

<b>Lower Broad EA – Response to Comments</b>		
	<b>Opposing Views Attachment #1 Respected Scientists Reveal the Certainty that Natural Resources in the Forest are Harmed (and some destroyed) by Timber Harvest Activities</b>	
<b>ID</b>	<b>Comment</b>	<b>Response</b>
1	The following document contains pertinent color pictures showing logging damage, thus the article text is not shown here. Please use the link below to access the article.	<p>The reference cited here is clearcuts and forest fragmentation on the Willamette NF in Oregon and is not relevant to the project area.</p> <p>The EA contain analysis of beneficial and adverse effects from project activities completed by various Forest Service resource professionals. Additional reference information is included in the reference section of the EA.</p> <p>The Administrative Procedures Act (APA) states that “[a]gencies are entitled to rely on the view of their own experts. The courts have also reinforced this determination [Hughes River, 165 F.3d at 288; Lands Council v. McNair, 537 F.3d 981, 1000 (9th Cir. 2008) (en banc), rev’d on other grounds by Winter v. Natural Res. Def. Council, Inc., 555 U.S. 7 (2008) (“When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive.”)].</p>
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4	Al-jabber, Jabber M. “Habitat Fragmentation:: Effects and Implications”	reference, no response needed
5	Clearcuts and forest fragmentation, Willamette NF, Oregon.	reference, no response needed
6	From: Cascadia Wildland Project, Spring 2003	reference, no response needed
7	<a href="http://faculty.ksu.edu.sa/a/Documents/Habitat%20Fragmentation%20Effects%20and%20Implication.pdf">http://faculty.ksu.edu.sa/a/Documents/Habitat%20Fragmentation%20Effects%20and%20Implication.pdf</a>	reference, no response needed

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9	<p>“Timber harvest operations have been shown to have many effects on adjacent watercourses and on the aquatic ecosystems they support. This may occur from introductions or loss of woody debris, loss of riparian vegetation, accelerated stream bank and bed erosion, the alteration of natural channel form and process, and the reduction of stream habitat diversity. However, the existing literature indicates one of the most insidious effects of logging is the elevation of sediment loads and increased sedimentation within the drainage basin.</p>	<p>Chapter 3 of the EA discloses the effects of the proposed action on streams and aquatic resources. Design criteria are included in Chapter 2 of the EA to reduce or eliminate adverse effects on water, streams, riparian areas and aquatic resources.</p>
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11	<p>Sediment generation from various forestry practices has been studied extensively in the past. Forestry practices which generate suspended sediments include all operations that disturb soil surfaces such as site preparations, clear-cutting, log skidding, yarding, slash burns, heavy equipment operation and road construction and maintenance.”</p>	<p>Section 3.1.1 Water (Including Riparian Areas, Wetlands and Floodplains) and 3.2.7 (Aquatic Communities) discloses sediment sources and in addition, the project record includes and analysis of sediment sources and amounts from both public and private lands.</p>
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13	Anderson, P.G. 1996. “Sediment generation from forestry	reference, no response needed
14	operations and associated effects on aquatic ecosystems”	reference, no response needed
15	Proceedings of the Forest-Fish Conference: Land Management Practices	reference, no response needed
16	Affecting Aquatic Ecosystems, May 1-4, 1996, Calgary, Alberta.	reference, no response needed

19	<p>“Timber harvest will remove dead and dying material from the site and inhibit the recruitment of downed woody material as time progresses. Timber harvest and associated reduced structural complexity and reduced age and size class diversity are all known to reduce population abundance and diversity of ants and a number of birds. For instance, ants are documented to require downed woody material in a variety of sizes and in all stages of decomposition (Torgersen and Bull, 1995). This is an attribute that is negatively correlated with harvest of the dead and dying trees and positively correlated with natural succession, especially after disturbance. Ants and birds are known to predate on insect species which cause mortality to trees, serving as a potentially important population control in the case of epidemics or before they occur (Campbell, Torgersen and Srivastava, 1983). Structural and functional characteristics associated with unlogged forests are also important for canopy arthropods, which play an important role in regulating pest outbreaks (Schowalter, 1989).</p>	<p>Chapter 3 of the EA discloses the effects of the proposed action on vegetation. Diversity within compartments and the landscape would be increased with the development of younger age classes as a result of proposed treatments. Older stands adjacent to these stands usually contain large trees and have various rates of mortality. South Carolina's Forests, 2006 (Resource Publication SRS-158) indicates that approximately 67 percent of the state is forested with loblolly-shortleaf pine (the dominant forest type group). Current estimates indicate that net growth of softwoods is exceeding net removals - the forests are getting bigger and older. The data also indicates that more pine stands are being managed for sawtimber rather than being cut solely for pulpwood - that is true for this proposal as well. The data indicates substantial acreage in older age classes. Older and larger trees provide sources of large woody material both standing and downed across the landscape. Structural diversity provided by the various age classes that occur and pockets of dead and drying trees of various sizes and combinations across the landscape provide a variety of habitat conditions beneficial to birds and insects. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions, respectively. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Adequate habitat exists in the project area and is expected to be there in the future.</p>
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21	Structural complexity, functional diversity, diversity of ecological process and diversity of structure in roadless areas are all expected to be less susceptible to the outbreak of pests and regulate insect activity in surrounding homogenized forests (Schowalter and Means, 1989; Franklin, Perry, Schowalter, Harmon, McKee and Spies, 1989).	This area of the Piedmont is composed of private farms, ranches, commercial forestlands interspersed with National Forest System (NFS) lands. Most of the NFS lands were planted when the area was acquired by the federal government. Since that time, forest management has occurred on a continual basis resulting in a mosaic of different stands that provide diverse composition, structure and function. Older stands are plentiful as are younger stands – providing a variety of habitat conditions for flora and fauna to thrive. Prescribed burning adds to this diversity of habitats. There are no roadless areas in the Piedmont and active forest management has been used on both federal and private lands to control insect outbreaks.
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23	A large body of scientific evidence also indicates that increased edge effect and increased sunlight into stands, resulting from reduced canopy cover associated with timber harvest, can directly promote the population abundance, productivity and persistence of insects which cause mortality to trees of (Roland, 1993; Rothman and Roland, 1998; Kouki, McCullough and Marshall, 1997; Bellinger, Ravlin and McManus, 1989).”	<p>The greatest potential impact to stands in the project area is from southern pine beetle (SPB) infestations (refer to Chapter 1, Purpose and Need). Insects attack over-mature and slow growing trees. Once beetles get started, they spread from stand to stand unless suppression actions are taken. This is a quote from the South Carolina Forestry Commission website:</p> <p style="padding-left: 40px;">The southern pine beetle is the most destructive insect enemy of pines in the southern United States. Each year it kills millions of dollars of valuable timber resources and has earned the reputation of being the most feared insect by southern forest managers and timber landowners.</p> <p>Other common insects in the South include Ips beetles, black turpentine beetles, ambrosia beetles and southern pine sawyer beetles. Developing younger stands, salvaging storm damaged trees, minimizing damage to trees and roots during logging and reducing logging slash on the ground would reduce the impacts from primary and secondary attacks from insects. The proposed action would establish younger stands, increase the distribution of age classes, thin overstocked stands and would reduce the potential for spread of insects (particularly SPB) into adjacent areas. Reference: <i>Final Environmental Impact Statement for the Suppression of the</i></p>

		<i>Southern Pine Beetle, Southern Region, MB R8-MB 2, 1987.</i>
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25	“Applying Ecological Principles to Management of the U.S. National Forests”	reference, no response needed
26	Issues in Ecology Number 6 Spring 2000	reference, no response needed
27	<a href="http://www.esa.org/science_resources/issues/FileEnglish/issue6.pdf">http://www.esa.org/science_resources/issues/FileEnglish/issue6.pdf</a>	reference, no response needed
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29	“The biggest ecological con job in years is being waged by the U.S. Republican party and their timber industry cronies. They are blaming the recent Western wildfires on environmentalists, and assuring the public that commercial logging will reduce the risk of catastrophic wildfires.”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Western wildfires are not relevant to this project area.
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31	Barry, Glen, Ph.D. "Commercial Logging Caused Wildfires"	reference, no response needed
32	Published by the Portland Independent Media Center, August 2002.	reference, no response needed
33	<a href="http://portland.indymedia.org/en/2002/08/17464.shtml">http://portland.indymedia.org/en/2002/08/17464.shtml</a>	reference, no response needed
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35	"According to a 1998 poll by a firm that has worked for several Republican House members and two presidents, 69 percent of Americans oppose commercial logging on federally owned land. The Forest Service's own poll showed that 59 percent of Americans who expressed an opinion oppose timber sales and other commodity production in national forests."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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37	"Many Americans are surprised to learn that logging is even allowed on public lands. Alas, it has been since the Organic Act of 1897 first authorized logging in America's new forest reserves. That legislation called for watershed protection and a steady supply of timber - what the Forest Service calls 'multiple use.' "	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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39	"But the agency has been unable to balance those goals. More often than not, the integrity of the forest ecosystem has been sacrificed to maximize timber and other commodities. And at taxpayer expense, notes Bernie Zaleha, chair of the End Commercial Logging on Federal Lands (ECL) campaign. The Forest Service lost \$2 billion on its logging program from 1992 to 1997, according to the General Accounting Office. It spends more on building roads and preparing sales than it gets back in timber receipts."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
40		
41	Barry, John Byrne. "Stop the Logging, Start the Restoration"	reference, no response needed
42	from The Planet newsletter	reference, no response needed
43	June 1999, Volume 6, Number 5	reference, no response needed
44	<a href="http://www.sierraclub.org/planet/199905/ecl1.asp">http://www.sierraclub.org/planet/199905/ecl1.asp</a>	reference, no response needed
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46	"Federal auditors have found that the Forest Service frequently fails to assess, prevent or correct environmental damage from logging on the national forests.	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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48	After inspecting 12 timber projects in the field from 1995 to 1998, the Agriculture Department's inspector general found that all were deficient and that 'immediate corrective action is needed.'	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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50	A new report on the audits found that the environmental studies required before logging was approved were poorly done, the rules to protect streams and wildlife habitat from undue damage during logging were not followed, and the steps planned to repair some of the harm after logging were not carried out.	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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52	The inspector general, Roger C. Viadero, reported on Jan. 15 to Mike Dombeck, chief of the Forest Service, that the review had found "numerous serious deficiencies." Agency officials generally agreed with the report's conclusions and recommendations."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
53		
54	Cushman, John H. Jr. "Audit Faults Forest Service on Logging	reference, no response needed
55	Damage in U.S. Forests" New York Times, February 5, 1999	reference, no response needed
56	<a href="http://query.nytimes.com/gst/fullpage.html?res=9B00E2DF163BF936A35751C0A96F958260&amp;sec=&amp;spon=&amp;pagewanted=print">http://query.nytimes.com/gst/fullpage.html?res=9B00E2DF163BF936A35751C0A96F958260&amp;sec=&amp;spon=&amp;pagewanted=print</a>	reference, no response needed
57		
58	<b>Timber Harvest Opposing View #7</b> – "Logging on national forest land creates more economic harm than good, according to a recent study by the National Forest Protection Alliance and the Forest Conservation Council.  The 75-page report, three years in the making, notes there are dramatic economic and social losses when forests are logged under the U.S. Forest Service's timber-sale program.	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.

	<p>The report, "The Economic Case Against Logging National Forests," states that national forest lands are far more valuable to rural communities when trees are left standing, and that the federal logging program creates billions of dollars in unaccounted costs for communities, businesses, and individuals. This expense comes in addition to timber industry subsidies, which cost American taxpayers approximately \$1.2 billion a year."</p> <p>"Talberth said both reports lend support to current efforts in Congress to end the federal timber-sale program. Introduced by Rep. Cynthia McKinney (D-Georgia) in April 1999, the National Forest Protection and Restoration Act (H.R. 1396) would put an end the federal timber-sale program."</p>	
	<p>Higgins, Margot, "National forest logging is bad business, study says" Posted on CNN.com-Nature, March 16, 2000  <a href="http://www.colorado.edu/AmStudies/lewis/west/costlogging.pdf">http://www.colorado.edu/AmStudies/lewis/west/costlogging.pdf</a></p>	Reference, no response needed
59		
64	<p>"I recently read a letter from a line officer who chided local managers for being behind schedule relative to meeting the region's 'timber targets.' My expectation is that line officers will demand similar accountability for meeting watershed restoration, fish and wildlife habitat, riparian, recreation, cultural resource, and wilderness management goals."</p>	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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66	<p>"We need to do a better job talking about, and managing for, the values that are so important to so many people. Values such as wilderness and roadless areas, clean water, protection of rare species, old growth forests, naturalness -- these are the reasons most Americans cherish their public lands."</p>	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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68	"Fifty years ago, Aldo Leopold wrote his seminal work, A Sand County Almanac. In it, Leopold spoke of his personal land ethic and the need for land managers to extend their own ecological conscience to resource decisions. The Forest Service natural resource agenda is an expression of our agency's land ethic. If we are to redeem our role as conservation leaders, it is not enough to be loyal to the Forest Service organization. First and foremost, we must be loyal to our land ethic. In fifty years, we will not be remembered for the resources we developed; we will be thanked for those we maintained and restored for future generations."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
69		
70	Dombeck, Mike Ph.D.	reference, no response needed
71	a message on "Conservation Leadership" sent to all USFS employees on July 1, 1998	reference, no response needed
72	<a href="http://www.wvhighlands.org/VoicePast/VoiceAug98/Dombeck.Aug98.html">http://www.wvhighlands.org/VoicePast/VoiceAug98/Dombeck.Aug98.html</a>	reference, no response needed
73		
74	"For much of the past century the Forest Service, entrusted as the institutional steward of our National Forests, focused its management on an industrial-scale logging program. The result of the massive logging and road construction program was to damage watersheds, destroy wildlife habitat and imperil plant and animal species."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
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76	<p>“The continued logging of our National Forests also wastes American tax dollars and diminishes the possibilities of future economic benefits. The Forest Service lost \$2 billion dollars on the commercial logging program between 1992-1997. Annually, timber produces roughly \$4 billion while recreation, fish and wildlife, clean water, and unroaded areas provide a combined total of \$224 billion to the American economy. Forests purify our drinking water - 60 million Americans get their drinking water from National Forests. When the dramatic values of ecological goods and services are taken into account, it is clear that protecting National Forests creates more economic benefits than continued logging.”</p>	<p>This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.</p>
77		
78	Ehrlich, Anne Ph.D., David Foster Ph.D. and Peter Raven Ph.D. 2002	reference, no response needed
79	“Call to End Logging Based on Conservation Biology.” Native Forest Network.	reference, no response needed
80	<a href="http://www.nativeforest.org/campaigns/public_lands/stb_5_30_02.htm">http://www.nativeforest.org/campaigns/public_lands/stb_5_30_02.htm</a>	reference, no response needed
81		
82	<p>“The Bush administration has announced plans to greatly increase logging on federal lands in order to reduce the risk of wildfires. The Forest Service is using the fear of wildfires to allow logging companies to remove medium-and large-diameter trees that they can sell, rather than just the small trees and brush that can make fires more severe. There is little evidence to show that such logging will prevent catastrophic fires; on the contrary, logging roads and industrial logging cause wildfires. Bush is a well known supporter of the timber industry and has accepted huge sums of money from wealthy timber company leaders. He is promoting misinformation about forest fires in order to benefit timber industry campaign contributors.”</p>	<p>This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.</p>
83		
84	“Bush Fire Policy: Clearing Forests So They Do Not Burn”	reference, no response needed
85	FOREST CONSERVATION NEWS TODAY, August 27, 2002	reference, no response needed

86	<a href="http://forests.org/archived_site/today/recent/2002/tiporefl.htm">http://forests.org/archived_site/today/recent/2002/tiporefl.htm</a>	reference, no response needed
87		
88	"The proposition that forest values are protected with more, rather than less logging, and that forest reserves are not only unnecessary, but undesirable, has great appeal to many with a vested interest in maximizing timber harvest. These ideas are particularly attractive to institutions and individuals whose incomes depend upon a forest land base. (page 2)"	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
89		
90	"On the other hand, approaches that involve reserving of a portion of the land base, or harvest practices that leave commercially valuable trees uncut to achieve ecological goals, are often considered much less desirable as they reduce traditional sources of timber income. (page 2)"	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
91		
92	Franklin, Jerry Ph.D., David Perry Ph.D., Reed Noss Ph.D., David	reference, no response needed
93	Montgomery Ph.D. and Christopher Frissell Ph.D. 2000. "Simplified Forest	reference, no response needed
94	Management to Achieve Watershed and Forest Health: A Critique."	reference, no response needed
95	<a href="http://www.coastrange.org/documents/forestreport.pdf">http://www.coastrange.org/documents/forestreport.pdf</a>	reference, no response needed
96		
97	"Consequently, we specifically criticize the "simplified structure-based management" approaches derived from simple structural models and traditional silvicultural systems such as clearcutting. In our view, the assumptions underpinning simplified structure-based management (SSBM) are not supported by the published scientific literature on structural development of natural forests, disturbance ecology, landscape ecology and conservation biology, or by the relationships between ecosystem structures and processes. In this report, we review scientific findings associated with each of these areas with particular attention to the over-simplified structural models associated with SSBM and the importance and viability of	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.

	forest reserves to achieve various ecological goals. (page 2)	
98		
99	“We do not believe, however, that scientific literature or forestry experience supports the notions that intensively managed forests can duplicate the role of natural forests, or that sufficient knowledge and ability exist to create even an approximation of a natural old-growth forest stand.” (page 3)	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
100		
101	Franklin, Jerry F. Ph.D. and James K. Agee Ph.D.	reference, no response needed
102	2007. “Forging a Science-Based National Forest Fire Policy.”	reference, no response needed
103	Issues in Science and Technology.	reference, no response needed
104	A National Wildlife Federation publication sponsored by the Bullitt Foundation	reference, no response needed
105	<a href="http://www.coastrange.org/documents/forestreport.pdf">http://www.coastrange.org/documents/forestreport.pdf</a>	reference, no response needed
106		
107	“But the majority of the protesters were angry about Bush’s plans to implement rules that would thin our national forests to reduce fire risk. Cascadia Forest Alliance volunteer Carrie Taylor said Bush’s plan to log mature and old forests “will only increase fire risks while providing taxpayer subsidized logs to the timber industry.”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
108		
109	“According to the Cascadia Forest Alliance, under the Bush proposal, ‘environmental laws and citizen involvement will be undermined or suspended so that federal land management agencies can increase logging and roadbuilding on public lands, one of the timber industry’s highest priorities.’”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
110		
111	Giuliano, Jackie Alan, Ph.D. “Fire Suppression Bush Style:	reference, no response needed
112	Cut Down the Trees!” Environmental News Service, 2008.	reference, no response needed
113	<a href="http://www.ens-newswire.com/ens/aug2002/2002-08-23g.asp">http://www.ens-newswire.com/ens/aug2002/2002-08-23g.asp</a>	reference, no response needed
114		

