of the Threatened Species Conservation Act 1995 [12 December 2003]. http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/threat_profile.aspx?id=20011	The first quote in the NSW Scientific Committee final determination cannot be found. The second quote is present. This is from Australia and addresses their concerns. None of the species listed in this comment occur in the project area. The Lassen National Forest recognizes the value of dead wood and dead trees to wildlife and recommended to retain over half of the snags created in the Bald Fire.
1-17.9	Literature Citation	**Dead Trees Opposing View #9** - "Birds are the most obvious benefactors of dead trees. They use snags, limbs, and logs for perching, foraging, and nesting. In some forests, 30 to 45 percent of the bird species are cavity nesters. In North America alone, 55 avian species nest in cavities. Cavity-nesting birds are classified as primary excavators (who can excavate hard wood), weak excavators (who can excavate soft, dead wood), or secondary cavity-users (who can utilize existing cavities). In Ohio, eastern bluebirds, American kestrels, and wood ducks are examples of species that rely on	This paper focuses on the benefits of snags and down woody material. The Lassen National Forest agrees that dead trees are an important part of the landscape. See response to 1-17.1.

		cavities in dead wood for successful reproduction. Other birds, such as ruffed grouse, will use logs for drumming and courtship displays. However, birds are not the only creatures that benefit from dead wood. Mammals, amphibians, reptiles, and invertebrates seek refuge in natural cavities and dens. For example, salamanders rely on the security and dampness of soil found beneath a rotting log. Small mammals find cover and relief from the hot midday sun in dead limbs and downed wood, while spiders, beetles, worms, and microbes move and feed within the decaying matter. Additionally, fungi and mushrooms flourish on and around logs, breaking down the organic matter to release important nutrients back into the forest ecosystem. Logs provide other important ecological functions as well. Decaying logs retain moisture and nutrients that aid in new plant growth. Young trees may sprout from a single downed limb known as a nurse log. The soft wood tissue of a nurse log offers an ideal substrate for many young trees during their initial growth and development. Logs also store energy and fix nitrogen. Furthermore, dead wood serves as a ground cover, lessening soil erosion and preventing animals such as deer from over-browsing plant seedlings." Santiago, Melissa J. and Amanda D. Rodewald, Ph.D. "Dead Trees as Resources for Forest Wildlife" Ohio State University Extension Fact Sheet http://ohioline.osu.edu/w-fact/0018.html	
1-17.10	Literature Citation	**Dead Trees Opposing View #10** - "Wildlife trees (dead or dying trees used for nesting, feeding, denning and roosting) go through several stages that can start with ants tunneling into the rotting centre to flycatchers perching on the bare branches. For cavity-nesting birds they are critical habitat. Some species excavate cavities for their nests, while others take over and enlarge existing holes. Many of these birds in turn help the forest, eating insects which can damage trees." Schneider, Gary, "Dead Trees (they're still full of life)" The Macphail Woods Ecological Forestry Project, December 2008 http://www.macphailwoods.org/wildlife/deadtrees.html	This paper focuses on the benefits of snags and down woody debris. The Lassen National Forest agrees that dead trees are an important part of the landscape. See response to 1-17.1.
1-17.11	Literature Citation	**Dead Trees Opposing View #11** - "Twenty years after publication of a report on wildlife habitat in managed east-side forests, Pacific Northwest Research Station scientists Evelyn Bull, Catherine Parks, and Torolf Torgersen, are updating that report and discovering that the current direction for providing	This article points out that over time; more is discovered about the value of snags and down woody debris over the landscape for a wide variety of animals, birds, fungi, and insects.