115	"Most of the trees that need to be removed to reduce accumulated fuels are small in diameter and have little or no commercial value."	The trees in the project area would be commercially removed. The majority of the harvest acreage treated would be small diameter 1 <sup>st</sup> thinnings.
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117	"Mechanically removing fuels (through commercial timber harvesting and other means) can also have adverse effects on wildlife habitat and water quality in many areas. Officials told GAO that, because of these effects, a large-scale expansion of commercial timber harvesting alone for removing materials would not be feasible. However, because the Forest Service relies on the timber program for funding many of its activities, including reducing fuels, it has often used this program to address the wildfire problem. The difficulty with such an approach, however, is that the lands with commercially valuable timber are often not those with the greatest wildfire hazards."	The effects to natural resources in the project area are disclosed in Chapter 3 of the EA. The Purpose and need for this project is stated in chapter 1 of the EA.
118		
119	Government Accounting Office	reference, no response needed
120	"Western National Forests: A Cohesive Strategy is	reference, no response needed
121	Needed to Address Catastrophic Wildfire Threats"	reference, no response needed
122	GAO/RCED-99-65	reference, no response needed
123	<a href="http://www.gao.gov/archive/1999/rc99065.pdf">http://www.gao.gov/archive/1999/rc99065.pdf</a>	reference, no response needed
124		

125	<p>“The recent concern over the poor health of western pine ecosystems has been attributed at least partly to inappropriate silvicultural practices, both before and since the national forests were established. (4) Because of the timber industry's needs, logging in mixed conifer stands has emphasized cutting the large pines and leaving the true firs and Douglas-fir to dominate the remaining stands. (5) However, true firs and Douglas-fir are more susceptible to the damage (including insect and disease attacks as well as direct damage) that has occurred during the decade-long drought in the interior West, and thus may contribute to the risk of catastrophic wildfires. Salvage sales are one tool that can be used to improve forest health, (6) but critics object to granting the agency the discretion to use timber sales to correct problems partially created by past timber sales.”</p>	<p>This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. The information presented is for western conditions and is not relevant to the project area.</p>
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127	<p>“A more general concern in some quarters is over Forest Service "bias" toward timber outputs, at the expense of ecosystem conditions and other resource values. While timber harvests are important, other important values are not measured, and managers are not rewarded for achieving these other values. (7) Some have attributed this "bias" to inappropriate incentives, particularly related to the agency's numerous trust funds and special accounts. (8) The Forest Service has several trust funds and special accounts that are either funded by timber revenues or provide funds for timber management (or both). (9)”</p>	<p>This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.</p>
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129	“One trust fund often cited by critics is the Knutson-Vandenberg (K-V) Fund. This account receives an unlimited portion of timber sale receipts, to be used for reforestation, timber stand improvements, and other resource mitigation and enhancement activities in timber sale areas. Forest Service managers can, therefore, fund their programs from timber sales; in the words of one critic, wildlife managers have an incentive to support timber sales that damage wildlife habitat, because they can use the revenues to mitigate that damage and to keep themselves and their staffs employed. (10)”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
130		
131	Gorte, Ross W. Ph.D. “Forest Service Timber Sale Practices and	reference, no response needed
132	Procedures: Analysis of Alternative Systems.” A Congressional	reference, no response needed
133	Research Service (CRS) report, October 30, 1995.	reference, no response needed
134	<a href="http://www.ncseonline.org/NLE/CRS/abstract.cfm?NLEid=215">http://www.ncseonline.org/NLE/CRS/abstract.cfm?NLEid=215</a>	reference, no response needed
135		
136	“In April 1999, the General Accounting Office issued a report that raised serious questions about the use of timber sales as a tool of fire management. It noted that "most of the trees that need to be removed to reduce accumulated fuels are small in diameter" -- the very trees that have ‘little or no commercial value.’ “	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. The trees to be removed in the project area have commercial value.
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138	“As it offers timber for sale to loggers, the Forest Service tends to ‘focus on areas with high-value commercial timber rather than on areas with high fire hazards,’ the report said. Its sales include ‘more large, commercially valuable trees’ than are necessary to reduce the so-called accumulated fuels (in other words, the trees that are most likely to burn in a forest fire).”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Please refer to the Purpose and Need section of the EA for the objectives of the project.
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140	<p>“The truth is that timber sales are causing catastrophic wildfires on national forests, not alleviating them. The Sierra Nevada Ecosystem Project Report, issued in 1996 by the federal government, found that ‘timber harvest, through its effects on forest structure, local microclimate and fuel accumulation, has increased fire severity more than any other recent human activity.’ The reason goes back to the same conflict that the G.A.O. found: loggers want the big trees, not the little ones that act as fuel in forest fires.”</p>	<p>The information presented is for western conditions and is not relevant to the project area.</p>
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142	<p>“After a ‘thinning’ timber sale, a forest has far fewer of the large trees, which are naturally fire-resistant because of their thick bark; indeed, many of these trees are centuries old and have already survived many fires. Without them, there is less shade. The forest is drier and hotter, making the remaining, smaller trees more susceptible to burning. After logging, forests also have accumulations of flammable debris known as “slash piles” -- unsalable branches and limbs left by logging crews.”</p>	<p>The proposal is to regenerate a new stand of trees on a selected portion of the area. The new stands would increase the age class distribution across the district and provide habitat to species that prefer younger forests. Periodic prescribed burning is conducted in many of the areas scheduled for harvest. Effects of timber harvesting and prescribed burning together reduce fuel accumulations. Drum chopping reduces the slash loading after logging. Effects are described in chapter 3 of the EA.</p>
143		
144	<p>Hanson, Chad Ph.D., “Commercial Logging Doesn't Prevent Catastrophic</p>	<p>reference, no response needed</p>
145	<p>Fires, It Causes Them.” Published in the New York Times, May 19, 2000</p>	<p>reference, no response needed</p>
146	<p><a href="http://www.commondreams.org/views/051900-101.htm">http://www.commondreams.org/views/051900-101.htm</a></p>	<p>reference, no response needed</p>
147		
154	<p>“Recent editorials by timber industry spokespersons are a wildly misleading attempt to promote increased logging of western U.S. forests under the guise of reducing wildland fires ...”</p>	<p>This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Please refer to the Purpose and Need section of the EA for the objectives of the project.</p>
155		
156	<p>Hanson, Chad Ph.D., “Logging Industry Misleads on</p>	<p>reference, no response needed</p>
157	<p>Climate and Forest Fires.” Guest Commentary in New West, July 11, 2008</p>	<p>reference, no response needed</p>
158	<p><a href="http://www.newwest.net/topic/article/logging_industry_misleads_o">http://www.newwest.net/topic/article/logging_industry_misleads_o</a></p>	<p>reference, no response needed</p>

	n_climate_and_forest_fires/C41/L41/	
159		
160	"Logging reduces the organic parent material (duff and woody residues) available for soil-formation processes."	Refer to soils section in Chapter 3 of the EA for a description of effects.
161		
162	Harvey, A. E., M. J. Larsen, and M. F. Jurgensen	reference, no response needed
163	"Distribution of Ectomycorrhizae in a Mature	reference, no response needed
164	Douglas-fir/larch Forest Soil in Western Montana"	reference, no response needed
165	Forest Science, Volume 22, Number 4, 1 December 1976 , pp. 393-398(6)	reference, no response needed
166	<a href="http://www.ingentaconnect.com/content/saf/fs/1976/00000022/0000004/art00007;jsessionid=l2sdf2hphia2.alexandra">http://www.ingentaconnect.com/content/saf/fs/1976/00000022/0000004/art00007;jsessionid=l2sdf2hphia2.alexandra</a>	reference, no response needed
167		
168	"For too long, we foresters took the public for granted, assuming unwavering support for those who grow the nation's wood fiber. Few noticed when the public's mood changed, and those who did were often ridiculed by disbelieving colleagues. Now we come to a day of reckoning: the public believes forests are too important to be entrusted to foresters. To restore lost confidence, foresters must first come out of hiding. We have a lot of explaining to do because, where forests are concerned, the public will no longer support what it cannot see and understand. Regaining the public's trust will take time. We must be prepared to answer hard questions about what we are doing and how our actions are impacting the environment. We must also help the public think through its forest management options. When we lay out these options, we must speak of much more than trees. Only then will our critics know we love forests as much as they do."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Please refer to the Purpose and Need section of the EA for the objectives of the project.
169		
170	Houston, Alan Ph.D., "Why Forestry is in Trouble with the Public."	reference, no response needed
171	Evergreen magazine, October 1997.	reference, no response needed

172	<a href="http://evergreenmagazine.com/web/Why_forestry_is_in_trouble_with_the_public-v2.html">http://evergreenmagazine.com/web/Why_forestry_is_in_trouble_with_the_public-v2.html</a>	reference, no response needed
173		
174	"SEC. 3. FINDINGS. Congress finds the following: Commercial logging has many indirect costs which are very significant, but not easily measured, such as flooding damage and relief of flooding damage through Federal funds, damage to the salmon fishing industry; and harm to the recreation and tourism industries."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
175		
176	H. R. 1494 text. April 4, 2001	reference, no response needed
177	<a href="http://www.agriculturelaw.com/legis/bills107/hr1494.htm">http://www.agriculturelaw.com/legis/bills107/hr1494.htm</a>	reference, no response needed
178		
179	"Human tampering with nature has not been without costs. Human manipulation of existing ecosystems has also sometimes had unfortunate consequences."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
180		
181	Hudak, Mike Ph.D. "From Prairie Dogs to Oysters: How Biodiversity Sustains Us"	reference, no response needed
182	from his book review of	reference, no response needed
183	The Work of Nature: How the Diversity of Life Sustains Us	reference, no response needed
184	by Yvonne Baskin, 1997	reference, no response needed
185	Newsletter of Earth Day Southern Tier, February/March 1999, p. 2	reference, no response needed
186	<a href="http://www.mikehudak.com/Articles/FromPrairieDogs9902.html">http://www.mikehudak.com/Articles/FromPrairieDogs9902.html</a>	reference, no response needed
187		

188	<p>“In general, rate of spread and flame length were positively correlated with the proportion of area logged (hereafter, area logged) for the sample watersheds. Correlation coefficients of area logged with rate of spread were &gt; 0.57 for five of the six river basins (table 5). Rate of spread for the Pend Oreille and Wenatchee River basins was strongly associated (r=0.89) with area logged. Correlation of area logged with flame length were &gt; 0.42 for four of six river basins (table 5). The Deschutes and Methow River basins showed the strongest relations. All harvest techniques were associated with increasing rate of spread and flame length, but strength of the associations differed greatly among river basins and harvesting methods.” (pg.9)</p>	<p>The information presented is for western conditions and is not relevant to the project area.</p>
189		
190	<p>“As a by-product of clearcutting, thinning, and other tree-removal activities, activity fuels create both short- and long-term fire hazards to ecosystems. The potential rate of spread and intensity of fires associated with recently cut logging residues is high, especially the first year or two as the material decays. High fire-behavior hazards associated with the residues can extend, however, for many years depending on the tree. Even though these hazards diminish, their influence on fire behavior can linger for up to 30 years in the dry forest ecosystems of eastern Washington and Oregon.”</p>	<p>The information presented is for western conditions and is not relevant to the project area.</p>
191		
192	Huff, Mark H. Ph.D.; Ottmar, Roger D.; Alvarado, Ernesto Ph.D.	reference, no response needed
193	Vihnanek, Robert E.; Lehmkuhl, John F.; Hessburg, Paul F. Ph.D.	reference, no response needed
194	Everett, Richard L. Ph.D. 1995. “Historical and current forest	reference, no response needed
195	landscapes in eastern Oregon and Washington. Part II: Linking	reference, no response needed
196	vegetation characteristics to potential fire behavior and related	reference, no response needed
197	smoke production” Gen. Tech. Rep. PNW-GTR-355. USDA	reference, no response needed
198	Forest Service, Pacific Northwest Research Station.	reference, no response needed
199	<a href="https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/4706/PB96155213.pdf;jsessionid=C8DDB611DB29D3716BBF313AADBA2">https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/4706/PB96155213.pdf;jsessionid=C8DDB611DB29D3716BBF313AADBA2</a>	reference, no response needed

	E70?sequence=1	
200		
201	"The Quincy Library Group's (QLG's) fuelbreak strategy represents a giant step backwards from the progressive development of rational fire policies established by the 1995 Federal Wildland Fire Management Policy and Program Review."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
202		
203	"The fact that the QLG admits that its Plan is inconsistent with these new policies (indeed, is almost gleefully defiant of them) says a lot about the credibility of the QLG's self-purported fire management expertise."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
204		
205	"In spite of (or more likely because of) the intensive 'fuels reduction' activities associated with commercial logging, the Fountain Fire was truly catastrophic in its effects."	The information presented is for western conditions and is not relevant to the project area.
206		
207	"Even 'kinder, gentler' commercial logging still inflicts environmental impacts such as eroded topsoil, degraded water quality, destroyed wildlife habitat, and extirpated species that are every bit as much symptoms of forest health problems as large-scale, severe wildfires."	The effects of the project are disclosed in Chapter 3 of the EA.
208		
209	"And after spending millions of dollars creating the SNEP Report, it seems wise to use its information, not ignore it or opportunistically select out statements clearly worded as assumptions, values, or goals which run contrary to factual research findings. The QLG Plan has much more to do with timber extraction than with genuine fire protection, and in that respect, it constitutes more of a forest health threat than a real solution."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
210		

211	"The QLG Bill resembles similar 'panic legislation' that was passed during the early 1970s in which, following some large-scale wildfires in California, Congress allowed the Forest Service to access emergency firefighting funds to conduct 'presuppression' timber sales. Many fuelbreaks were cut in the Sierras during this period, and while costs rapidly rose into tens of millions of dollars, most of these fuelbreaks failed to perform adequately during wildfire suppression incidents. Congress quickly had to take away this funding source from the Forest Service. What has become of these old fuelbreaks? Almost without exception, the agency failed to monitor or maintain them, and in a modern-day version of 'cut and run' logging, many of these old fuelbreaks have converted to chaparral brush and 'dog-hair' thickets ¼ a much more flammable vegetation type than the original forest cover. The QLG Bill appears to be 'deja vu' without evidence of Congress or the QLG being aware of this history of previous fuelbreak programs."	The information presented is for western conditions and is not relevant to the project area.
212		
213	Ingalsbee, Timothy Ph.D. "Logging for Firefighting: A Critical Analysis	reference, no response needed
214	of the Quincy Library Group Fire Protection Plan."	reference, no response needed
215	Unpublished research paper. 1997.	reference, no response needed
216	<a href="http://www.fire-ecology.org/research/logging-for-firefighting_2.htm">http://www.fire-ecology.org/research/logging-for-firefighting_2.htm</a>	reference, no response needed
217		
218	"The notion that commercial logging can prevent wildfires has its believers and loud proponents, but this belief does not match up with the scientific evidence or history of federal management practices. In fact, it is widely recognized that past commercial logging, road-building, livestock grazing and aggressive firefighting are the sources for "forest health" problems such as increased insect infestations, disease outbreaks, and severe wildfires."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
219		

220	"How can the sources of these problems also be their solution? This internal contradiction needs more than propaganda to be resolved. It is time for the timber industry and their supporters to heed the facts, not fantasies, and develop forest management policies based on science, not politics."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
221		
222	Ingalsbee, Timothy Ph.D. 2000. "Commercial Logging	reference, no response needed
223	for Wildfire Prevention: Facts Vs Fantasies"	reference, no response needed
224	<a href="http://www.fire-ecology.org/citizen/logging_and_wildfires.htm">http://www.fire-ecology.org/citizen/logging_and_wildfires.htm</a>	reference, no response needed
225		
226	"Since the 'New Perspectives' program of the early 1990s, the agency has tried to dodge public opposition to commercial logging by using various euphemisms, such as this gem from the Siskiyou National Forest: Clearcuts are called 'minimum green tree retention units.' Accordingly, Forest Service managers have believed that if they simply refer to logging as 'thinning,' or add the phrases 'fuels reduction' or 'forest restoration' to the title of their timber sale plans, then the public will accept these projects at face value, and business-as-usual commercial logging can proceed. In the face of multiple scandals and widespread public skepticism of the Forest Service's credibility, it seems that only Congress is buying the agency's labeling scheme."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
227		
228	Ingalsbee, Timothy Ph.D. "Logging without Limits isn't a Solution to Wildfires"	reference, no response needed
229	published in the Portland Oregonian, August 6, 2002	reference, no response needed
230	<a href="http://www.klamathforestalliance.org/Documents/loggingwithoutlimits.html">http://www.klamathforestalliance.org/Documents/loggingwithoutlimits.html</a>	reference, no response needed
231		

232	“Thus, the use of commercial logging for fire hazard reduction poses yet another paradox: Logging removes the trees that normally survive fires, leaves behind the trees that are most often killed by fire, increases flammable fuel loads, and worsens fire weather conditions.” (pg. 5)	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
233		
234	Ingalsbee, Timothy Ph.D. “The wildland fires of 2002 illuminate	reference, no response needed
235	fundamental questions about our relationship to fire.”	reference, no response needed
236	The Oregon Quarterly, Winter 2002	reference, no response needed
237	<a href="http://fireecology.org/research/wildfire_paradox.pdf">http://fireecology.org/research/wildfire_paradox.pdf</a>	reference, no response needed
238		
239	"In the face of growing public scrutiny and criticism of the agency's logging policies and practices, the Forest Service and their enablers in Congress have learned to mask timber sales as so-called 'fuels reduction' and 'forest restoration' projects. Yet, the net effect of these logging projects is to actually increase fire risks and fuel hazards."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
240		
241	"Decades of encouraging private logging companies to take the biggest, oldest, most fire-resistant trees from public lands, while leaving behind a volatile fuel load of small trees, brush, weeds, stumps and slash has vastly increased the flammability of forestlands."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
242		
243	"In addition to post-fire salvage logging, the Forest Service and timber industry advocates in Congress have been pushing pre-fire timber sales, often falsely billed as hazardous fuels reduction or 'thinning' projects, to lower the risk or hazard of future wildfires. In too many cases, these so-called thinning projects are logging thick-diameter fire-resistant overstory trees instead of or in addition to cutting thin-sized fire-susceptible understory trees. The resulting logging slash and the increased solar and wind exposure can	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.

	paradoxically increase the fuel hazards and fire risks."	
244		
245	Ingalsbee, Timothy Ph.D. "Fanning the Flames! The U.S. Forest	reference, no response needed
246	Service: A Fire-Dependent Bureaucracy."	reference, no response needed
247	Missoula Independent. Vol. 14 No. 24, June 2003	reference, no response needed
248	<a href="http://www.fire-ecology.org/research/USFS_fire_dependent.html">http://www.fire-ecology.org/research/USFS_fire_dependent.html</a>	reference, no response needed
249		
250	"More than any other recent human activity, the legacy of commercial timber extraction has made public forests more flammable and less resilient to fire. Firstly, clearcut and high-grade logging have historically taken the largest, most fire-resilient, most commercially-valuable trees, and left behind dead needles and limbs (logging debris called "slash"), along with smaller trees and brush that are less commercially valuable but more flammable than mature and old-growth trees. The net effect is to increase the amount of available hazardous fuel."	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
251		
252	"Secondly, the removal of large overstory trees also changes the microclimate of logged sites, making them hotter, drier, and windier, which increases the intensity and rate of spread of wildfires. Third, the creation of densely-stocked even-aged plantations of young conifers made sites even more flammable since this produced a solid mass of highly combustible conifer needles within easy reach of surface flames. These changes in the fuel load, fuel profile, and microclimate make logged sites more prone to high-intensity and high-severity wildfires."	The silvicultural treatments proposed would develop early successional stands. These areas would be warmer and dryer and provide a type of habitat beneficial to early successional species. As seedlings become established and begin to dominate the site, compositions would begin to ameliorate and provide more shading and moisture retention. This would provide habitat conditions to species that prefer early stage successional forests. As stands grow and mature they would progress to mid successional forests favoring another suite of plants and animals.