		wildlife habitat on public forest lands does not reflect findings from research since 1979. More snags and dead wood structures are required for foraging, denning, nesting, and roosting than previously thought. In this issue of Science Findings, Bull, Parks, and Torgersen, share their latest findings, which include the fact that snags and logs are colonized by organisms representing a broader array of plants, invertebrates, and vertebrates than was previously recognized." Science Findings, issue twenty, November 1999 Pacific Northwest Research Station USDA Forest Service http://www.fs.fed.us/pnw/sciencef/scifi20.pdf	The Lassen National Forest agrees that dead trees and down woody debris are an important part of the landscape. See response to 1-17.1.
1-18	Comment	**Opposing Views Attachment #15** - Forest Service Leaders Stress that Independent, Unbiased Science Conclusions should Always form the Basis for Proposed Public Land Treatments	
1-18.1	Literature Citation	**USFS leader statement on best science #1** - "The agency has been able to face changing and challenging times and incorporate new information based on science." "I am very much involved in trying to integrate the science and the management sides of the Forest Service. It's very, very important that we conduct that integration, because our management decisions are scientifically based, and there is an ever increasing need for more scientific information." Excerpts from an interview with Hilda Diaz-Soltero Associate Chief for Natural Resources, USDA Forest Service Women in Natural Resources, Vol. 21, No. 3 August 2000 http://www.fs.fed.us/publications/2000/00nov02-Hilda-Diaz-Soltero-Interview.pdf	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. Below is the quoted sentence in context: *"I work with forest inventories, like the Forest Inventory and Assessment, or the Natural Resources Inventory System**. I am very much involved in trying to integrate the science and the management sides of the Forest Service. It is very, very important that we conduct that integration, because our management decisions are scientifically based, and there is an ever-increasing need for more scientific information.** Additionally, I get involved in selecting, mentoring, and training the next generation of leaders. It's succession planning."*
1-18.2	Literature Citation	**USFS leader statement on best science #2** - "Forest Service managers strive to use the best science available in their decision making." Dr. Ann Bartuska, Deputy Chief for Research and Development, USDA Forest Service Excerpt from testimony before the House Resources Forest and Forest Health	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. By itself, the quoted sentence cannot be interpreted

		Subcommittee July 15, 2004 http://www.fs.fed.us/congress/108/house/oversight/bartuska/071504.html	accurately. Below is the quoted sentence in context: *"Mr. Chairman, post-catastrophic forest restoration is a complex process which begins almost immediately following a destructive event. Forest Service research works with managers to develop tools and information that these managers need to do their jobs better.* ***Forest Service managers strive to use the best science available in their decision making.*** *We realize there are questions still to be answered about the effects of our restoration activities, and we are working to find these answers. We also know that we would not be responsible stewards if we waited to satisfy all uncertainties before proceeding with our work."*
1-18.3	Literature Citation	**USFS leader statement on best science #3** - "We are committed to accomplishing the aggressive treatments planned in the President's Budget for FY 2005 using new authorities in the Healthy Forests Restoration Act that improve the condition class of the nation's watersheds and thus protect communities and resources for future generations, and our Research Station directors are committed to providing the Forest Service with the best science available." Dale Bosworth Chief, USDA Forest Service Excerpt from a statement before the Committee on Energy and Natural Resources United States Senate March 3, 2004 http://www.pirate4x4.com/forum/land-use-issues/232684-statement-dale-n-bosworth-chief-usda-forest-service.html	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. Below is the quoted sentence in context: "We must also realize that it is not only the hazardous fuel reduction program that will improve overall forest and rangeland health. The integrated approach of multiple management activities in the agency's wildlife, grazing, vegetative management, and timber programs will improve the condition of the land, or in the Forest Service vernacular 'improve condition class.' This emphasis encompasses one of the 'four threats' I refer to in managing this agency. We are committed to accomplishing the aggressive treatments planned in the President's Budget for FY 2005 using new authorities in the Healthy Forests Restoration Act that improve the condition class of the nation's watersheds and thus protect communities and resources for future generations – and our Research Station directors are committed to providing the Forest Service with the best science available."