		Trees are typically whole tree skidded to landings thus reducing the amount of woody debris left on site. Southeast climatic conditions are conducive to rapid decomposition of woody material. Periodic prescribed burning reduces fuel loadings further and increases moisture and light in the stand.
253		
254	Ingalsbee, Timothy Ph.D. 2005. "A Reporter's Guide to Wildland Fire."	reference, no response needed
255	Published by the Firefighters United for Safety, Ethics, and	reference, no response needed
256	Ecology (FUSE), January 2005	reference, no response needed
257	<a href="http://www.commondreams.org/news2005/0111-14.htm">http://www.commondreams.org/news2005/0111-14.htm</a>	reference, no response needed
258		
259	"Linear developments may result in habitat avoidance for grizzly bears. Logging-truck traffic in the Kimsquit Valley in British Columbia resulted in a 78% reduction in use of the "Zone of Hauling Activity" by radio collared bears compared to non-hauling periods (16). For 14 hours/day, 3%-23% of each bear's home range was unavailable to them because of disturbance."	The information presented is for western conditions and is not relevant to the project area.
260		
261	"The impacts of land-use activities on wolverines are likely similar to those on grizzly bears. Wolverines seem to have been most affected by activities that fragment and supplant habitat, such as human settlement, extensive logging, oil and gas development, mining, recreational developments, and the accompanying access. Wolverine populations that are now at the edge of extirpation have been relegated to the last available habitat that has not been developed, extensively modified, or accessed by humans."	The information presented is for western conditions and is not relevant to the project area.
262		
263	Jalkotzy, M.G., P.I. Ross, and M.D. Nasserden. 1997. "The Effects of	reference, no response needed

	Linear	
264	Developments on Wildlife: A Review of Selected Scientific Literature.” Prepared for	reference, no response needed
265	Canadian Association of Petroleum Producers. Arc Wildlife Services Ltd., Calgary. 115pp.	reference, no response needed
266	<a href="http://www.capp.ca/getdoc.aspx?DocId=24902&amp;DT=PDF">http://www.capp.ca/getdoc.aspx?DocId=24902&amp;DT=PDF</a>	reference, no response needed
267		
268	“History, not science, refutes the claim that logging helps to prevent forest fires.	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
269		
270	The forests of the West are far more vulnerable to fire due to a century of industrial logging and fire suppression. Logging has removed most of the older, fire-resistant trees from the forests.	The information presented is for western conditions and is not relevant to the project area.
271		
272	Fire suppression has encouraged many smaller and more flammable trees, brush and dense plantations to fill the holes. Logging has set the forests of the West up to burn big and hot.	The information presented is for western conditions and is not relevant to the project area.
273		
274	More logging will not fix this.”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
275		
276	Keene, Roy “Logging does not prevent wildfires”	reference, no response needed
277	Guest Viewpoint, the Eugene Register Guard	reference, no response needed
278	<a href="http://www.highbeam.com/doc/1G1-192070397.html">http://www.highbeam.com/doc/1G1-192070397.html</a>	reference, no response needed
279		

280	“Fear of wildfire is heavily used to sell these forest “restoration” schemes. Logging has not been proven, in practice, to reduce fire frequency or intensity. Historically, the largest, most destructive blazes, like the Tillamook conflagration, were caused from logging or fueled by slash. Unlogged forests, cool and shaded, are typically more fire resistant than cut over, dried-up stands choked with slash and weeds.	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
281		
282	Large-scale logging (by any name) has devalued our forests, degraded our waters, damaged soils, and endangered a wide variety of plants and animals. How will the current round of politically and environmentally propelled ‘restorative’ logging proposals differ, in practice, from past logging regimes?”	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Effects of the proposal are found in Chapter 3 of the EA.
283		
284	Keene, Roy Restorative Logging? “More rarity than reality”	reference, no response needed
285	Guest Viewpoint, the Eugene Register Guard	reference, no response needed
286	<a href="http://eugeneweekly.com/2011/03/03/views3.html">http://eugeneweekly.com/2011/03/03/views3.html</a>	reference, no response needed
287		
288	"Timber harvesting operations affect hydrologic processes by reducing canopy interception and evapotranspiration. Many studies have documented changes in soil properties following tractor yarding (Stone, 1977; Cafferata, 1983), and low-ground-pressure skidding (Sidle and Drlica, 1981). More recently, researchers have evaluated cable yarding (Miller and Sirois, 1986; Purser and Cundy, 1992). In general, these studies report decreased hydraulic conductivity and increased bulk density in forest soils after harvest."	Chapter 3 of the EA discloses the effects of timber harvesting on water and soil, respectively in the project area.
289		
290	Keppeler, Elizabeth T. Robert R. Ziemer Ph.D., and Peter H. Cafferata	reference, no response needed
291	"Effects of Human-Induced Changes on Hydrologic Systems."	reference, no response needed
292	An American Water Resources Association publication, June 1994	reference, no response needed
293	<a href="http://www.fs.fed.us/psw/publications/ziemer/Ziemer94a.PDF">http://www.fs.fed.us/psw/publications/ziemer/Ziemer94a.PDF</a>	reference, no response needed

294		
295	"Among these four species of amphibians, the spotted salamander is most likely to be affected adversely by the logging as this species of salamander relies on dense forests with full canopies (Harding, 1997)."	All regeneration harvest units occur mostly in drier upland areas. Hardwood bottomlands where salamanders are most likely to be found will not be included in any harvesting. This lowers the potential impacts to amphibian species. Effects to wildlife have been disclosed in Chapter 3 of the EA. Effects are unlikely to salamanders since they are typically found in wet areas adjacent to streams. Riparian buffer strips would be left adjacent to streams in the project area reducing adverse effects to amphibians. Leaving seed trees in the project area would provide some shading to the forest floor. This would increase moisture retention in organic material favorable to amphibian species.
296		
297	"Looking at the study on a larger scale, the potential for changes caused by logging is great. Absence of trees could influence water temperature by altering available sunlight, conductivity by changing the amount of organic matter that collects in the vernal ponds, or pH if the logging process deposits foreign residues to the area. Also heavy equipment used to harvest the timber has the potential to alter the terrain."	All regeneration units occur mostly in drier upland areas. Before that, the area was planted to loblolly pine after the agriculture land was mostly left abandoned. The landscape has been modified heavily in the past by human influence and severe erosion processes that removed most of the topsoil in the area prior to acquisition by the federal government and brought under management by the Forest Service. Hardwood bottomlands where salamanders are most likely to be found are not included in any harvesting. This lowers the potential impacts to amphibian species. Riparian areas, which are protected with buffer strips, provide the best habitat for a variety of riparian species including salamanders. The effects on amphibians would be minor and short term. The information presented in the comment is for conditions on the Ottawa National Forest and is not relevant to the project area. Effects to wildlife have been disclosed in Chapter 3 of the EA.
298		

299	"Modifications to the landscape could change how water flows and collects at the surface and change the size, shape, and location of the vernal ponds. Loss or alteration to small temporary water sources less than four hectares can be extremely detrimental to amphibians water (Semlitsch, 2000). Without vernal ponds amphibians would have difficulty inhabiting forested areas because they rely on the ponds as breeding grounds. If logging disturbs the ponds, amphibian populations could diminish in the areas that surround these vernal pools."	All regeneration units occur mostly in drier upland areas. Hardwood bottomlands where salamanders are most likely to be found will not be included in any harvesting. This lowers the potential impacts to amphibian species. The information presented in the comment is for conditions on the Ottawa National Forest and is not relevant to the project area. The stands in the project area have been harvested in the past and before that much of the land in the project area was agriculture. Riparian areas, which are protected with buffer strips, provide the best habitat for a variety of riparian species including salamanders. The effects on amphibians would be minor and short term. Effects to wildlife have been disclosed in Chapter 3 of the EA.
300		
301	Klein, AI 2004. Logging Effects on Amphibian Larvae	reference, no response needed
302	Populations in Ottawa National Forest.	reference, no response needed
303	<a href="http://www.nd.edu/~underc/east/education/documents/AKlein2004Pre-loggingsurveyofamphibianlarvaeinvernalpools.pdf">http://www.nd.edu/~underc/east/education/documents/AKlein2004Pre-loggingsurveyofamphibianlarvaeinvernalpools.pdf</a>	reference, no response needed
304		
305	"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."	The information presented is for western conditions and is not relevant to the project area.
306		

307	<p>“Qualitative analysis by CRS supports the same conclusion. The CRS stated: “[T]imber harvesting removes the relatively large diameter wood that can be converted into wood products, but leaves behind the small material, especially twigs and needles. The concentration of these fine fuels on the forest floor increases the rate of spread of wildfires.” Similarly, the National Research Council found that logging and clearcutting can cause rapid regeneration of shrubs and trees that can create highly flammable fuel conditions within a few years of cutting.”</p>	<p>The information presented is for western conditions and is not relevant to the project area.</p>
308		
309	<p>Laverty, Lyle, USDA Forest Service and Tim Hartzell U.S. Department of the Interior</p>	<p>reference, no response needed</p>
310	<p>“A Report to the President in Response to the Wildfires of 2000”, September 8, 2000.</p>	<p>reference, no response needed</p>
311	<p><a href="http://www.fs.fed.us/emc/hfi/president.pdf">http://www.fs.fed.us/emc/hfi/president.pdf</a></p>	<p>reference, no response needed</p>
312		
313	<p>“I will turn first to forest thinning aimed at reducing fire risks. There is surprisingly little scientific information about how thinning actually affects overall fire risk in national forests.”</p>	<p>The purpose and need for the project can be found in section 1.3. The proposed action is to regenerate new stands by the seedtree harvest method. Timber harvesting involves whole tree skidding to the log landing and loading area. Most of the slash from logging winds up at the log landing where material is mechanically broken up by the logging operation. Treating these stands this way, creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. The wildfire history for the Piedmont Region of South Carolina is low given the amount of prescribed burning done on an annual basis and climate conditions that are conducive to rapid decomposition of logging residue. This in combination with the high utilization standards reduces the amount of material available to burn after logging.</p>
314		

315	<p>“How can it be that thinning could increase fire risks? First, thinning lets in sunlight and wind, both of which dry out the forest interior and increase flammability. Second, the most flammable material - brush, limbs, twigs, needles, and saplings - is difficult to remove and often left behind. Third, opening up forests promotes brushy, flammable undergrowth. Fourth, logging equipment compacts soil so that water runs off instead of filtering in to keep soils moist and trees healthy. Fifth, thinning introduces diseases and pests, wounds the trees left behind, and generally disrupts natural processes, including some that regulate forest health, all the more so if road construction is involved.”</p>	<p>The purpose and need for the project can be found in Chapter 1 of the EA. The proposed action is to regenerate new stands by the seedtree harvest method. Timber harvesting involves whole tree skidding to the log landing and loading area. Most of the slash from logging winds up at the log landing where material is mechanically broken up by the logging operation. Treating these stands this way, creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. The wildfire history for the Piedmont Region of South Carolina is low given the amount of prescribed burning done on an annual basis and climate conditions that are conducive to rapid decomposition of logging residue. This in combination with the high utilization standards reduces the amount of material available to burn after logging. Refer to the water section for effects from timber harvesting on water runoff. Opening up these dense loblolly pine stands provides increased sunlight and water that is available for growth of grasses, forbs and shrubs which increase water infiltration rates. Skid trails are usually pre-designated and approved by the Forest Service timber sale administrator which also reduces logging damage.</p>
316		
317	Lawrence, Nathaniel, NRDC senior attorney	reference, no response needed
318	“Gridlock on the National Forests” Testimony before the U.S. House	reference, no response needed
319	of Representatives Subcommittee on Forests and Forest	reference, no response needed
320	Health (Committee on Resources) December 4, 2001.	reference, no response needed
321	<a href="http://www.nrdc.org/land/forests/tnl1201.asp">http://www.nrdc.org/land/forests/tnl1201.asp</a>	reference, no response needed
322		

323	<p>“Those who would argue that this form of logging has any positive effects on an ecosystem are clearly misinformed. This type of logging has side effects related to wildfires, first and foremost being that the lumber companies aren't interested in hauling out all the smaller trees, branches, leaves, pine needles, sawdust, and other debris generated by cutting all these trees. All this debris is left on site, quickly dries out, and is far more flammable sitting dead on the ground than it was living in the trees. Smaller, non-commercially viable trees are left behind (dead) as well - creating even more highly flammable fuel on the ground.</p>	<p>The information presented is for western conditions and is not relevant to the project area. Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis.</p>
324		
325	Leitner, Brian. “Logging Companies are Responsible for	reference, no response needed
326	the California Wildfires.” the Democratic Underground, October 30, 2003.	reference, no response needed
327	<a href="http://www.democraticunderground.com/articles/03/10/30_logging.html">http://www.democraticunderground.com/articles/03/10/30_logging.html</a>	reference, no response needed
328		
329	"We concluded that commercial timber sales do not meet the criteria for forest restoration." (Pg. 11)	This is a quote and is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area.
330		
331	Long, Richard D., U.S. Department of Agriculture Office of Inspector General	reference, no response needed
332	"Western Region Audit Report: Forest Service National Fire Plan Implementation"	reference, no response needed
333	Report No. 08601-26-SF, November 2001.	reference, no response needed
334	<a href="http://maps.wildrockies.org/ecosystem_defense/Resources_Species_Topics/Fire/Misuse%20of%20Fire%20Plan%20funds.pdf">http://maps.wildrockies.org/ecosystem_defense/Resources_Species_Topics/Fire/Misuse%20of%20Fire%20Plan%20funds.pdf</a>	reference, no response needed
335		

336	"In hopes of ending conflicts over "multiple use," an independent scientific committee has proposed that "ecological sustainability" should become the principal goal in managing the U.S. national forests and grasslands, which since 1960 have been under a congressional mandate to serve industry, recreation, and conservation all at once."	This represents a statement of opinion.
337		
338	Mann, Charles C. Ph.D. and Mark L. Plummer Ph.D.	reference, no response needed
339	"Call for 'Sustainability' in Forests Sparks a Fire"	reference, no response needed
340	Science 26 March 1999: Vol. 283. no. 5410, pp. 1996 - 1998	reference, no response needed
341	<a href="http://www.sciencemag.org/cgi/content/summary/283/5410/1996">http://www.sciencemag.org/cgi/content/summary/283/5410/1996</a>	reference, no response needed
342		
343	"Logging removes a mass that harbor a myriad of organisms, from bacteria and actinomycetes to higher fungi. The smaller organisms, not visible to the unaided eye, are still important components of the system."	The effects of logging on soils are disclosed in Chapter 3 of the EA. Implementation of design criteria along with Forest Plan standards including <i>SC Best Management Practices for Forestry</i> and <i>National Best Management Practices for Water Quality Management on National Forest System Lands</i> , reduce adverse effects to soils.
344		
345	Maser, C. Ph.D., and J. M. Trappe Ph.D.	reference, no response needed
346	"The Seen and Unseen World of the Fallen Tree", 1984	reference, no response needed
347	USDA Forest Service, GTR-PNW-164	reference, no response needed
348	<a href="http://www.fs.fed.us/pnw/publications/pnw_gtr164/">http://www.fs.fed.us/pnw/publications/pnw_gtr164/</a>	reference, no response needed
349		
350	"Logging removes mature and maturing trees which conserve essential elements, whereas the area containing new very young planted trees following logging are susceptible to erosion and essential element loss." (pg.5)	The effects of logging on soils are disclosed in Chapter 3 of the EA.
351		

352	"Logging removes tree parts that would have created and maintained diversity in forest communities." (pg. 44)	The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in section 2.5 and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat exists in the project area and is expected to be there in the future.
353		
354	Maser, C. Ph.D., R. F. Tarrant, J. M. Trappe Ph.D., and J. F. Franklin Ph.D. 1988	reference, no response needed
355	"The Forest to the Sea: A Story of Fallen Trees"	reference, no response needed
356	USDA Forest Service, GTR-PNW-GTR-229	reference, no response needed
357	<a href="http://www.fs.fed.us/pnw/publications/pnw_gtr229/">http://www.fs.fed.us/pnw/publications/pnw_gtr229/</a>	reference, no response needed
358		
359		
360		
361	"In addition to the direct effects of habitat loss and fragmentation, logging typically reduces ecosystem health by: a) damaging aquatic habitats through siltation, reduction in stream complexity and increased water temperatures."	The effects on aquatic communities are disclosed in Chapter 3 of the EA.
362		
363	McIntosh, B.A., J.R. Sedell, J.E. Smith, R.C. Wissmar	reference, no response needed
364	S.E. Clarke, G.H. Reeves, and L.A. Brown	reference, no response needed