1-18.4	Literature Citation	**USFS leader statement on best science #4** - "Our direction will address these emerging issues to ensure it is based on the available best science." Sally Collins Associate Chief USDA Forest Service Excerpt from testimony before the Committee on Energy and Natural Resources, United States Senate July 11, 2006 http://www.fs.fed.us/congress/109/senate/oversight/collins/071106.html	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. By itself, the quoted sentence cannot be interpreted accurately. The following is a quote pertaining to use of best available science in the speech cited: *"Our guidance also differs from the BLM due to continuing advances in wind energy technology, as well as new information on its affects on wildlife and civilian and military radar.* ***Our direction will address these emerging issues to ensure it is based on the available best science****. The Forest Service expects to publish the wind energy policy and handbook direction in the Federal Register this fall. The policy will call for the evaluation of wind energy proposals to be done at the Forest level using public comment processes due to the differing landscapes, habitats, wildlife populations, and public concerns unique to each site."* The impacts of wind energy are outside of the scope of the Bald Project. No wind energy technology activities are proposed with this project.
1-18.5	Literature Citation	**USFS leader statement on best science #5** - "The American people have come to expect us to use the best science, and we ought to use the best science." (pg.4) Dale N. Bosworth Chief USDA Forest Service Excerpt from a speech on Sustainable Management of the National Forests, at the Andrus Center for Public Policy, Boise State University December 12, 2001 http://www.andruscenter.org/images/transcripts/Sustainable_transcript.pdf	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. By itself, the quoted sentence cannot be interpreted accurately. The following is a quote pertaining to use of best available science in the speech cited: *"The system is broken. Analysis paralysis means really that we can't manage the land in the ways that the* ***American people have come to expect. They expect us to use the best science, and we ought to use the best science.*** *But we're required to incorporate into the process every bit of new information that comes along.*

			If the folks on the forest have been working away, and they are finally getting close to making a decision, some new information becomes available. They're back to the drawing board to incorporate that new information. During the time that they're incorporating that new information, another bit of new information comes in. Now they have to go back to the drawing board again and consider that new information. You can get yourself into just a vicious circle and end up never making a decision that you can sustain. People expect us to make timely decisions, and they expect us to act on them. They expect us to take care of the land while we're doing it, but we'll have to make some changes in the process."
1-18.6	Literature Citation	**USFS leader statement on best science #6** - "Always use the best science. Science can't decide for us, but it can help us understand the consequences of our decisions. Forest Service Research and others in academia can deliver some of the best science and technical resources to help inform how these special areas should be managed for the long term." Sally Collins Associate Chief USDA Forest Service Excerpt from a speech to the Land Trust Alliance Rally "Protecting Open Spaces: Partners in a Common Cause" October 31, 2004 http://www.fs.fed.us/news/2004/speeches/10/open-spaces.shtml	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the speech cited: **"***Third***, always use the best science. Science can't decide for us, but it can help us understand the consequences of our decisions. Forest Service Research and others in academia can deliver some of the best science and technical resources to help inform how these special areas should be managed for the long term***."**
1-18.7	Literature Citation	**USFS leader statement on best science #7** - "The new rule directs forest managers to use the best science available to protect species at a landscape level. The emphasis is to preserve ecosystems as a whole." Statement by Heidi Valetkevitch National Media Officer USDA Forest Service to Joe Bauman, reporter for the Deseret Morning News December 24, 2004 http://www.deseretnews.com/article/600100084/New-forest-rules-focus-on-holistic-approach.html	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statement cited: *"**The new rule directs forest managers to use the best***

			***science available to protect species at a landscape level," she said. The emphasis is to preserve ecosystems as a whole**.* *The present rule requires attention on a species level, she said, while the new approach will be "much more holistic," examining the forest "from a landscape level."*
1-18.8	Literature Citation	**USFS leader statement on best science #8** - On June 29, 2007, Chief of the Forest Service, Gail Kimbell expressed her support of employees participating in professional societies. The following is an excerpt from her support letter: "As stewards of forests and rangelands, we must respond to the many challenges of managing a wide variety of resources and values. To meet these various challenges, a diverse and highly qualified cadre of natural resource and other professionals is critical to assure that management approaches are based on the best science. More than ever, it is important for each of us to continue to learn, enhance our resource knowledge, and develop innovative approaches to cooperatively conserve this Nation's natural resources." (pg. 5) Brown, Joel "Power to the People!" SRM Rangeland News, November 2007 http://www.rangelands.org/RN/Nov.RN07.pdf	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statement cited: *On June 29, 2007, Chief of the Forest Service, Gail Kimbell expressed her support of employees participating in professional societies. In her letter she states: "**As stewards of forests and rangelands, we must respond to the many challenges of managing a wide variety of resources and values. To meet these various challenges, a diverse and highly qualified cadre of natural resource and other professionals is critical to assure that management approaches are based on the best science. More than ever, it is important for each of us to continue to learn, enhance our resource knowledge, and develop innovative approaches to cooperatively conserve this Nation's natural resources."***
1-18.9	Literature Citation	**USFS leader statement on best science #9** - "The Forest Service must be a leader in using the best science and the best managers to accomplish what I think is one of the noblest, most important callings of our generation bringing people together and helping them find ways to live within the limits of the land." (Pg. 30) Statement by Chief Dr. Mike Dombeck "Forest Chief Shifts focus to clean water" April 1998 TRANSITIONS	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statement cited:

		http://www.waterplanet.ws/transitions/tr9804/	*Our jobs are not easy jobs, but conservation has moved from a 'special interest' to a national priority.* ***The Forest Service must be a leader in using the best science and the best managers to accomplish "what I think is one of the noblest, most important callings of our generation bringing people together and helping them find ways to live within the limits of the land.*** *That also is a marked shift for an agency more known for an attitude of limitless resource production from national forests.*
1-18.10	Literature Citation	**USFS leader statement on best science #10** - "We have made great progress under New Perspectives to get land managers and scientists working together as a team in doing the best job possible. Let's keep it up and make sure our decisions reflect the best science and close the gap between the level of scientific knowledge and its application in our day-to-day management." Chief F. Dale Robertson From FIVE YEAFt REVIEW - B-3 # # http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_053856.pdf	This links to a 1993 document from the Lolo National Forest pertaining to a Five-year review of their forest plan. It is not relevant to the Bald Fire.
1-18.11	Literature Citation	**USFS leader statement on best science #11** - "In 1994 Chief Jack Ward Thomas of the U.S. Forest Service invited private foundations to join the USFS and other federal resource management agencies in co-funding a national workshop designed to bring the best science, broadly defined, to an 11-day workshop of agency natural resource managers.1 Having a science background himself, Thomas wanted to capture the scientific underpinnings of ecosystem dynamics in order to establish a more solid basis for sustainable resource management. Private foundations, invited for the first time to join the Forest Service in this way, would, Thomas felt, add legitimacy and assist in bringing in scientific talent from outside the government." Smith, Ted "Chief's Ecosystem Stewardship Conference Workshop Review" Eco-Watch, February 26, 1996 http://www.fs.fed.us/eco/eco-watch/ew960226.htm	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statement cited: ***In 1994, Chief Jack Ward Thomas of the U.S. Forest Service invited private foundations to join the USFS and other federal resource management agencies in co- funding a national workshop designed to bring the best science, broadly defined, to an 11-day workshop of agency natural resource managers. Having a science background himself, Thomas wanted to capture the scientific underpinnings of ecosystem dynamics in order to establish a more solid basis for sustainable resource management. Private foundations, invited for the first time to join the Forest Service in this way, would, Thomas felt, add legitimacy***

			and assist in bringing in scientific talent from outside the government. *The 11 days allocated to the Workshop, unusual by most standards, accommodated a vast range of scientific information—biological and socio-economic— which bears on resource management. But it also meant that scientists and resource managers would convene every afternoon in break-out sessions to wrestle with the "how to" issues. Chief Thomas committed himself to being present for two full weeks. He came. He stayed. And he (wisely) did not seek to conquer.* *When resource managers and scientists are thrown together, it appears that the managers work hardest in trying to understand the relevance of available science to their mandated responsibilities. Scientists, normally rewarded for producing good science, do not work quite so hard to understand what level of science the managers must command in order to do their jobs. The incentives are unequal—and this showed up in the plenary sessions where several of the scientists spoke to what they knew—not to what their audience needed to know.*
1-18.12	Literature Citation	**USFS leader statement on best science #12** - "Our challenge is to protect all the different uses of our forests which well-kept roads undoubtedly serve while protecting these remaining untouched places. This is a long and delicate process. It will not happen overnight. We must rely on the best science and broad-based public participation. But in the interim, I am prepared to authorize an 18-month moratorium on the construction of new roads in the last pristine areas of our national forests." Agriculture Secretary Dan Glickman From an Announcement of Interim Ban on Forest Road Construction Washington, D.C., February 11, 1999 http://www.ibiblio.org/london/permaculture/permaculture-list-archives-1999-2002/msg04621.html	This excerpt is from a speech in reference to an 18-month moratorium on forest road construction in certain unroaded areas that went into effect so the Forest Service could revise its national road management policy. The moratorium ended in 2000 and a new management policy was adopted in 2001. The Bald Project does not propose construction of roads into roadless areas. The analyses completed in the specialist reports take into consideration, and make conclusions based on, research, science, reports, models, monitoring and site-specific information as it was available, in conjunction with scientific recommendations regarding the management of, and effects of, the project activities on