365	"Management history of eastside ecosystems: changes in	reference, no response needed
366	fish habitat over 50 years, 1935-1992." 1994	reference, no response needed
367	GTR-321 93-181	reference, no response needed
368	<a href="http://www.fs.fed.us/pnw/publications/pnw_gtr321/">http://www.fs.fed.us/pnw/publications/pnw_gtr321/</a>	reference, no response needed
369		
370	"Logging practices can indirectly result in changes in the biological components of a stream, and can have direct and indirect on the physical environment in streams.	The effects on aquatic communities is disclosed in section 3.2.7 of the EA.
371		
372	The primary environmental changes of concern are the effects of siltation, logging debris, gravel scouring, destruction of developing embryos and alevins, blockage of streamflow, decrease in surface and intragravel dissolved oxygen, increase in maximum and diel water temperatures, changes in pool/riffle ratios and cover, redistribution of fishes, reduction in fish numbers, and reduction in total biomass."	The effects on aquatic communities is disclosed in Chapter 3 of the EA.
373		
374	Moring, John R. Ph.D. 1975. "The Alsea Watershed Study: Effects of	reference, no response needed
375	Logging on the Aquatic Resources of Three Headwater Streams of	reference, no response needed
376	the Alsea River, Oregon – Part III." Fishery Report Number 9	reference, no response needed
377	Oregon Department of Fish and Wildlife.	reference, no response needed
378	<a href="http://www.for.gov.bc.ca/hfd/library/ffip/Moring_JR1975b.pdf">http://www.for.gov.bc.ca/hfd/library/ffip/Moring_JR1975b.pdf</a>	reference, no response needed
379		

380	<p>"Biodiversity in managed ecosystems is poor. Less biodiverse communities and ecosystems are more susceptible to adverse weather (such as drought) and exotic invaders, and have greatly reduced rates of biomass production and nutrient cycling."</p>	<p>The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat exists in the project area and is expected to be there in the future.</p>
381		
382	<p>"All of these studies show that ecosystem functioning is decreased as the number of species in a community decreases. Declines in functioning can be particularly acute when the number of species is low, such as in most managed ecosystems including croplands or timber plantations."</p>	<p>The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat exists in the project area and is expected to be there in the future.</p>
383		

384	"Recent evidence demonstrates that both the magnitude and stability of ecosystem functioning are likely to be significantly altered by declines in local diversity, especially when diversity reaches the low levels typical of managed ecosystems."	The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat exists in the project area and is expected to be there in the future.
385		
386	Naeem, Shahid Ph.D., F.S. Chapin III Ph.D., Robert Costanza Ph.D.,	reference, no response needed
387	Paul R. Ehrlich Ph.D., Frank B. Golley Ph.D., David U. Hooper Ph.D.	reference, no response needed
388	J.H. Lawton Ph.D., Robert V. O'Neill Ph.D., Harold A. Mooney Ph.D.	reference, no response needed
389	Oswaldo E. Sala Ph.D., Amy J. Symstad Ph.D., and David Tilman Ph.D.	reference, no response needed
390	"Biodiversity and Ecosystem Functioning: Maintaining Natural Life	reference, no response needed
391	Support Processes." Issues in Ecology No. 4. Fall 1999.	reference, no response needed
392	<a href="http://www.esa.org/science_resources/issues/TextIssues/issue4.php">http://www.esa.org/science_resources/issues/TextIssues/issue4.php</a>	reference, no response needed
393		
394	"As a result of the Forest Service's well-documented mismanagement over many years of the timber sale program, taxpayers also have been stuck with the tab for hundreds of millions of dollars worth of subsidies to a profitable timber industry."	This represents a statement of opinion.
395		
396	Nappier, Sharon. Lost in the Forest: How the Forest Service's	reference, no response needed

397	Misdirection, Mismanagement, and Mischief Squanders Your Tax Dollars.	reference, no response needed
398	Taxpayers for Common Sense, 2002.	reference, no response needed
399	<a href="http://www.ourforests.org/fact/lostintheforest.pdf">http://www.ourforests.org/fact/lostintheforest.pdf</a>	reference, no response needed
400		
401	"Agroforestry does reduce biodiversity. In forests used for logging, whole-landscape management is crucial. Here, emphasis is placed on areas of intensive use interspersed with areas for conservation and catchment purposes. Management strategies for sustainable forestry are being developed, but there is a need for further interaction among foresters, ecologists, community representatives, social scientists, and economists."	This represents a statement of opinion.
402		
403	Noble, Ian R. and Rodolfo Dirzo Ph.D. "Forests as Human-Dominated	reference, no response needed
404	Ecosystems." Science Vol. 277. No. 5325, pp. 522 - 525. 25 July 1997.	reference, no response needed
405	<a href="http://www.sciencemag.org/cgi/content/abstract/277/5325/522?maxtoshow=&amp;HITS=10&amp;hits=10&amp;RESULTFORMAT=&amp;fulltext=logging&amp;searchid=1136659907310_5043&amp;FIRSTINDEX=0&amp;journalcode=sci">http://www.sciencemag.org/cgi/content/abstract/277/5325/522?maxtoshow=&amp;HITS=10&amp;hits=10&amp;RESULTFORMAT=&amp;fulltext=logging&amp;searchid=1136659907310_5043&amp;FIRSTINDEX=0&amp;journalcode=sci</a>	reference, no response needed
406		
407	"The U.S. Forest Service has been sitting on a public opinion survey it commissioned, not knowing what to do with the results. The problem is that most people surveyed want more wilderness and less logging on the Green Mountain National Forest (GMNF), while the federal agency seems to want to build more roads and cut more trees."	This represents a statement of opinion.
408		

409	"The survey conducted by Dr. Robert Manning of the School of Natural Resources at the University of Vermont, polled 1,500 Vermont households in the spring of 1995. A survey with similar results was completed last fall for the White Mountain National Forest in New Hampshire. 'It is clear that New England residents value the national forest for many reasons, but non-material values, such as aesthetics and ecological protection, are more important than material values, such as economic development,' said Dr. Manning."	This represents a statement of opinion.
410		
411	"The responses to several survey questions indicate a strong public desire for more areas of wild, untouched nature on the GMNF and less roadbuilding and logging. Very few people supported clearcutting and other types of industrial logging, especially if natural beauty or wildlife habitat were harmed."	This is information from a poll regarding the Green Mountain National Forest and is not relevant to conditions in the project area. This represents a statement of opinion.
412		
413	"For example: 82 percent wanted to ban clearcutting, 82 percent said logging should not hurt scenic beauty, 80 percent of the respondents wanted to protect remaining undisturbed forest; and 72 percent urged prohibition of logging if bear or other wildlife habitat would be harmed." "Only 36 percent felt that management of the GMNF should emphasize timber and lumber products; and only 15 percent felt that jobs are more important than protection of endangered species."	This is information from a poll regarding the Green Mountain National Forest and is not relevant to conditions in the project area. This represents a statement of opinion.
414		
415	"The results of this survey and a similar one on the White Mountain National Forest in Vermont should serve as loud wake-up calls to the U.S. Forest Service,' said Northup. 'Forest Service officials have two choices: either begin a major overhaul of the agency's management programs or ignore the wishes of the people they are supposed to serve'."	This is information from a poll regarding the Green Mountain national Forest and is not relevant to conditions in the project area. This represents a statement of opinion.
416		
417	Northup, Jim. 1999. "Public Wants More Wilderness,	reference, no response needed

418	Less Logging on Green Mountain NF". Press Release	reference, no response needed
419	by Forest Watch, a Vermont-based environmental organization.	reference, no response needed
420	<a href="http://www.forestwatch.org/content.php?id=10">http://www.forestwatch.org/content.php?id=10</a>	reference, no response needed
421		
422	"Still, forestry experts warned in the 2000 plan that logging should be used carefully and rarely; in fact, the original draft states plainly that the "removal of large merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk."	This represents a statement of opinion.
423		
424	"Now, critics charge that the Bush administration is ignoring that warning. Neil Lawrence, a policy analyst with the Natural Resource Defense Council, claims that Washington has taken a far more aggressive approach to incorporating commercial logging in its wildfire prevention plans. As a result, Lawrence and other critics say, the National Fire Plan is becoming a feeding ground for logging companies. Moreover, critics claim the administration's strategy, far from protecting the lives and homes of those most at risk, could actually increase the likelihood of wildfires."	This represents a statement of opinion.
425		
426	Okoand Ilan Kayatsky, Dan. "Fight Fire with Logging?"	reference, no response needed
427	Mother Jones, August 1, 2002	reference, no response needed
428	<a href="http://www.motherjones.com/news/feature/2002/08/fireplan.html">http://www.motherjones.com/news/feature/2002/08/fireplan.html</a>	reference, no response needed
429		

468	<p>“In response to catastrophic wildfires, wide-reaching forest management policies have been enacted in recent years, most notably the Healthy Forests Restoration Act of 2003. A key premise underlying these policies is that fire suppression has resulted in denser forests than were present historically in some western forest types. Therefore, although reducing the threat of wildfire is the primary goal, forest managers commonly view fuel treatments as a means to restore historic forest structure in those forest types that are outside of their historic range of variation. This study evaluates where both wildfire mitigation and restoration of historic forest structure are potentially needed in the ponderosa pine–dominated montane forest zone of Boulder County, Colorado. Two spatial models were overlain: a model of potential fireline intensity and a model of historic fire frequency. The overlay was then aggregated by land management classes.</p>	<p>This is not relevant to the project area.</p>
469		
470	<p>Contrary to current assumptions, results of this study indicate that both wildfire mitigation and restoration of historic forest structure are needed in only a small part of the study area, primarily at low elevations.</p>	<p>This is not relevant to the project area.</p>
471		
472	<p>Furthermore, little of this land is located on Forest Service land where most of the current thinning projects are taking place. We question the validity of thinning as a means both to reduce the threat of wildfire and to restore historic forest structure in the absence of site-specific data collection on past and present landscape conditions.”</p>	<p>This is not relevant to the project area.</p>
473		
474	<p>Platt, Rutherford V. Ph.D., Thomas T. Veblen Ph.D., and Rosemary L. Sherriff “Are</p>	<p>reference, no response needed</p>
475	<p>Wildfire Mitigation and Restoration of Historic Forest Structure Compatible?</p>	<p>reference, no response needed</p>
476	<p>A Spatial Modeling Assessment” Published Online: by the by</p>	<p>reference, no response needed</p>

	Association	
477	of American Geographers. Sep. 8, 2006	reference, no response needed
478	<a href="http://www.ingentaconnect.com/content/routledg/anna/2006/00000096/00000003/art00001">http://www.ingentaconnect.com/content/routledg/anna/2006/00000096/00000003/art00001</a>	reference, no response needed
479		
480	"Private lands are more suitable for timber production. National Forest land is on average of lower productivity and on steeper, higher elevation terrain than are private forestlands."	The project area is highly productive timberland and is similar to surrounding private land.
481		
482	Powell, Douglas S. Ph.D, Joanne L. Faulkner, David R. Darr, Zhiliang Zhu Ph.D.	reference, no response needed
483	and Douglas W. MacCleery. 1992. "Forest Resources of the United States."	reference, no response needed
484	USDA Forest Service. Rocky Mt. Forest and Range Experiment Station.	reference, no response needed
485	Gen. Tech. Rep. RM-234.	reference, no response needed
486	<a href="http://www.fs.fed.us/rm/pubs_rm/rm_gtr234.html">http://www.fs.fed.us/rm/pubs_rm/rm_gtr234.html</a>	reference, no response needed
496		
497	"Less than 5% of America's original forests remain, and these forests are found primarily on federal lands. Logging in the last core areas of biodiversity is destroying the remaining intact forest ecosystems in the United States. At the current rate of logging, these forests and their priceless biological assets will be destroyed within a few decades.	This represents a statement of opinion.
498		
499	We urge Congress to pass the Act to Save America's Forests. It is the first nationwide legislation that would halt and reverse deforestation on all our federal lands. By implementing protective measures based on principles of conservation biology, the bill provides a scientifically sound legislative solution for halting the rapid decline of our nation's forest ecosystems.	This represents a statement of opinion.

500		
501	The Act to Save America's Forests will:Make the preservation and restoration of native biodiversity the central mission of Federal forest management agencies.Ban extractive logging in core areas of biodiversity and the last remnant original forest ecosystems: roadless areas, ancient forests and special areas of outstanding biological value.Protect sensitive riparian areas and watershed values by banning extractive logging in streamside buffer zones.End clearcutting and other even age logging practices on federal land.We believe it is our professional responsibility to ask Congress to align Federal forest management with modern scientific understandings of forest ecosystems. Passage of the Act to Save America's Forests will give our nation's precious forest ecosystems the best chance or survival and recovery into the 21st century and beyond.”	This represents a statement of opinion.
502		
503	Raven, Peter, Ph.D., Jane Goodall, C.B.E., Ph.D., Edward O. Wilson, Ph. D.	reference, no response needed
504	and over 600 other leading biologists, ecologists, foresters, and scientists from	reference, no response needed
505	other forest specialties. From a 1998 letter to congress.	reference, no response needed
506	<a href="http://www.saveamericasforests.org/resources/Scientists.htm">http://www.saveamericasforests.org/resources/Scientists.htm</a>	reference, no response needed
507		
508	“The Act to Save America’s Forests is based on the principles of conservation biology. It would make the protection native biodiversity the primary goal of federal forest management agencies. The bill would protect over 20 million acres of core forest areas throughout the nation, including ancient forests, roadless areas, key watershed, and other special areas. It is a comprehensive, sustainable, and ecologically-sound plan for protecting and restoring the entire federal forest system.	This represents a statement of opinion.
509		

510	If the current pace of logging planned by the Forest Service continues, nearly all of America's ancient and roadless wild forests will soon be lost forever. According to a recent report by the World Resources Institute, only one percent of the original forest cover remains in large blocks within the lower 48 states. The Act to Save America's Forests incorporates the solution recommended by the report, namely to protect core forest areas from any logging and to allow sustainable forest practices around these protected forests. Endorsed by over 600 leading scientists, this bill may be the last hope for America's forests."	This represents a statement of opinion.
511		
512	Raven, Peter, Ph.D.,	reference, no response needed
513	from his February 9, 2001 letter to Senator Jean Carnahan	reference, no response needed
514	<a href="http://www.saveamericasforests.org/Raven.htm">http://www.saveamericasforests.org/Raven.htm</a>	reference, no response needed
515		
516	"It is well established that logging and roadbuilding often increase both fuel loading and fire risk. For example, the Sierra Nevada Ecosystem Project (SNEP) Science Team (1996) concluded that "timber harvest.... has increased fire severity more than any other recent human activity" in the Sierra Nevada. Timber harvest may increase fire hazard by drying of microclimate associated with canopy opening and with roads, by increases in fuel loading by generation of activity fuels, by increases in ignition sources associated with machinery and roads, by changes in species composition due to opening of stands, by the spread of highly flammable non native weeds, insects and disease, and by decreases in forest health associated with damage to soil and residual trees (DellaSala and Frost, 2001; Graham et al., 2001; Weatherspoon et al., 1992; SNEP Science Team, 1996). Indeed a recent literature review reported that some studies have found a positive correlation between the occurrence of past logging and present fire hazard in some forest types in the Interior Columbia Basin (DellaSala and Frost, 2001)."	This is not relevant to the project area.

517		
518	Roberson, Emily B. Ph.D., Senior Policy Analyst, California Native Plant Society	reference, no response needed
519	Excerpt from a letter to Chief Dale Bosworth and 5 members of congress	reference, no response needed
520	<a href="http://www.plantsocieties.org/PDFs/Fire%20letter%20CNPS%208.02%20letterhead.pdf">http://www.plantsocieties.org/PDFs/Fire%20letter%20CNPS%208.02%20letterhead.pdf</a>	reference, no response needed
521		
522	<p>“I will discuss my views on how activities related to timber harvest adversely affect coastal salmonids in California by destroying, altering, or otherwise disturbing the freshwater habitats upon which these fish depend during crucial phases of their life cycle. I base these opinions on my research and observations in the field, as well as my review of and familiarity with the scientific literature and publications of government agencies, commissions, and scientific review panels. Below I discuss in some detail the life history and habitat needs of coho salmon to illustrate how timber harvest and related roads affect this threatened species. Although Chinook salmon and steelhead trout have similar life histories and habitat needs, and also are negatively affected by timber harvest, I will use coho salmon in my discussion.”</p>	This is not relevant to the project area.
523		

524	<p>“Loss or degradation of stream habitat has been and remains the single most significant cause of the decline of anadromous salmonids in general in the Pacific Northwest. In my experience the most pervasive and severe impacts to coastal watersheds in California inhabited by coho salmon result from logging and associated activities. These activities cause significant alteration and degradation to coho salmon habitat by 1) increasing sediment input to salmon bearing streams and their tributaries; 2) by decreasing input of LWD into waterways; 3) by altering streamflow regimes, increasing the likelihood of scouring flows and flooding; and 4) by increasing water temperatures. These pervasive changes due to timber harvest decrease the complexity and suitability of coho salmon habitat, including adversely affecting insects and other organisms that provide food for fish.”</p>	<p>This is not relevant to the project area.</p>
525		
526	<p>Roelofs, Terry D. Ph.D. Testimony for the California State Water Board</p>	<p>reference, no response needed</p>
527	<p>and Regional Water Quality Control Boards Regarding Waivers of Waste</p>	<p>reference, no response needed</p>
528	<p>Discharge Requirements on Timber Harvest Plans. August 2003.</p>	<p>reference, no response needed</p>
529	<p><a href="http://74.125.113.132/search?q=cache:QNY_aih1RxEJ:edennapa.org/thp/roelofstestimony.doc+%22timber+harvest%22+ph.d.+adverse&amp;hl=en&amp;ct=clnk&amp;cd=5&amp;gl=us">http://74.125.113.132/search?q=cache:QNY_aih1RxEJ:edennapa.org/thp/roelofstestimony.doc+%22timber+harvest%22+ph.d.+adverse&amp;hl=en&amp;ct=clnk&amp;cd=5&amp;gl=us</a></p>	<p>reference, no response needed</p>
530		

531	<p>“People moving to the region may do so for reasons related to the social environment and the physical landscape but not care about specific Federal land management practices. We found this not to be true, since 92 percent were concerned with how Federal lands were managed. The most frequent preferences for managing Federal lands were water/watershed and ecosystem protection (table 3). Timber harvesting was cited by 16 percent, grazing and ranching by 6 percent, and mineral exploration/mining by less than 1 percent. Overall, protective strategies made up 76 percent of the preferred management strategies and commodity-based strategies 23 percent. This same trend is evident for the second and third most stated preferences. These findings also contradict the longstanding view of the Federal lands as a public warehouse of commodities to be harvested and jobs to be filled. For newcomers in the rural West, the value of these public lands is related to protecting and preserving them.”</p>	<p>This is not relevant to the project area.</p>
532		
533	<p>Rudzitis, Gundars. 1999 “Amenities Increasingly Draw People to the Rural West”</p>	<p>reference, no response needed</p>
534	<p>Rural Development Perspectives, vol. 14, no. 2</p>	<p>reference, no response needed</p>
535	<p><a href="http://www.ers.usda.gov/publications/rdp/rdpsept99/rdpsept99b.pdf">http://www.ers.usda.gov/publications/rdp/rdpsept99/rdpsept99b.pdf</a></p>	<p>reference, no response needed</p>
536		
537	<p>“Once clear-cutting has occurred, regulation and human silvicultural practices become responsible for the revegetation that follows. The creation of new forest succession patterns are the result of human control over the growing environment. Rather than proceeding at a natural pace, humans attempt to speed up the forest succession process to quickly return to a situation where harvesting is again possible. Reforestation of the disturbed area after clear-cutting also emphasizes maintaining control over the distribution and quality of forest species.</p>	<p>The effects on vegetation from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p>
538		