			the relevant resource. The Bald Project documents a full environmental review informed by science.
1-18.13	Literature Citation	**USFS leader statement on best science #13** - "We have some of the best science, and we need to make sure we're applying that, using that and sharing that as we move forward. I think we have a key leadership role, not only in the application of science but to help inform and educate our community and the folks we work with." Statement by USFS Chief Tom Tidwell From an interview with Rob Chaney of the Missoulian, June 19, 2009 http://westinstenv.org/sosf/2009/06/19/tidwell-interviewed-by-the-missoulian/	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statement cited: ***Chief Tidwell**: I'm going to have a transition with Chief (Gail) Kimball [sic, Missoulian error]. The thing we see as our focus is implementing the economic recovery projects, the opportunity we had there to not only get a lot of essential work done but to provide jobs, especially in counties across the country where there's high unemployment. We continue to move forward with our focus on climate change, to use the science that we have and apply that science so that natural systems are able to adapt to the various stressors that are occurring in the changing climate.* ***Tidwell**: We do have a leadership role. Part of it comes from the extensive research that our research-and-development branch of the agency has been doing for the last few decades. **We have some of the best science, and we need to make sure we're applying that, using that and sharing that as we move forward. I think we have a key leadership role, not only in the application of science but to help inform and educate our community and the folks we work,** so they can understand the changes that are occurring, how it's affecting the landscape and help us find solutions about how we need to change our management so these natural systems are able to adapt to various climate change stressors.*
1-18.14	Literature	**USFS leader statement on best science #14** - "Since that time, they have consulted with a wide array of scientists in the Forest Service, other agencies,	In the Decision Document for this project, the Responsible Official will document how the best

	Citation	universities, and consultants, with the aim of arriving at a consensus on the best science available to address this issue." Potyondy, John P. 2007 "The Evolution of Channel Maintenance Science in the Forest Service" Mr. Potyondy is the WO Watershed, Fish, Wildlife, Air, and Rare Plants Staff http://www.stream.fs.fed.us/afsc/pdfs/Potyondy.pdf	available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the document cited: *The USDA Forest Service Stream Systems Technology Center was established in 1992, in part, to improve the scientific understanding of channel maintenance flows.* ***Since that time, they have consulted with a wide array of scientists in the Forest Service, other agencies, universities, and consultants, with the aim of arriving at a consensus on the best science available to address this issue****.* *Two specific areas need further research with respect to current channel maintenance science: First, much remains to be learned about sediment transport science in coarse- grained gravel bed channels typically found in the mountainous watersheds of the national forests; Second, much remains to be learned about streamside vegetation and species specific linkages between streamside vegetation and streamflows in mountain streams. As work in these areas continues, we can be certain that the science of channel maintenance will once again evolve in response to this new knowledge and the approach employed today may again need to be refined to reflect the new science.*
1-18.15	Literature Citation	**USFS leader statement on best science #15** - "The FS manages the National Forest System's natural resources with a commitment to long term ecosystem sustainability, multiple use, local community involvement and economic stability, interaction of social and cultural values with forest resource management, and the use of management practices based on the best science available." Melle, Ann R. "The U.S. Forest Service Approach to Forest Law Enforcement" A presentation to the East Asia Ministerial Conference, September 12, 2001 Ms. Melle is the Asst. Director of Law Enforcement and Investigations, USDS Forest Service http://www.for.gov.bc.ca/hfd/library/documents/bib49682.pdf	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the presentation cited: *The National Forest System consists of around 195 different administrative units totaling over seventy seven million hectares of land spread throughout the United States and its territories. These units represent a tremendous variety of ecosystems from the tropical*