539	Simplification is a state that results from the forest being harvested before it reaches maturity. Logging simplifies forest ecosystems (Dudley et al 1995) by narrowing the age range of the stand and suppressing diversification through repeated harvesting, burning to remove slash, and replanting with hybrid seedlings. Simplification affects the health and productivity of the forest because simplified forests lack the variety found in older stands, including species diversity, vertical structure, and microhabitat. From an ecological standpoint, a simplified forest of a particular age has less overall biomass per acre than a natural forest of the same age, but a simplified forest produces a higher volume of merchantable timber.	Only a portion of the forest landscape in the watersheds is proposed for harvesting. The land/cover class is displayed in the water section of the EA and indicates that forestlands dominate the landscape. The project would increase structural diversity of stands and compartments in the watersheds. The watersheds are moving to mature to over mature trees that are at increasing risk to damage and mortality from southern pine beetle. Treatments break-up the continuous forest types and age classes, slowing the spread of beetles and lowering stand risk. Timber harvesting would increase the amount of early successional habitat and is consistent with Forest Plan objectives for the area.
540		
541	Scott, Mark G.	reference, no response needed
542	"Forest Clearing in the Gray's River Watershed 1905-1996"	reference, no response needed
543	A research paper submitted in partial fulfillment of the	reference, no response needed
544	requirements for the degree of MASTER OF SCIENCE in GEOGRAPHY	reference, no response needed
545	Portland State University, 2001	reference, no response needed
546	<a href="http://www.markscott.biz/papers/grays/chapter1.htm">http://www.markscott.biz/papers/grays/chapter1.htm</a>	reference, no response needed
547		
548	"Within this volatile atmosphere the Bush Administration presented a new proposal for fire prevention called the "Healthy Forest Initiative." The plan received wide coverage in the national media in August and September 2002 and continues to be at the center of an attempt to significantly shift public land management in the United States. At the core of the plan is an effort to create private sector incentives to promote logging/thinning projects in the national forests."	This is not relevant to the project area.
549		
550	Short, Brant, Ph.D. and Dayle C. Hardy-Short Ph.D.	reference, no response needed
551	"Physicians of the Forest": A Rhetorical Critique of the	reference, no response needed
552	Bush Healthy Forest Initiative"	reference, no response needed
553	Electronic Green Journal, Issue #19, December 2003	reference, no response needed

554	<a href="http://escholarship.org/uc/item/4288f8j5">http://escholarship.org/uc/item/4288f8j5</a>	reference, no response needed
555		
556	<p>“Logging on the National Forests provides less than 5% of the nation's timber supply, but costs the taxpayers more than 1 billion dollars in subsidies every year. Nor is logging a good job provider compared to recreation, which by Forest Service estimates provides over 30 times the economic benefits of logging. These forests are the last remnants of the virgin forests that covered the country, and now have far more value as forest ecosystems, watershed/water supply protection, and recreational assets than for logging. In fact, the justification for the Weeks Act in 1911 which established national forests in the east, was watershed protection.</p>	<p>These are not virgin forests and the comment is mostly not relevant to the project area. These lands were mainly planted by the Forest Service to reduce soil erosion and protect water quality. These areas have been continuously managed since that time by periodic timber harvest and by prescribed burning.</p>
557		
558	<p>(A major barrier to the Forest Service changing its ways is that these increased recreational economic benefits flow into the local economy, not to the Forest Service itself, whereas extractive uses of the national forests contribute directly to Forest Service budgets.)</p>	<p>This represents a statement of opinion.</p>
559		
560	<p>“Our nation is engaged in a great debate over the real purpose of our national forests, with the weight of public opinion swinging more and more strongly toward preservation. Certainly this nation should not be subsidizing logging when it is clear that we understand so little about the functioning of these enormously complex and ancient forest ecosystems that provide millions of people with clean air and water, as well as homes for a myriad of plants and wildlife that can live nowhere else.”</p>	<p>This represents a statement of opinion.</p>
561		
562	Sierra Club. 2005 “Ending Commercial Logging on Public Lands”	reference, no response needed
563	<a href="http://northcarolina.sierraclub.org/pisgah/conservation/ecl.html">http://northcarolina.sierraclub.org/pisgah/conservation/ecl.html</a>	reference, no response needed
564		

565	<p>“Timber harvesting in British Columbia influences (a) forest hydrology; (b) fluvial geomorphology; (c) terrain stability; and (d) integrated watershed behavior. Impacts on forest hydrology are well understood and include increased average runoff, total water yield, increased storm runoff and advances in timing of floods. Stream channels and valley floors are impacted differently by fine sediment, coarse sediment and large woody debris transport. Terrain stability is influenced through gully and mass movement processes that are accelerated by timber harvesting. Impacts on integrated watershed behavior are assessed through disturbed sediment budgets and lake sediments.”</p>	This is not relevant to the project area.
566		
567	Slaymaker, Olav Ph.D. “Assessment of the Geomorphic	reference, no response needed
568	Impacts of Forestry in British Columbia”	reference, no response needed
569	AMBIO: A Journal of the Human Environment 29(7):381-387. 2000	reference, no response needed
570	<a href="http://www.bioone.org/doi/abs/10.1579/0044-7447-29.7.381">http://www.bioone.org/doi/abs/10.1579/0044-7447-29.7.381</a>	reference, no response needed
571		
572	<p>“In sum, 100 years of fire suppression and logging have created conditions that threaten central Oregon’s natural resources and communities.”</p>	This is not relevant to the project area.
573		
574	<p>“Thus it is inexplicable that the solution proposed by President Bush and some members of Congress emphasizes fire suppression and commercial logging, the very practices that created today’s crisis. The federal government continues to attempt to suppress over 99% of all wildland fires. The Forest Service continues to measure its success not in terms of ecosystems restored, but in fires put out. The President’s Healthy Forest Initiative, as embodied in H.R. 1904, promotes commercial logging at the expense of citizen participation and oversight of the forests we own.”</p>	This represents a statement of opinion.
575		
576	Stahl, Andy. “Reducing the Threat of Catastrophic Wildfire to	reference, no response needed

577	Central Oregon Communities and the Surrounding Environment.”	reference, no response needed
578	Testimony before the House Committee on Resources, August 25, 2003	reference, no response needed
579	<a href="http://www.propertyrightsresearch.org/2004/articles6/testimony_of_andy_stahl.htm">http://www.propertyrightsresearch.org/2004/articles6/testimony_of_andy_stahl.htm</a>	reference, no response needed
580		
581	“Fire, just like insects and disease, are a natural and beneficial part of forest ecosystems and watersheds. Without these natural processes the forest ecosystems quickly degrade. Excessive logging removes and reduces cooling shade adding to the hotter, drier forests along with logging debris creating a more flammable forest. Current "forest management" practices, road building and development cause forest fires to rage for hundreds of miles.	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
582		
583	The Sierra Nevada Ecosystem Project said in a report to the U.S. Congress that timber harvests have increased fire severity more than any other recent human activity. Logging, especially clear cutting, can change the fire climate so that fires start more easily, spread faster, further, and burn hotter causing much more devastation than a fire ignited and burned under natural conditions. If we stop the logging and stop building fire prone developments, we minimize the loss of lives and property suffered by people in fires.	This is not relevant to the project area.
584		
585	As long as the people of America let politicians, timber executives, and the Forest Service get away with it - it will not stop. Those corporations that profit will continue to lie, cheat and steal to continue to make more money from our losses. Just like big	This represents a statement of opinion.

	tobacco.”	
586		
587	Strickler, Karyn and Timothy G. Hermach, “Liar, Liar, Forests	reference, no response needed
588	on Fire: Why Forest Management Exacerbates Loss of Lives	reference, no response needed
589	and Property” Published by CommonDreams.org, October 31, 2003	reference, no response needed
590	<a href="http://www.commondreams.org/scriptfiles/views03/1031-10.htm">http://www.commondreams.org/scriptfiles/views03/1031-10.htm</a>	reference, no response needed
591		
592	“The agency’s commercial timber program can contribute to the risk and severity of wildfire in the National Forests, yet Congress devotes nearly one-third of the Forest Service’s entire budget to this wasteful program.” (pg. 1)	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a periodic basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
593		
594	“Do not utilize the commercial timber program to reduce the risk of fire. Commercial incentives undercut forest health objectives and can actually increase the risk of fire.” (pg. 9)	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a periodic basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of

		wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
595		
596	“Commercial logging, especially of larger, fire-resistant trees, in the National Forests is one of several factors contributing to the risk and severity of wildfire.” (pg. 19)	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a periodic basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
597		
598	“Commercial logging and logging roads open the forest canopy, which can have two effects. First, it allows direct sunlight to reach the forest floor, leading to increased evaporation and drier forests. <sup>5</sup> As a consequence, ground fuels (grass, leaves, needles, twigs, etc.) dry out more quickly and become susceptible to fire. Second, an open canopy allows more sunlight to reach the understory trees, increasing their growth. <sup>6</sup> This can lead to weaker, more densely-packed forests.” (pgs. 19-20)	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a periodic basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
599		

600	“Congress and the Forest Service continue to rely on the commercial logging program to do something it will never accomplish – reduce fire risk. The commercial logging program is designed to provide trees to private timber companies, not to reduce the risk of fire.” (pg. 20)	This represents a statement of opinion.
601		
602	Taxpayers for Common Sense. “From the Ashes: Reducing	reference, no response needed
603	the Harmful Effects and Rising Costs of Western Wildfires”	reference, no response needed
604	Washington DC , Dec. 2000	reference, no response needed
605	<a href="http://www.ourforests.org/fact/ashes.pdf">http://www.ourforests.org/fact/ashes.pdf</a>	reference, no response needed
606		
607	“Indiscriminate logging is not a viable solution to reducing wildfire risk. Logging can actually increase fire danger by leaving flammable debris on the forest floor. Loss of tree canopy lets the sun in, encouraging the growth of brush, increases wind speed and air temperature, and decreases the humidity in the forest, making fire conditions even worse.”	Whole trees are skidded to the landing where most of the slash winds up. Climatic conditions in the South are such that there is rapid decomposition of post-logging residue. In addition, prescribed burning is done on the District on an annual basis. Treating these stands this way, creates conditions where they can be prescribed burned on a periodic basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. In addition, creating a mosaic of burned and unburned areas reduces both the size and severity of wildfires in the Piedmont. The Piedmont Region has a low fire severity as a result of the prescribed burn activity that takes place on an annual basis. Finally, opening stands to increased sunlight and moisture increases grasses, forbs and shrubs in the understory providing conditions conducive to low intensity prescribed fires.
608		
609	Thomas, Craig. “Living with risk: Homeowners face the	reference, no response needed
610	responsibility and challenge of developing defenses against	reference, no response needed
611	wildfires.” Sacramento Bee newspaper, July 1, 2007.	reference, no response needed
612	<a href="http://www.sierraforestlegacy.org/NR_InTheNews/SFLIP_2007-07-01_SacramentoBee.php">http://www.sierraforestlegacy.org/NR_InTheNews/SFLIP_2007-07-01_SacramentoBee.php</a>	reference, no response needed
613		

614	"Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity."(pg.62)	The area would be prescribed burned on a periodic basis once harvesting is completed and trees are established. This would reduce the risk and intensity of wildfires. This comment pertains to information in the Sierra Nevada.
615		
616	University of California; SNEP Science Team and Special Consultants	reference, no response needed
617	1996 "Sierra Nevada Ecosystem Project: Final Report to Congress"	reference, no response needed
618	Volume 1, Chapter 4 – Fire and Fuels.	reference, no response needed
619	<a href="http://ceres.ca.gov/snep/pubs/web/PDF/v1_ch04.pdf">http://ceres.ca.gov/snep/pubs/web/PDF/v1_ch04.pdf</a>	reference, no response needed
620		
626	"The development of sound forest-management policies requires that consideration be given to the economic benefits associated with competing uses of forest resources. The benefits that may be provided under different management regimes include both use values (such as those provided by timber harvesting and recreation) and passive-use (or nonuse) values, including existence value, option value and quasi-option value. Many of these benefits are not revealed in market transactions, and thus cannot be inferred from conventional data on prices and costs."	Information statement, no response needed.
627		
628	Vincent, James W. Ph.D., Daniel A. Hagen, Ph.D., Patrick G. Welle	reference, no response needed
629	Ph.D. and Kole Swanser. 1995. Passive-Use Values of Public	reference, no response needed
630	Forestlands: A Survey of the Literature.	reference, no response needed
631	A study conducted on behalf of the U.S. Forest Service.	reference, no response needed
632	<a href="http://www.icbemp.gov/science/vincent.pdf">http://www.icbemp.gov/science/vincent.pdf</a>	reference, no response needed
633		

634	“Unfortunately, there are number of massive logging proposals, disguised as hazardous fuels treatments, that have put environmentalists at odds with the Forest Service. Nearly all of these proposals focus primarily on the removal of mature and old-growth trees. These proposals continue even with overwhelming evidence that commercial logging is more of a problem than a solution. There's simply a cognitive disconnect between the Forest Service's scientists and its timber sale planners, whose budgets are dependent upon selling valuable mature trees.	This represents a statement of opinion.
635		
636	Ironically, this very type of logging, experts inform us, is likely to increase, not decrease, the frequency and severity of wildland fires.	This represents a statement of opinion.
637		
638	In the Forest Service's own National Fire Plan, agency scientists warned against the use of commercial logging to address fire management. The report found that ‘the removal of large, merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk.’ “	Information statement, no response needed.
639		
640	Voss, René	reference, no response needed
641	“Getting Burned by Logging,” July 2002	reference, no response needed
642	The Baltimore Chronicle	reference, no response needed
643	<a href="http://www.baltimorechronicle.com/firelies_jul02.shtml">http://www.baltimorechronicle.com/firelies_jul02.shtml</a>	reference, no response needed
644		

645	<p>“Another surprising finding is that mechanical fuels treatment, commonly known as logging and thinning, typically has little effect on the spread of wildfires. In fact, in some cases, it can increase wildfires’ spread and severity by increasing the fine fuels on the ground (slash) and by opening the forest to greater wind and solar penetration, drying fuels faster than in unlogged forests.”</p>	<p>The purpose and need for the project can be found in Chapter 1. Timber harvesting involves whole tree skidding to the log landing and loading area. Most of the slash from logging winds up at the log landing where material is mechanically broken up by the logging operation. These areas can then be prescribed burned (current decision) on a period basis - this benefits wildlife and reduces wildfire risk. The wildfire history for the Piedmont Region of South Carolina is low given the amount of prescribed burning done on an annual basis and climate conditions that are conducive to rapid decomposition of logging residue. This in combination with high utilization standards reduces the amount of material available to burn after logging.</p>
646		
647	Wuerthner, George. “Logging, thinning would not curtail wildfires”	reference, no response needed
648	The Eugene Register-Guard, December 26, 2008	reference, no response needed
649	<a href="http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html">http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html</a>	reference, no response needed
650		
651	<p>“Logging equipment compacts soils. Logging removes biomass critical to future soil productivity of the forest. Logging disturbs sensitive wildlife. Logging typically requires roads and skid trails which create chronic sources of sedimentation that degrades water quality and aquatic organism habitat. Logging roads and skid trails are also a major vector for the spread of weeds. Logging disrupts nutrient cycling and flows. Logging can alter species composition and age structure (i.e. loss of old growth). Logging can alter fire regimes. Logging can change water cycling and water balance in a drainage. The litany of negative impacts is much longer, but suffice it to say that anyone who suggests that logging is a benefit or benign is not doing a full accounting of costs.”</p>	<p>The effects on resources are disclosed in Chapter 3 of the EA.</p>
652		

653	Those who suggest that logging “benefits” the forest ecosystem are using very narrow definitions of “benefit.” Much as some might claim that smoking helps people to lose weight and is a “benefit” of smoking.”	This represents a statement of opinion.
654		
655	Wuerthner, George “Who Will Speak For the Forests?”	reference, no response needed
656	NewWest, January 27, 2009	reference, no response needed
657	<a href="http://www.newwest.net/topic/article/who_will_speak_for_the_forests/C564/L564/">http://www.newwest.net/topic/article/who_will_speak_for_the_forests/C564/L564/</a>	reference, no response needed
658		
659	"After logging, peak pipeflow was about 3.7 times greater than before logging." "The use of heavy logging equipment was expected to compact the soil, reduce infiltration rates, and increase surface runoff. In addition, heavy equipment might collapse some of the subsurface pipes, increasing local pore water pressure and the chance of landslides (Sidle, 1986)."	This is not relevant to the project area – coastal northern California.
660		
661	Ziemer, Robert R. Ph.D., "Effect of logging on subsurface pipeflow	reference, no response needed
662	and erosion: coastal northern California, USA." Proceedings of the Chengdu	reference, no response needed
663	Symposium, July 1992. IAHS Publication. No. 209, 1992	reference, no response needed
664	<a href="http://www.fs.fed.us/psw/publications/ziemer/Ziemer92.PDF">http://www.fs.fed.us/psw/publications/ziemer/Ziemer92.PDF</a>	reference, no response needed
665		
666	“As conservation-minded scientists with many years of experience in biological sciences and ecology, we are writing to bring your attention to the need to protect our National Forests. Logging our National Forests has not only degraded increasingly rare and valuable habitat, but also numerous other services such as recreation and clean water.”	This represents a statement of opinion.
667		

668	“Unfortunately, the past emphasis of management has been on logging and the original vision for our National Forests has failed to be fully realized. During the past several decades, our National Forests have suffered from intense commercial logging. Today almost all of our old growth forests are gone and the timber industry has turned our National Forests into a patchwork of clearcuts, logging roads, and devastated habitat.”	This represents a statement of opinion.
669		
670	“It is now widely recognized that commercial logging has damaged ecosystem health, clean water, and recreational opportunities-- values that are highly appreciated by the American public. The continued logging of our National Forests also wastes American tax dollars and diminishes the possibilities of future economic benefits. The Forest Service and independent economists have estimated that timber accounts for only 2.7 percent of the total values of goods and services derived from the National Forests, while recreation and fish and wildlife produce 84.6 percent.”	This represents a statement of opinion.
671		
672	From an April 16, 2002 letter to President Bush asking him	reference, no response needed
673	to stop all logging in the national forests.	reference, no response needed
674	<a href="http://www.forestwatch.org/content.php?id=108">http://www.forestwatch.org/content.php?id=108</a>	reference, no response needed
675		reference, no response needed
676	The names of the 221 Ph.D. level scientists that signed the letter are presented.	reference, no response needed
677		
	Comment: How will the Responsible Official justify ignoring the statements of 221 unbiased, highly educated biological scientists who point out the natural resource degradation resulting from commercial timber sales? Why does the Responsible official follow the advice of a handful of foresters and silviculturist whose job and salary depends on selling timber, and simultaneously reject the wisdom of 221 unbiased, independent scientists. What’s wrong here?	This represents a statement of opinion.

678	“Recently, so called "salvage" logging has increased on national forests in response to a timber industry invented "forest health crisis" which points the finger at normal forest processes of fire, fungi, bacteria, insects and other diseases. In fact the crisis in the national forests is habitat destruction caused by too much clearcutting.	This is not relevant to the project area.
679		
680	My long-term studies of forest diseases in Idaho show the loss by disease and insect activity in all age classes of forests to be less than or slightly more than 1 percent per year over the past thirty-eight years. These findings are consistent with Forest Service national level data.	This represents a statement of opinion.
681		
682	Forests are structured systems of many life forms interacting in intricate ways and disturbances are essential to their functioning. It's not fire disease fungi bacteria and insects that are threatening the well being of forests. Disease, fire, windthrow, and other disturbances are a natural part of the forest ecosystem and assist in dynamic processes such as succession that are essential to long term ecosystem maintenance. The real threat facing forests are excessive logging, clearcutting and roadbuilding that homogenize and destroy soil, watersheds and biodiversity of native forests.”	This represents a statement of opinion.
683		
684	Partridge, Arthur Ph.D., Statement at a Press Conference with Senator Robert Torricelli	reference, no response needed
685	about S. 977 and HR 1376), the Act to Save America’s Forests	reference, no response needed
686	April 28, 1998, U.S. Capitol	reference, no response needed
687	<a href="http://www.saveamericasforests.org/news/ScientistsStatement.htm">http://www.saveamericasforests.org/news/ScientistsStatement.htm</a>	reference, no response needed

688	<p>In our overview of the impacts of forest management activities on soil erosion and productivity, we show that erosion alone is seldom the cause of greatly reduced site productivity. However, erosion, in combination with other site factors, works to degrade productivity on the scale of decades and centuries. Extreme disturbances, such as wildfire or tractor logging, cause the loss of nutrients, mycorrhizae, and organic matter. These combined losses reduce long-term site productivity and may lead to sustained periods of extended erosion that could exacerbate degradation.</p> <p>Managers should be concerned with harvesting impacts, site preparation disturbances, amount of tree that is removed, and the accumulation of fuel from fire suppression. On erosion-sensitive sites, we need to carefully evaluate such management factors.”</p>	<p>The effects of logging on soils have been disclosed in Chapter 3 of the EA. Forest-wide standards found in the Forest Plan would be followed during implementation of this project. <i>South Carolina Best Management Practices for Forestry</i> (2003) and <i>National Best Management Practices for Water Quality Management on National Forest System lands</i> (2012), collectively referred to as BMPs would be followed. In addition, <i>Soil and Conservations Practices Guide for R8</i> (2002) would also be followed.</p>
689	<p>Elliot, W.J.; Page-Dumroese, D.; Robichaud, P.R. 1999. The effects of forest management on erosion and soil productivity. Proceedings of the Symposium on Soil Quality and Erosion Interaction, Keystone, CO, July 7, 1996. Ankeney, IA: Soil and Water Conservation Society. 16 p.</p>	<p>reference, no response needed</p>
690	<p><a href="http://forest.moscowfsl.wsu.edu/smp/docs/docs/Elliot_1-57444-100-0.html">http://forest.moscowfsl.wsu.edu/smp/docs/docs/Elliot_1-57444-100-0.html</a></p>	<p>reference, no response needed</p>
691	<p>Timber Harvest Opposing View #75 - “Logging often destroys natural habitats, resulting in the loss of biodiversity and sometimes leading to the local, and possibly global, extinction of species. Although estimates of the rates of loss vary, few deny the reality of the current losses of both flora and fauna.177 “</p>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological Assessment/Biological Evaluation.</p>

692	<p>According to a joint report by the Worldwide Fund for Nature and the Sarawak Forest Department, "Logging causes immediate forest disturbances, long-term habitat changes (e.g. damage to food trees and salt-licks), increased hunting by timber company workers and availability of logging roads as hunting routes. The destruction of wildlife from habitat loss must be recognised to be on an enormous scale".178 In Central Africa, the opening-up of the forest by logging facilitates the illegal hunting of wildlife, including protected species such as primates, and is leading to a decline in wildlife populations.179 Deterioration in water quality has caused a decline in fish stocks and has affected aquatic biological diversity because indigenous animals and plant life are highly vulnerable to oxygen depletion, suspended particulate matter and a lack of light.</p>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological Assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>These generalized statements reference Central Africa, Malaysia and is not relevant to the project area.</p>
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693	<p>Even so called selective logging severely affects the complex and rich biodiversity of forests through excessive damage to residual stands, destruction of other plant and tree species and the creaming-off of species which are the most valuable for timber. An FAO study in Malaysia has shown that as much as 50% of the standing forest may be damaged and the surface soil destroyed when up to 30% of the ground surface is exposed. During silvicultural treatment in logging operations in Sarawak, so-called uneconomic forest species are deliberately poisoned. This reduces the complexity and species diversity of the tropical forests to only 10% of the original condition, resulting in the systematic elimination of tree genetic resources and contamination of the environment.<sup>181</sup> According to the IUCN the most frequently recorded of all threats to globally endangered tree species is 'felling'.</p>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological Assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>These generalized statements reference Central Africa, Malaysia and is not relevant to the project area.</p>
694	<p>Forests Monitor, Environmental Impacts of Logging, 2006 (with photos)<a href="http://www.forestsmonitor.org/en/reports/550066/550083">http://www.forestsmonitor.org/en/reports/550066/550083</a></p>	<p>reference, no response needed</p>
695	<p>Timber Harvest Opposing View #76 - Major report findings:</p> <ol style="list-style-type: none"> <li>1) If we ended the timber sales program on national forests and redirected the logging subsidies we could provide over \$30,000 for each public lands timber worker for retraining or ecological restoration work - - and still have over \$800 million left over for taxpayer savings in the first year alone.</li> <li>2) We don't need to log national forests for our timber supply, given the fact that the timber cut annually from national forests nationwide now comprises only 3.3% of this nation's total annual wood consumption, and less than 4% of the sawtimber used for construction.</li> <li>3) Logging on national forests INCREASES the risk of forest fires more than any other human activity.</li> <li>4) A bipartisan nationwide poll conducted in 1998 found that 69% of Americans now oppose allowing timber companies to log our national forests.</li> </ol>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological Assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>Chapter 1 of the EA describes the purpose and need for the project.</p>
696	<p>Hansen, Chad, Ending Timber Sales on National Forests: THE FACTS</p>	<p>reference, no response needed</p>

	(FY '97) Published in the Earth Island Journal, 1999 <a href="http://www.johnmuirproject.org/pdf/Fy-1997-Economic-Report-Ending-Timber-Sales.pdf">http://www.johnmuirproject.org/pdf/Fy-1997-Economic-Report-Ending-Timber-Sales.pdf</a>	
697		
698	Timber Harvest Opposing View #77 – “However, I believe that their support for logging represents a failure to challenge many of the flawed assumptions that are guiding federal logging programs and in some cases even repeating many of the same pejorative language helps to undermine in the long term conservation efforts. After all if the public believes our forests are sick and unhealthy; that logging will cure them; that logging will preclude wildfires and eliminate beetle kill, and that rural economies are dependent on public lands logging to survive, than they are, in my view, contributing to the wrong message.”	This represents a statement of opinion.
699	“There may be legitimate rationales for logging, but it’s not the one usually given for logging public forests today. Indeed, the major justifications given for logging public lands is typically some social or ecological benefit—to reduce fires, clean up bug killed trees, fix watersheds, restore forest health or provide for “economic stability” to rural communities. In far too many cases, all of these are just cover to hide the main reason for logging—to maintain the local timber industry at the expense of our forest’s ecological integrity and taxpayer dollars.”	This represents a statement of opinion.
700	WUERTHNER, GEORGE, “Why are Conservation Groups Advocating Logging Public Forests?” Published by Counterpunch, September 27, 2012 <a href="http://www.counterpunch.org/2012/09/27/why-are-conservation-groups-advocating-logging-public-forests/">http://www.counterpunch.org/2012/09/27/why-are-conservation-groups-advocating-logging-public-forests/</a>	reference, no response needed
701		
702	Timber Harvest Opposing View #78 – “Because of the current government shutdown, the public is being kept out of all National Parks and many other federal lands. But ironically, oil, mineral, and timber companies are still allowed to drill, mine, and log on federal	Not relevant to the decision to be made for this project.

	lands while the shutdown is going on. Officials in the US Department of Interior and Department of Agriculture, which oversee National Park and National Forest lands respectively, have given us an unusually clear glimpse of where their priorities lie. Federal lands are supposed to be managed for the benefit of the American people, and resource extraction shouldn't be going on while the public is barred from our National Parks.	
703	During the shutdown, which was caused because Congress has been unable to pass a budget, almost all "nonessential" federal government services are temporarily unavailable. The fact that the Departments of Interior and Agriculture have apparently found the resources to keep public lands open to drilling and logging, but can't keep National Parks and other recreational areas open, shows resource extraction in being prioritized over public access to our lands. It's time for this to change."	Not relevant to the decision to be made for this project.
704	<u>"Stop Drilling and Logging on Federal Lands While the Public is Kept Out"</u> A petition targeted for Secretary of the Interior Sally Jewel and Secretary of Agriculture Tom Vilsack Posted at FORCECHANGE.COM, 2013 <a href="http://forcechange.com/86223/stop-drilling-and-logging-on-federal-lands-while-the-public-is-kept-out/">http://forcechange.com/86223/stop-drilling-and-logging-on-federal-lands-while-the-public-is-kept-out/</a>	reference, no response needed
705	Timber Harvest Opposing View #79 – ""We tried for the past 18-months to work with Supervisor Bull to implement an effective community fuel reduction project up the East Fork. Our proposal - which was favored by 98% of the 13,000 public comments received on this project would have reduced fuels on 1,600 acres of national forest land, pumped \$1 million into the local economy and provided 45 local jobs. Unfortunately, this common sense plan was rejected by Supervisor Bull," stated Koehler."	Not relevant to this project.
706	" "The attempt by Supervisor Bull to cover-up public knowledge of excessive soil damage in the project area by altering the best-available scientific data and by purging project file documents	Not relevant to this project.

	related to soils is a blatant attempt to white-wash this damaging proposal and cannot go unchallenged," explained Campbell."	
707	"The East Fork project area is still recovering from historic Forest Service mismanagement including clearcutting, terracing and excessive roadbuilding. 33% of the entire analysis area has already been logged. The analysis area averages 5.2 miles of road per square mile, not including jammer roads. These roads contribute 151.2 tons of sediment per year to streams within the project area. The East Fork, running through the middle of the project area, is officially classified as an impaired stream because its excessive sediment load has compromised its ecological integrity. Several watersheds already exceed established thresholds for clearcutting, which threatens stream channel stability with increased runoff."	Not relevant to this project.
708	Conservation Groups Look to Hold Forest Service Accountable for Middle East Fork Logging Plan Published by Lowbagger, April 25, 2006 <a href="http://www.lowbagger.org/mideast.html">http://www.lowbagger.org/mideast.html</a>	reference, no response needed
709	Note: In April of 2009, the Forest Service's Northern Region rewarded Supervisor Bull for his mismanagement of public land with a promotion to the Director of Recreation.	Not relevant to this project.
710	<p><b>Timber Harvest Opposing View #80</b> – Photosynthesis is one of only two significant mechanisms for removing carbon dioxide from the atmosphere (the other being dissolution into water, leading to destructive ocean acidification). Carbon dioxide is released when trees are cut down, and deforestation accounts for <u>at least 15 percent</u> of global carbon emissions. Thus, cutting down trees is a double-whammy because we not only lose carbon capture capacity, but we release more carbon, too.</p> <p>An erroneous conventional view holds that young trees capture more dioxide than mature trees; therefore, we should cut down mature trees. However, for most species -- 97 percent of 403 tropical and temperate species -- the biggest trees increase their</p>	<p>Climate change and Carbon storage is covered in section 3.1.4 of the EA. From the EA:</p> <p>Impacts of climate change in the southeast are discussed in the report <i>Forests and Climate Change in the Southeast USA</i> (McNulty, et. Al. 2013).</p> <p>The key findings from the report are:</p> <ul style="list-style-type: none"> <li>• Warming air temperatures likely will increase regional drying through increased forest water use via evapotranspiration (ET) regardless of changes in precipitation, and this drying will likely increase wildfire risk</li> </ul>

	<p>growth rates and sequester more carbon as they age. This conclusion is based on <u>repeated measurements of 673,046 individual trees</u>, some going back more than 80 years, on six continents</p> <p>We need all levels of government to start preserving forests -- and fast. In addition to switching from dirty to clean energy, President Obama should halt commercial logging on federal lands, eliminate biomass power plant subsidies that drive forest destruction, and permanently protect forests for carbon capture (in addition to forests' many other public benefits).</p>	<p>across SE USA forests.</p> <ul style="list-style-type: none"> <li>• Longer growing seasons will likely increase the risk of insect outbreak and very likely will expand the northern range of some species, such as the southern pine beetle.</li> <li>• Under most scenarios, increasing temperatures and decreasing precipitation will result in a greater uptake of soil water by forests and lead to reductions in streamflow.</li> <li>• Despite climate and land use changes, forests in the southeast USA will likely continue to provide a sink of atmospheric carbon dioxide.</li> <li>• The potential savannafication of the SE, in which forests are converted into more open woodlands due to a combination of hotter and drier conditions, could be one of the most profound climate change impacts in the USA.</li> </ul> <p>The Template for Assessing Climate Change Impacts and Management Options (TACCIMO) was used to create a report for this EA that summarizes relevant literature that lists effects to resources related to climate change impacts.</p>
711		
	<p>Logging activities have numerous impacts on aquatic systems in the Sierra Nevada. The end result of logged landscapes is a highly altered forest system which creates significant problems related to erosion, sedimentation and altered stream flow patterns. Logging removes large trees that normally fall into streams and provide shelter and thermal cover, raises water temperatures and pH, and degrades the chemical and ecological conditions and food webs that fish need to survive. Logging and the roads created to facilitate logging also significantly degrade stream ecosystems by introducing high volumes of sediment into streams, changing natural streamflow patterns, and altering stream channel morphology. Areas that have been logged are far more likely to suffer from major landslides and erosion events which deposit abnormally high levels of sediment into area streams. Roads, ditches, and newly created gullies form</p>	<p>This is not relevant to the project area as it refers to Sierra Nevada. Effects on aquatic resources in the project area are disclosed in the EA.</p>

	<p>new, large networks of flow paths across the landscape. These logged areas therefore, sustain much higher discharge volumes after a storm event than they ever did when the forest was intact. The changes in stream habitat caused by this increase in sediment loads greatly affects the health of aquatic organisms. The survival rates of many fish species are known to significantly decrease as fine sediment levels and temperatures in the water increase. The deposition of fine sediment on the stream bed degrades spawning areas, reduces pool refuge habitat, decreases winter refuge areas for juveniles, and impedes feeding visibility. Likewise, sensitive amphibian and invertebrate species are also adversely affected by increased sediment loads, decreasing in abundance and diversity as sediment levels rise. The drastic changes in the health of aquatic species brought on by logging has far reaching impacts for general forest ecology as well. Invertebrates, amphibians, and fish are important prey species for many mammals, birds and bats that are vital to the biological integrity of the forest.</p>	
712	Published by Sierra Forest Legacy, 2012	
713		
714	<p><b>Timber Harvest Opposing View #82</b> – “Natural resource use and extraction leading to habitat modification can have significant direct and indirect impacts to salmon populations. Land use activities associated with logging, road construction, urban development, mining, agriculture, and recreation have significantly altered fish habitat quantity and quality. Associated impacts of these activities include: alteration of streambanks and channel morphology; alteration of ambient stream water temperatures; degradation of water quality; reduction in available food supply; elimination of spawning and rearing habitat; fragmentation of available habitats; elimination of downstream recruitment of spawning gravels and large woody debris; removal of riparian vegetation resulting in increased stream bank erosion; and increased sedimentation input into spawning and rearing areas resulting in the loss of channel complexity, pool habitat, suitable gravel substrate, and large woody</p>	<p>This is not relevant to the project area. The project area is outside the range of salmon habitat. Effects to aquatic resources and physical impacts are also disclosed in the water section. The project record contains an analysis of erosion and sediment production as a result of project activities.</p>

	debris. Studies indicate that in most western states, about 80 to 90 percent of the historic riparian habitat has been eliminated. Further, it has been estimated that during the last 200 years, the lower 48 United States have lost approximately 53 percent of all wetlands. Washington and Oregon's wetlands have been estimated to have been diminished by one third, while it is estimated that California has experienced a 91 percent loss of its wetland habitat.	
715	<b>Pacific Salmonids: Major Threats and Impacts</b> Published by NOAA fisheries Office of Protecte Resources, May 15, 2014 <a href="http://www.nmfs.noaa.gov/pr/species/fish/salmon.htm">http://www.nmfs.noaa.gov/pr/species/fish/salmon.htm</a>	
716		
717	<p><b>Timber Harvest Opposing View #83</b> – “It is impossible to overstate the importance of humankind's clearing of the forests. The transformation of forested lands by human actions represents one of the great forces in global environmental change and one of the great drivers of biodiversity loss. The impact of people has been and continues to be profound. Forests are cleared, degraded and fragmented by timber harvest, conversion to agriculture, road-building, human-caused fire, and in myriad other ways. The effort to use and subdue the forest has been a constant theme in the transformation of the earth, in many societies, in many lands, and at most times. Deforestation has important implications for life on this planet.</p> <p>Just think, originally, almost half of the United States, three-quarters of Canada, almost all of Europe, the plains of the Levant, and much of the rest of the world were forested. The forests have been mostly removed for fuel, building materials and to clear land for farming. The clearing of the forests has been one of the most historic and prodigious feats of humanity.”</p> <p>“Since 1600, 90% of the virgin forests that once covered much of the lower 48 states have been cleared away. Most of the remaining old-growth forests in the lower 48 states and Alaska are on public lands.</p>	The project are is not targeted for deforestation or land clearing but for continued management as forest areas to provide multiple-use benefits as established in the <i>Revised Land and Resource Management Plan, Sumter National Forest</i> .