			forests of Puerto Rico to the mangroves of Florida to the high elevation boreal and bristlecone pine forests of our mountain west and Alaska. *Many hundreds of types of forest products are harvested every year from Forest Service lands for personal and commercial use, including foods and flavorings, medicinal herbs and pharmaceuticals, decoratives, floral greenery and dyes, specialty wood items, landscaping plants, fuelwood, wood pulp and sawtimber products and by-products. The public demand for forest products changes rapidly, reflecting changes in the market place, shifts in technology, consumerism and social climate, new ways forest resources are valued, and shifts in the economy.* ***The Forest Service manages the National Forest System's natural resources with a commitment to long term ecosystem sustainability, multiple use, local community involvement and economic stability, interaction of social and cultural values with forest resource management, and the use of management practices based on the best science available.*** *This paper will focus on the management of sawtimber products; however, we apply similar concepts and programs to other forest resources.*
1-18.16	Literature Citation	**USFS leader statement on best science #16** - " "The responsible policy maker ought to seek out the best science, because ultimately that will yield the best result.". " "To put things in perspective, Dombeck says, "Science should not be the only driver of policy; there are economic, social and political concerns, but ... scientists can provide information that informs policymaking; 'If we adopt this policy, this will be the outcome,' and that certainly does not appear to be happening." " Statements by retired Chief Dr. Mike Dombeck "Politics vs. Science," October 19, 2006 Published by the University of Wisconsin, Board of Regents. http://whyfiles.org/247sci_politics/index.php?g=5.txt	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the statements cited: *We asked Michael Dombeck, former head of the U.S. Forest Service, why government should fund research when the results might not accord with its political interests. "That is the head-in-the-sand approach," says Dombeck, now a professor of global environmental management at University of Wisconsin-Stevens Point. "Not wanting to hear it doesn't mean it's not true, or*

			that it doesn't represent the best science of the day. ***The responsible policy maker ought to seek out the best science, because ultimately that will yield the best result.****"* ***"To put things in perspective, Dombeck says", Science should not be the only driver of policy; there are economic, social and political concerns, but ... scientists can provide information that informs policymaking; 'If we adopt this policy, this will be the outcome,' and that certainly does not appear to be happening."*** *"We can't leave the mishmash of political science without enjoying one irony: The U.S. government remains the world's biggest funder of science -- which is even probably true of climate science. As Greenberg says, "Most science goes on untouched. The scientists are given the money, and do their work without any political interference."*
1-18.17	Literature Citation	**USFS leader statement on best science #17** - "Carefully done science can provide common ground for agreement among different stakeholders, enabling communities to unify." "The best science available tells us that at some point we must reinstall this missing ecosystem process so the natural machinery functions properly again." (pg. 9) Kaufmann, Merrill R. 2005 "Good Fire,Bad Fire" Mr. Kaufmann is the Rocky Mountain Research Station's team leader for ecosystem management Fort Collins, CO, USDA Forest Service http://csfs.colostate.edu/pdfs/Good_Fire_Bad_Fire.pdf	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the document cited: *Science and history tell us that much of the western landscape we grew up knowing and loving is an artifact of human management from the late 19th century. With fire removed from ecosystem processes, and nothing to limit shrub invasions in prairies or millions of seedlings in forests, our landscape has become unnatural and unsustainable.* *When fire strikes now, it's a different problem because the land has been too long without. The first step in redressing this situation may be the most difficult—that of changing our collective perception of what a healthy and sustainable forest or prairie looks like. We have to*

			learn to understand what we see, for we have grown up accepting our experience, believing the forests we see today are natural. To deliberately alter them seems contrary to the very ethic of good environmental stewardship. However, good stewardship, and good ecology, often means realizing that many of today's forests are not natural at all. Here the scientific community can help. ***Carefully done science can provide common ground for agreement among different stakeholders, enabling communities to unify.*** *As a general rule, no. In many cases, our forests, due to our tinkering, have become too vulnerable to runaway crown fires. Even the most carefully planned "controlled" burns may constitute unacceptable risk to the many people who live in or near the forest, at the wildland-urban interface.* ***The best science available tells us that at some point we must reinstall this missing ecosystem process so the natural machinery functions properly again.*** *We have to do it cautiously until our forests are restored to a more natural condition, and we may need treatments other than fire to reduce the risks of reintroducing fire. In many other places, such as some prairies and shrublands, it is only our perception of the role of fire that we must overcome to restore normal ecosystem processes. Fire can threaten ranch structures, but lack of fire can be a greater threat to long-term ranching livelihood.*
1-18.18	Literature Citation	**USFS leader statement on best science #18** - "The general objective of this Symposium was to build on the best science and technology available to assure that the data and information produced in future inventory and monitoring programs are comparable, quality assured, available, and adequate for their intended purposes, thereby providing a reliable framework for characterization, assessment, and management of forest ecosystems in North America." Bravo, Aguirre Celedonio and Carlos Rodriguez Franco, compilers 1999. North American Science Symposium: Toward a Unified Framework for Inventorying and Monitoring Forest Ecosystem Resources. Guadalajara, Mexico (November	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the testimony cited: ***The general objective of this Symposium was to build on the best science and technology available to assure that the data and information produced in future inventory and monitoring programs are comparable,***