	In the Pacific Northwest about 80% of this forestland is slated for logging.”	
718	<p><b>Global Deforestation</b>  Published by the University of Michigan, 01/04/2010  <a href="http://www.globalchange.umich.edu/globalchange2/current/lectures/deforest/deforest.html">http://www.globalchange.umich.edu/globalchange2/current/lectures/deforest/deforest.html</a></p>	
719		
720	<p><b>Timber Harvest Opposing View #84</b> –“The Forest Service’s proposed Spotted Bear logging project would jeopardize the area’s wildlife, which are already teetering on the edge of survival. The project would use helicopters, ground-based equipment, and skylines to remove approximately 11 million board foot of timber across 1,853 acres of pristine wildlife habitat adjacent to the Great Bear and Bob Marshall Wilderness areas. An additional 1,347 acres would be burned. Most of the units slated to be logged are mature, 75-140 year old stands of Doug-fir, western larch, spruce, and lodgepole pine that have never been logged (this area burned in the late 1800s and early 1900s). The project would require 2,200 log truckloads traveling back and forth on a narrow dirt road over 55 miles from the nearest town.</p> <p>To access the remote area, the Forest Service is proposing to open 9.7 miles of roads that were closed to provide security for elk and grizzly bears and build 6.6 miles of new “temporary” roads that will be used over the next 6 years. The Forest Service also proposes to increase motorized access to the project area by extending the season of use by an additional five weeks. Motorized users will now be allowed to access the area in early June causing added trauma to the grizzlies who will have just recently emerged from their dens and will be nutritionally stressed.</p> <p>“The Spotted Bear area is a critical wildlife connector”, said Keith Hammer, Chair of Swan View Coalition. “Calving elk and nutritionally stressed bears need more springtime and early summer security, not</p>	This is not relevant to this project area.

	more motor vehicle traffic.” “	
721	<p><b>Groups Challenge Industrial Logging of Pristine Wildlife Habitat Along South Fork Flathead River</b>  A Western Environmental Law Center Press Release, 2/28/2012  <a href="http://www.westernlaw.org/article/groups-challenge-industrial-logging-pristine-wildlife-habitat-along-south-fork-flathead-rive">http://www.westernlaw.org/article/groups-challenge-industrial-logging-pristine-wildlife-habitat-along-south-fork-flathead-rive</a></p>	The purpose and need for this project along with effects have been evaluated and disclosed in the EA.
722		reference, no response needed
	<p><b>Timber Harvest Opposing View #85</b> –“Four conservation groups — Alliance for the Wild Rockies, Swan View Coalition, Friends of the Wild Swan and Native Ecosystems Council — sued to halt the sale in June 2013. The groups claimed the project would harm grizzly bear, lynx, wolverine and other species and plants while damaging the forest’s remaining old growth.”</p> <p>“The project area is within the designated “grizzly recovery zone” of the Northern Continental Divide Ecosystem. It is also considered critical habitat for other species listed under the ESA, including bull trout.”</p> <p>“The Forest Service published its Environmental Assessment in August 2012 and concluded that the Glacier-Loon Timber Sale would have no effect on grizzly bears, Canada lynx, bull trout, bull trout critical habitat and water howellia, a threatened plant species under the ESA.”</p> <p>“The judge ordered the project be stopped and said these Forest Service lands have to be managed under federal environmental laws to protect native species just like all other national forests, Garrity said.</p> <p>“It’s unfortunate that we had to once again take the federal government to court to force them to follow the law,” Garrity said.  “We had no other choice if we want to conserve the last remaining habitat for bull trout, grizzly bears, lynx and other old growth</p>	This is not relevant to this project area.

	dependent wildlife since the Forest Service insists on being serial law breakers.” “	
723	<p><b>Judge Halts Glacier Loon Timber Sale in Swan Valley</b>  Published in the <i>Flathead Beacon</i>, Sep 26, 2014  <a href="http://flatheadbeacon.com/2014/09/26/judge-halts-glacier-loon-timber-sale-swan-valley/">http://flatheadbeacon.com/2014/09/26/judge-halts-glacier-loon-timber-sale-swan-valley/</a></p>	No response is necessary.
724	<p><b>Timber Harvest Opposing View #86</b> –“That makes four timber projects since May in which U.S. District Judge Dana Christensen found fault with the U.S. Forest Service and the U.S. Fish and Wildlife Services' conclusion that cutting and burning in those areas would not significantly harm the big cats' territory.”</p> <p>“Christensen ruled the Endangered Species Act requires the agencies to determine whether lynx "may be present" there, which is a lesser standard than what the agencies used in concluding lynx don't "occupy" the area.”</p> <p>“The judge said the government approved those projects based on an unreliable conclusion they would not harm the lynx's critical habitat.”</p>	<p>This is not relevant to this project area.</p> <p>A Biological Evaluation and analysis of impacts to federal listed species was completed for this project area.</p>
725	<p><b>Judge stops 3 Montana logging projects over lynx</b>  By Matt Volz, Associated Press June 26, 2013  <a href="http://news.yahoo.com/judge-stops-3-montana-logging-141919567.html">http://news.yahoo.com/judge-stops-3-montana-logging-141919567.html</a></p>	
726		
727	<p><b>Timber Harvest Opposing View #87</b> –“A federal judge has blocked logging proposed for the Klamath National Forest in Siskiyou County, chiding the U.S. Forest Service for its review of the environmental damage that would result.”</p> <p>“The service should have done a full environmental review and done a better job projecting the impact on wildlife and forest conditions, ruled U.S. District Judge Frank C. Damrell Jr.”</p>	This is not relevant to this project area.

	<p><b>Judge blocks Klamath logging plan</b>  By Don Thompson,<i>Associated Press</i>  October 16, 2004  <a href="http://www.wildcalifornia.org/media/epic-in-the-news/judge-blocks-klamath-logging-plan/">http://www.wildcalifornia.org/media/epic-in-the-news/judge-blocks-klamath-logging-plan/</a></p>	
728		
729	<p><b>Timber Harvest Opposing View #88</b> –“The fact is, commercial logging doesn't prevent catastrophic fires; it causes them. In the latter part of the 19th century, this was common knowledge. Relentless clearing of forests in the Great Lakes region left huge areas largely devoid of the cooling shade of trees, replacing moist natural forest microclimates with the hotter, drier conditions characterized by stump fields. Flammable logging "slash debris" covered the landscape.”</p> <p>It was in this setting that a massive, cataclysmic fire started near Peshtigo, Wisconsin in 1871. More than 1,200 people were killed. Similar blazes erupted in subsequent years.”</p> <p>One of the primary reasons that the national forest system was established in 1891 was to prevent the destructive fires caused by logging. It was not until 1897 that, under industry pressure, our national forests were first opened up to timber sales by an appropriations rider. The first timber sale was offered in 1899--100 years ago.</p> <p>“Like the timber industry, the Forest Service also recognized an emerging public relations dilemma several years ago. It knew that it would no longer be able to justify its timber sales program on economic grounds. Instead of dropping the program, it simply gave it a sexy new name--"Forest Stewardship."</p> <p>The Forest Stewardship program was born in 1993 and was marketed fraudulently as a series of management activities</p>	<p>The purpose and need for the project is stated in the EA (pages 7-8) and is consistent with management direction in the Sumter Forest Plan.</p>

	<p>supposedly conducted primarily for the health of the forests. The USFS attempted to distinguish this new program from its Timber Commodity program, which clearly was concerned with nothing more than commercial resource extraction.”</p> <p>“In April 1999, the US General Accounting Office (GAG) released a report on the Forest Service's approach to fire management that called into serious question the use of the timber sales to address fire issues.</p> <p>The GAO noted that "most of the trees that need to be removed to reduce accumulated fuels are small in diameter and have little or no commercial value."</p> <p>The report also found that Forest Service managers "tend to (1) focus on areas with high-value commercial timber rather than on areas with high fire hazards or (2) include more large, commercially valuable trees in a timber sale than are necessary to reduce the accumulated fuels." The "low value materials," observed the GAG, "are unattractive to timber purchasers." “</p>	
730	<p>Hansen, Chad Ph.D., <b>The Big Lie: Logging and Forest Fires</b>  Published by the <i>Earth Island Journal</i>, spring 2000 issue  <a href="http://yeoldeconsciousnessshoppe.com/art6.html">http://yeoldeconsciousnessshoppe.com/art6.html</a></p>	

<b>Lower Broad – Response to Comments</b>
<b>Opposing Views Attachment #5 – Insect Activity is a Beneficial Natural Disturbance Event in the Forest</b>
<b>Comments Summarized</b>
The comments provide information and cited references on the benefits of insect activity in the forest.
<b>Response</b>
<p>The <i>Revised Land and Resource Management Plan Sumter National Forest</i> (Forest Plan) recognizes the importance of maintaining healthy forests that are less susceptible to insects and disease and has established specific objectives (Objective 17.01, page 2-13) to reduce their impacts on both federal and private lands. Private and federal lands (managed by the Forest Service) are interspersed throughout the analysis area. Considerable investments are made on adjacent private timberlands to keep them healthy therefore; during development of the Forest Plan, it was important to the public that Forest Service management reduces insect and disease activity. Insect activity is a normal ecological process that can and does occur in non-managed forest areas such as wildernesses or research areas. In these areas, insects are considered desired components of a functioning ecosystem. It is our use or objective in managing the forest that determines how we view these agents of change as desirable or undesirable. Silvicultural treatments such as thinning and regeneration harvest when used in combination with fire help reduce the risk of insect and disease activity. By treating some stands and interspersing them among areas of untreated stands (stands that are left to provide middle and late successional benefits to wildlife) insect outbreaks are reduced in size and severity. Integrated pest management also utilizes suppression techniques during outbreaks to reduce overall severity and extent of outbreaks when they do occur. One of the purpose and needs as stated in the EA is to reduce risk of insect and disease outbreaks. The proposal is consistent with the Forest Plan and Chapter 3 of the EA contains information on the biological effects of the proposal.</p>

<b>Lower Broad – Response to Comments</b>
<b>Opposing Views Attachment #8 – The Natural Resources in the Forest Benefit from Fire</b>
<b>Comments Summarized</b>
The comments provide information about the beneficial aspects of wildfire.
<b>Response</b>
<p>The <i>Revised Land and Resource Management Plan Sumter National Forest</i> (Forest Plan) recognizes the importance of wildland fire in meeting resource objectives (see Objective 20 and objective 20.01, page 2-20). In addition, forest-wide standards have been developed to address the proper use of wildland fire in meeting resource objectives (see FW-59 through FW-62). The proposal is consistent with the Forest Plan.</p> <p>The Francis Marion and Sumter National Forests uses prescribed fire to meet a variety of resource objectives including wildlife habitat improvement and restoration/maintenance of fire-adapted ecosystems.</p>

<b>Lower Broad – Response to Comments</b>
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<b>Opposing Views Attachment #9b Herbicides Containing Triclopyr are Toxic to Mammals (including humans), Fish, and Birds</b>
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<b>Comments Summarized</b>
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The comments provide information concerning human health and the environment.
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<b>Response</b>
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There was an herbicide risk assessment (included in the project file) completed for the project that analyzes the herbicide proposed for use including effects to human health and the environment. The risk assessment goes over modeling and mitigation measures to protect mammals, fish, and birds. Follow these mitigations measures risk are the risks are at an acceptable rate.
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<b>Lower Broad – Response to Comments</b>
<b>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</b>
<b>Comments Summarized</b>
The comments provide information and cited references on the importance of dead and dying trees to forest ecosystem process.
<b>Response</b>
<p>The <i>Revised Land and Resource Management Plan Sumter National Forest</i> (Forest Plan) recognizes the importance of dead and dying trees in forest ecosystem functions. Goals and objectives along with forest-wide standards are in place to leave standing snags, bird peck trees and living den trees for wildlife (FW-18, page 2-7). In addition, goals and objectives have been established (with public involvement during development of the Forest Plan) to provide for forest health (Forest Plan pages 2-11 through 2-13).</p> <p>The management prescriptions 10B (High Quality Forest Products), 9.A.3 (Watershed Restoration Areas) and Management prescription 11 (Riparian Corridors) provide a large majority component of mid to late successional forest habitat containing dead and dying trees. These are usually intermixed with early successional stands adding to biodiversity.</p> <p>The 10B management prescription (comprising 139,528 acres of federal lands across the Piedmont) desired condition is to maintain a mix of forest successional stages. Though an emphasis is on early successional forests, mid and late successional forests would also be common. The following text is from page 3-39 of the Forest Plan.</p> <p style="padding-left: 40px;">A mix of forest successional stages characterizes these areas, with an emphasis on early-successional forests. Mid- and late successional forests are common, but 10 to 17 percent of forested land is in early-successional forest conditions. Twenty percent of the forest is in mid-to late-successional forest conditions and within this 20 percent at least 10 percent is in late successional or old growth conditions.</p> <p>Only a portion of the analysis area would become early successional habitat as a result of implementing this proposal. Since the analysis area represents only a fraction of the total 10B prescription, the amount of early succession habitat would still be far less than the desired condition across the whole 10B management prescription. The <i>2014 Monitoring and Evaluation Annual Report Revised Land and Resource Management Plan Sumter National Forest</i> tracks the amount of early, middle and late succession habitat by management prescriptions (page 17, Table 2). The data indicates that ample mid to late habitat exists and provides sources of dead and dying trees in an intermixed mosaic of successional stages. Forest Inventory Analysis is conducted periodically on established plots on the Forests and across the state of South Carolina. Information on forest conditions is provided in the following web links:</p> <p><a href="http://srsfia2.fs.fed.us/states/sc/e-SU-083%20(SC%202012%20Factsheet)_Fina_11Dec2013.pdf">http://srsfia2.fs.fed.us/states/sc/e-SU-083%20(SC%202012%20Factsheet)_Fina_11Dec2013.pdf</a>  <a href="http://srsfia2.fs.fed.us/states/south_carolina.shtml">http://srsfia2.fs.fed.us/states/south_carolina.shtml</a>  <a href="http://www.srs.fs.usda.gov/pubs/rb/rb_srs158.pdf">http://www.srs.fs.usda.gov/pubs/rb/rb_srs158.pdf</a></p>

<b>Lower Broad EA – Response to Comments</b>		
	Opposing Views Attachment #19 – Regeneration using Clearcutting Backhands the American public who uses the National Forest for Recreation	
<b>ID</b>	<b>Comment</b>	<b>Response</b>
1	<u>Clearcutting Opposing View #1</u> - “The concept that all forests must be silviculturally manipulated (logged) and eventually replaced in order to provide desired goods and services, including the continued health of forest landscapes, is an old and honored tradition among many forestry professionals. The “fully regulated” forest landscape with its “balanced” distribution of forest age classes, or developmental states, has been a goal and icon of forest management for over a century. Another traditional view is that forests must be actively replaced, because without human intervention their ability to provide goods and services will decline and fire, storm, insects or disease will eventually destroy them.” (page 1)	<p>This represents a statement of opinion.</p> <p>This silvicultural method is consistent with the Forest Plan. In addition, the environmental assessment (EA) considered this a key issue (page 11 of the EA) and developed another action alternative. Alternative 3 (pages 18-21) addresses the key issues identified in this EA. An alternative silvicultural method was considered and evaluated in detail in the EA.</p>
2	“Proposals for widespread logging as the mechanism to create and provide for all forest values are therefore not surprising. These approaches continue to be advanced by advocates of timber harvesting under such rubrics as “Structure- Based Management” and “High Quality Forestry.” Indeed, such approaches have been proposed as optimal to achieve forestry goals in the United States (Oliver et al. 1997). These proposals assert that managed forests, including plantations, are not highly susceptible to destruction by natural disturbances whereas unmanaged forests are. Therefore, proponents argue that forest reserves are a poor conservation strategy since they will inevitably be destroyed, and that active logging is thus necessary to maintain desired forest values. A parallel — although often unstated — premise is that foresters know how to grow new forests that will provide desired goods and services.” (page 1)	This represents a statement of opinion. See comment 1.