		2-6,1998). Proceedings RMRS-P-12. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station http://cwt33.ecology.uga.edu/publications/pubs_martha_new_01282003/Batch_2_@300dpi/PDF/1389.pdf	***quality assured, available, and adequate for their intended purposes, thereby providing a reliable framework for characterization, assessment, and management of forest ecosystems in North America.*** *Central to the syntheses delivered in this Symposium was the conclusion that a fundamental improvement in the approaches used for inventorying and monitoring ecosystem resources is required to meet current and future environmental uncertainties. Specific actions were proposed to address these challenges. These strategic actions are described in the last chapter of these proceedings.*
1-18.19	Literature Citation	**USFS leader statement on best science #19** - "The experience of the Zaca Fire demonstrates a window of opportunity to improve the link between science and management. A major concern often expressed in both fire research and fire management circles is that there is a lot of science being produced, but very little that can or is being incorporated (depending on your perspective) into fire management. There may be a current opening to change that state of affairs." McDaniel, Josh 2007 "The Zaca Fire: Bridging Fire Science and Management" Widland Fire Lessons Learned, http://www.wildfirelessons.net/Additional.aspx	In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project. The following is a quote pertaining to use of best available science in the article: *"The experience of the Zaca Fire demonstrates a window of opportunity to improve the link between science and management. A major concern often expressed in both fire research and fire management circles is that there is a lot of science being produced, but very little that can or is being incorporated (depending on your perspective) into fire management. There may be a current opening to change that state of affairs."* *"This fire season has shown that fire management is changing at a more rapid pace than ever before. Point protection, AMR, and other non-traditional suppression techniques and strategies have become the norm. Much of this change is driven by necessity, as fire managers have struggled to fight larger and more intense fires over longer fire seasons with fewer resources. But, it is change nonetheless. And in this dynamic environment, there is potential to build new more substantial links*

			between science and the field. "
1-18.20	Literature Citation	**USFS leader statement on best science #20** - "Accordingly, we find that the Final EIS fails to disclose and discuss responsible opposing scientific viewpoints in the final statement itself in violation of NEPA and the implementing regulations. We therefore reverse the district court's grant of summary judgment and remand to the district court with directions that it remand the final statement to the Forest Service for further proceedings consistent with this opinion. See Vitarelli v. Seaton, 359 U.S. 535, 545, 79 S.Ct. 968, 3 L.Ed.2d 1012 (1959) (standing for the well-established principle that an agency is generally required to follow its regulations); see also Cal. v. Block, 690 F.2d at 769 ("Agencies are . obliged to adhere to the procedures mandated by NEPA.") (citing Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 549 n. 21, 98 S.Ct. 1197, 55 L.Ed.2d 460 (1978)). REVERSED AND REMANDED." CENTER FOR BIOLOGICAL DIVERSITY v. UNITED STATES FOREST SERVICE Argued and Submitted July 15, 2003. -- November 18, 2003 Before: KLEINFELD, WARDLAW, Circuit Judges, and POGUE, Judge. In the United States Court of Appeals,Ninth Circuit http://caselaw.findlaw.com/us-9th-circuit/1173711.html	The Forest Service has reviewed and considered the opposing science viewpoints provided in through the public involvement on this project. All documents referenced in this attachment, unless otherwise noted, are contained in the Project File. In the Decision Document for this project, the Responsible Official will document how the best available scientific information was used to inform the assessments and decisions made for this project.