3	<p>The proposition that forest values are protected with more, rather than less logging, and that forest reserves are not only unnecessary, but undesirable, has great appeal to many with a vested interest in maximizing timber harvest. These ideas are particularly attractive to institutions and individuals whose incomes depend upon a forest land base.” “Our interpretation of the scientific literature, combined with our professional experience, leads us to some very different conclusions about appropriate approaches. Scientifically based strategies for the conservation of forest ecosystems, with a sound theoretical basis in conservation biology—including biodiversity and critical ecological services—have inevitably incorporated reserves along with ecologically sensitive management of unreserved areas (e.g., FEMAT 1993).” (page 2)</p>	<p>This represents a statement of opinion. See comment 1.</p>
4	<p>“Consequently, we specifically criticize the “simplified structure-based management” approaches derived from simple structural models and traditional silvicultural systems such as clearcutting.”</p>	<p>This represents a statement of opinion. See comment 1.</p>
5	<p>“In our view, the assumptions underpinning simplified structure-based management (SSBM) are not supported by the published scientific literature on structural development of natural forests, disturbance ecology, landscape ecology and conservation biology, or by the relationships between ecosystem structures and processes. In this report, we review scientific findings associated with each of these areas with particular attention to the over-simplified structural models associated with SSBM and the importance and viability of forest reserves to achieve various ecological goals.” (page 2)</p>	<p>This represents a statement of opinion. See comment 1.</p>

6	<p>“We do not believe that the scientific literature or forestry experience support the notions that intensively managed forests can fully duplicate the role of natural forests, or that sufficient knowledge and ability exist to create even an approximation of a natural old-growth forest stand.” (page 3)</p>	<p>Only a portion of the forest landscape in the watersheds is proposed for harvesting. The land/cover class is displayed in the water section of the EA and indicates that forestlands dominate the landscape. The project would increase structural diversity of stands and compartments in the watersheds. The watersheds are moving to mature to over mature trees that are at increasing risk to damage and mortality from southern pine beetle. Treatments break-up the continuous forest types and age classes, slowing the spread of beetles and lowering stand risk. Timber harvesting would increase the amount of early successional habitat consistent with Forest Plan objectives for the area.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
7	<p><u>Clearcutting Opposing View #2</u> - “Once clear-cutting has occurred, regulation and human silvicultural practices become responsible for the revegetation that follows. The creation of new forest succession patterns are the result of human control over the growing environment. Rather than proceeding at a natural pace, humans attempt to speed up the forest succession process to quickly return to a situation where harvesting is again possible. Reforestation of the disturbed area after clear-cutting also emphasizes maintaining control over the distribution and quality of forest species.</p>	<p>The effects on vegetation from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
8	<p>Simplification is a state that results from the forest being harvested before it reaches maturity. Logging simplifies forest ecosystems (Dudley et al 1995) by narrowing the age range of the stand and suppressing diversification through repeated harvesting, burning to remove slash, and replanting with hybrid seedlings. Simplification affects the health and productivity of the forest because simplified forests lack the variety found in older stands, including species diversity, vertical structure, and microhabitat. From an ecological standpoint, a simplified forest of a particular age has less overall bio-mass per acre than a natural forest of the same age, but a simplified forest produces a higher volume of merchantable timber.</p>	<p>The effects on vegetation from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

<p>9</p>	<p><u>Clearcutting Opposing View #3</u> - "Other research, conducted in New Brunswick and published in 1994, showed that clearcutting, intensive silviculture, and single-species tree plantations, reduced habitat diversity and decreased the density and diversity of breeding birds.</p>	<p>Chapter 3 of the EA discloses the effects of the proposed action on vegetation. Diversity within compartments and the landscape would be increased with the development of younger age classes as a result of proposed treatments. Older stands adjacent to these stands usually contain large trees and have various rates of mortality. South Carolina's Forests, 2006 (Resource Publication SRS-158) indicates that approximately 67 percent of the state is forested with loblolly-shortleaf pine (the dominant forest type group). Current estimates indicate that net growth of softwoods is exceeding net removals - the forests are getting bigger and older. The data also indicates that more pine stands are being managed for sawtimber rather than being cut solely for pulpwood - that is true for this proposal as well. The data indicates substantial acreage in older age classes. Older and larger trees provide sources of large woody material both standing and downed across the landscape. Structural diversity provided by the various age classes that occur and pockets of dead and drying trees of various sizes and combinations across the landscape provide a variety of habitat conditions beneficial to birds and insects. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions, respectively. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
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10	<p>Other types of wildlife are also adversely affected by intensive forest practices. Scientists studying bats in the White Mountain National Forest, for example, published a paper in 1996 in which they hypothesized that prior to European settlement, northeastern bats were inhabitants of extensive tracts of over mature hardwood timber. Bats probably used large dead and dying trees as roosts, and probably fed in small openings created by natural disturbances or over areas of still water. In order to create bat habitat and maintain viable bat populations within the White Mountain National Forest, timber management plans were recommended which created small forest openings, that is group selection cuts and small clearcuts, and retained areas of older hardwoods. Intensive timber harvesting methods would be inappropriate since they would destroy the essential habitat mixture of over mature hardwood and small openings.</p>	<p>Chapter 3 of the EA discloses the effects of the proposed action on vegetation. Diversity within compartments and the landscape would be increased with the development of younger age classes as a result of proposed treatments. Older stands adjacent to these stands usually contain large trees and have various rates of mortality. South Carolina's Forests, 2006 (Resource Publication SRS-158) indicates that approximately 67 percent of the state is forested with loblolly-shortleaf pine (the dominant forest type group). Current estimates indicate that net growth of softwoods is exceeding net removals - the forests are getting bigger and older. The data also indicates that more pine stands are being managed for sawtimber rather than being cut solely for pulpwood - that is true for this proposal as well. The data indicates substantial acreage in older age classes. Older and larger trees provide sources of large woody material both standing and downed across the landscape. Structural diversity provided by the various age classes that occur and pockets of dead and drying trees of various sizes and combinations across the landscape provide a variety of habitat conditions beneficial to birds and insects. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions, respectively. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
11	<p>Moose are probably Maine's most famous type of wildlife, and they have been thriving by feeding on vegetation found in regenerating clearcut areas, as well as that found on old farm land that has been abandoned. However, research has shown that moose avoid using herbicide-treated clearcuts, and when they are found within treated areas, they are feeding on vegetation that was inadvertently skipped by the spray plane.</p>	<p>Moose are not found in South Carolina and therefore not relevant to the project.</p>

12	<p>In summary, there is a large body of scientific evidence which shows that intensive forest practices such as whole-tree clearcutting on short rotations, herbicide spraying, and the establishment of tree plantations, have adverse effects on all aspects of the forest ecosystem, and we believe these practices threaten the long term health and productivity of our forestlands. We support the use of forest practices such as those promoted by the Maine Low Impact Forestry Project, and practiced by veteran woodlot owners like Mel Ames of Atkinson.”</p>	<p>The project is not proposing whole-tree clearcutting, but clearcutting with reserves. The reserves are defined as healthy shortleaf pine and desirable hard mast species (oaks, hickories, etc.) that are eight inches or greater in diameter. The Sumter National Forest typically manages on rotations ages of 70 plus years of age.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
13	<p><u>Clearcutting Opposing View #4</u> - “Let’s consider a broad overview of the effect of clearcutting directly on the land. The high canopy that softened the fall of rain in the heaviest storms are removed by a clearcut. The intertwined mat of living roots that held the soil together atrophies quickly after the trees are cut. The degree of erosion increases as slopes steepen. Streams and rivers, once rich with salmon, cannot support the fishery because salmon are unable to negotiate the silt-laden waterway to their spawning grounds. In past years abundant salmon was the pride of the Pacific Northwest; in 1992 the commercial salmon fishing season was cut in half along the Oregon and Washington coasts because of the severe decline in the number of salmon. Today, several species of salmon are listed as endangered. Clearcutting has contributed significantly—albeit not exclusively—to the decades-long decline of salmon. This is another cost of clearcutting that is not reflected in the timber industry’s accounting.”</p>	<p>The effects of logging on soils have been disclosed in Chapter 3 of the EA. Forest-wide standards found in the Forest Plan would be followed during implementation of this project. <i>South Carolina Best Management Practices for Forestry</i> (2003) and <i>National Best Management Practices for Water Quality Management on National Forest System lands</i> (2012) collectively referred to as BMPs would be followed. In addition, <i>Soil and Conservations Practices Guide for R8</i> (2002) would also be followed.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

14	<p>“Consider the loss of recreational values caused by clearcutting. Tourists flock to old growth forests, and will pay to see them, walk through them, and gain spiritual renewal from them. Nobody goes to enjoy lands that have been clearcut. Selective logging can retain the identity, vitality, and spirituality of old growth forests, remaining open to the public at all times except for the several weeks of intermittent cutting and removal activity. Areas subjected to periodic selective logging can be made compatible with recreational opportunities; areas subjected to clearcutting practices cannot be used in such a manner.”</p>	<p>This represents a statement of opinion.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
15	<p><u>Clearcutting Opposing View #5</u> - “Clearcutting means the felling and removal of all trees from a given tract of forest. One forestry expert refers to the practice as “an ecological trauma that has no precedent in nature except for a major volcanic eruption.” Clearcutting can destroy an area's ecological integrity in a number of ways, including: the destruction of buffer zones which reduce the severity of flooding by absorbing and holding water; the immediate removal of forest canopy, which destroys the habitat for many rainforest-dependent insects and bacteria; the removal of forest carbon sinks, leading to global warming through the increased human-induced and natural carbon dioxide build-up in the atmosphere; the elimination of fish and wildlife species due to soil erosion and habitat loss; the removal of underground worms, fungi and bacteria that condition soil and protect plants growing in it from disease; the loss of small-scale economic opportunities, such as fruit-picking, sap extraction, and rubber tapping; and the destruction of aesthetic values and recreational opportunities.”</p>	<p>Chapter 3 of the EA provides the scientific and analytical bases for the determination of effects to the physical, biological and social environment. Chapter 4 lists the Forest Service interdisciplinary team and resource specialists who provided input and/or were consulted during analysis. Reference information is also provided in the EA. The US Fish and Wildlife Service and the SC State Historic Preservation Office provided input information during the review period or concurred with determinations made in the BA/BE and in the review of the heritage reports, respectively. A review of the environmental assessment and the project record indicates that the best available scientific information was used to inform the environmental analysis. There is no known scientific controversy with respect to the effects of this action. The effects associated with this type of action are well understood and documented in scientific literature (referenced in this EA and the Forest Plan FEIS).</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

16	<p><u>Clearcutting Opposing View #6</u> - “Recently, so called "salvage" logging has increased on national forests in response to a timber industry invented "forest health crisis" which points the finger at normal forest processes of fire, fungi, bacteria, insects and other diseases. In fact the crisis in the national forests is habitat destruction caused by too much clearcutting.”A statement by Arthur Partridge, Ph.D.“Ecology—a science that so often demonstrates the "law of unintended consequences"—shows that converting trees to timber on a massive scale through clear-cutting often has severe ecosystem consequences. Well understood scientific results show that such forestry often leads to serious problems of erosion, damage to streams and rivers, the slow regeneration of forest, and the vulnerability of the even-aged forest that does grow back to diseases and infrequent but catastrophic fires.”</p>	<p>This represents a statement of opinion.</p> <p>See comment 1.</p>
17	<p>“The Act to Save America’s Forests does an excellent job of outlining an approach for long-term, sustainable use of our few remaining ancient forests, roadless areas, and other public lands, while protecting them from continued degradation, misuse, and practices that are obviously unsustainable as judged by any scientific standards. By replacing clearcutting with selective logging, the bill will allow for continued economic benefits and resource use of these forests while also protecting the wood resources, biological diversity, soil structure and function, general ecosystem function, and aquatic integrity and diversity.”</p>	<p>This represents a statement of opinion. See comment 1.</p>
18	<p>“We know that clear cutting leads to decreased root strength and increased rates of landsliding in steep terrain. Recent fatal landslides from clear cut slopes in Oregon should remind us of the potential human cost of land use that is inconsistent with landscape processes. Exacerbation of flooding and landsliding is not in the public interest, so why do we manage our National Forests through clear cutting? Passage of the Act to Save America's Forests will end this practice on public lands.”</p>	<p>Of the Forest PlanFW-4 To limit soil and water quality impacts, heavy mechanical equipment (dozers, skidders, feller/bunchers, etc.) will not be used on slopes over 40 percent except in designated locations with adequate and timely mitigation. Emergency fire lines and soil and water improvements specifically designed to stabilize or rehabilitate severe erosion such as active gullies are exceptions to this slope limit.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

19	<p>“But most importantly, we need to change the paradigm guiding forest management. The fundamental mission of the US Forest Service should be to protect our forests and the environmental services that they provide so that future generations can share the benefits that we have been blessed with . With such an updated mission, the US Forest Service can, once again, become a world leader in forest stewardship. Passage of the Act to Save America's Forests will bring principles of conservation biology to management of our national forests by preserving core areas of pristine, high quality habitat, ending the destructive practice of clear cutting and preventing further degradation by road building in potentially unstable terrain.” A statement by David Montgomery, Ph.D.</p>	<p>This represents a statement of opinion. The protection and sound stewardship of our National Forest is a mission that is spelled out in the Sumter National Forest Revised Land and Resource Management Plan. Clearcutting is an acceptable proactive in the forest plan and the effects of logging are disclosed in Chapter 3 of the EA. Clearcutting provides early successional habitat at the compartment and landscape level increasing diversity. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
20	<p>“American rivers and streams face destruction by sedimentation. Clearcutting, along with the vast network of logging roads, result in sedimentation and soil erosion into our national forest’s rivers and streams. Sedimentation degrades the water quality, impairs the habitat for fish and macroinvertebrates, and limits the ecosystem functions and services of streams.”</p>	<p>Effects to aquatic communities are discussed on pages 100-108 of the EA. BMP monitoring is conducted on an annual basis on randomly selected projects across the forests. Effects on aquatic communities are reported in annually completed forest wide monitoring reports. Best Management Practices are monitored and evaluated on randomly selected projects on an annual basis across the forests as required by national and regional direction. This is an interdisciplinary review following established procedures and protocols.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
21	<p>“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.”</p>	<p>Clearcutting creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. The wildfire history for the Piedmont Region of South Carolina is low given the amount of prescribed burning done on an annual basis and climate conditions that are conducive to rapid decomposition of logging residue. This in combination with the high utilization standards reduces the amount of material available to burn after logging. Finally, there are none known Red Cockaded woodpeckers found in the project area.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

22	<p>“Ecologists have established also that small populations are more likely to go extinct than larger populations, and isolated populations are more prone to extinction than less isolated ones. Using these established ecological principles as a simple rule of thumb, we have a basis for understanding and predicting the influence of forest fragmentation and clearcutting of large patches of forest on wildlife that is exposed to such kinds of disturbance. Without our immediate attention, organisms that require relatively large patches of undisturbed land are doomed to extinction.”</p>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological Assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
23	<p><u>Clearcutting Opposing View #7</u> - “Clearcutting also destroys habitat for a wide variety of animals, including many endangered species. Birds, reptiles, and mammals all face habitat destruction due to clearcutting. Many of these animals have difficulty seeking out new habitats because the surrounding areas may be clearcut or filled with human inhabitants. Some animals have adverse interactions with humans, especially large predator species and animals such as raccoons which adapt readily to human encroachment on their habitat. Others are simply incapable of adapting and quietly die off. The effects often extend into the surrounding ecosystem as well, by removing a link in the local food chain.</p>	<p>The national BMP Program integrates water resource protection into management activities and consists of the National Cores BMPs; standardized BMP monitoring protocols; national directives, and a data management structure.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
24	<p>The results of clearcutting are not only felt in the immediate area. Clearcutting also has an impact on the quality of the atmosphere, beginning when the trees are cut down. Trees help to filter pollutants from the air, and are also an important part of the carbon cycle. Removing trees has a direct impact on the environment, especially when combined with slash-and-burn practices which result in scorched earth and in a serious increase of environmental pollutants.”</p>	<p>Effects of project activities are disclosed in Chapter 3 of the EA and in Section 3.1.3 the effects on air quality are discussed. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

25	<p><u>Clearcutting Opposing View #8</u> - “Shoddy, exploitive clearcutting is clearly one of the most destructive forest management practices...It is not forestry and it is certainly not land stewardship...Clearcutting in these cases is simply cheap logging and not a planned silvicultural practice” “Half a century of clearcutting has led to a forest that bears little resemblance to the healthy forest systems that stretched across the West when the first European explorers arrived. Fragmentation of formerly vast tracts of mature forest has caused wildlife to dwindle. The reduction and isolation of old growth habitat has degraded clean water and created large that threaten diversity. A vast body of science documents the impacts of clearcutting to wildlife, fish, and plants, to clean water, to soils, to productivity, and ultimately to the health of our forests. The Medicine Bow National forest of south-central Wyoming is the poster child for forests that have been fragmented to the point of ecological collapse. The time has come to abandon clearcutting as the primary logging practice on our national forests, and replace it with a program of sustainable logging practices and protection of key habitats to restore the health and diversity of our forests.”</p>	This represents a statement of opinion. See comment 1.
26	Schafer, Maggie, Molvar, Erik, “Clearcutting: An Idea Whose Time has Passed	reference, no response needed
27	<p><u>Clearcutting Opposing View #9</u> - ““The Nova Scotia government is taking important steps to reduce clearcutting in this province, “ says Chris Miller, National Conservation Biologist for the Canadian Parks and Wilderness Society (CPAWS), based in Halifax. “For too long, there’s been an over-reliance on clearcutting in Nova Scotia and our forests have suffered as a result”.</p>	reference, no response needed

28	Clearcutting Opposing View #10 - "We took an airplane yesterday, flying north west of Roseburg. During our short 1.5 hour flight, we saw literally hundreds of landslides coming from clearcuts and their roads. We saw about 4 natural landslides in forested areas. We couldn't see every natural slide from the plane - but I know for sure, there were not hundreds. There were many, many more landslides from clearcuts. The slopes were just dripping with streaks of mud and slides. The draws and valleys were ripped wide open, and oozing with the displaced soil and rocks.	These are statements of observation from past practices that have nothing to do with the Lower Broad Project.
29	We flew over the Hubbard Creek slide, which killed four people last month. It was not the biggest or most impressive slide we saw. It started high on a vertical slope - skinny, small. We saw it widen, saw the path it took through some old-growth, and saw pieces of the house, and scattered wreckage where it went through the rural residential area. There are no words to describe...	These are statements of observation from past practices that have nothing to do with the Lower Broad Project.
30	We flew a few miles further north, over the Yellow Creek Timber Sale, once a beautiful forest of huge trees in an ancient forest preserve (LSR), now completely clear-cut, and dripping landslides down her sides like tears.	These are statements of observation from past practices that have nothing to do with the Lower Broad Project.

31	<p><u>Clearcutting Opposing View #11</u> - "The effects of whole-tree clear-cutting on soil processes and stream water chemistry were examined in a northern hardwood forest at the Hubbard Brook Experimental Forest, New Hampshire. Soil processes were examined by monitoring soil solution chemistry collected using zero-tension lysimeters from the Oa, Bh and Bs horizons at three sites along an elevational/vegetation gradient. Whole-tree clear-cutting created a severe ecosystem disturbance leading to leaching losses of nutrients from the soil profile, increased acidification, and elevated concentrations of Al-ions in soil solutions and streamwater. The response was driven by the process of nitrification that led to production of nitric acid in both the forest floor and mineral soil horizons. This acidity was largely neutralized by release and leaching of basic cations and inorganic monomeric Al-ions leaching with the NO<sub>3</sub>-ions. The major source of nutrient loss was from the forest floor. The chemical response to the clear-cut was most intense during the second year following the treatment and declined to near reference concentrations in 4–5 years. High elevation sites showed the greatest response to disturbance and the slowest recovery of soil solution concentrations to pre-cut concentrations. Shallow soils and a slower recovery of vegetation at the upper elevation sites were the primary factors contributing to the enhanced disturbance and delayed recovery (and enhanced response to disturbance in the upper elevation sites).</p>	<p>Soil and water design criteria reduce erosion and sedimentation to streams and rivers helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. The effects on aquatic communities are disclosed in section 3.2.7 of the EA.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
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32	<p><u>Clearcutting Opposing View #12</u> - "In November 1973, the Federal District Court of the Northern District of West Virginia curtailed the authority of the U. S. Forest Service (USFS) to sell timber on the Monongahela National Forest (MNF). Local residents protested the use of clearcutting practices on the MNF, and finding the USFS unresponsive to their concerns, sought recourse through the courts. The case of Izaak Walton League v. Butz was filed in the Federal District Court in Elkins, WV, and the November 1973 ruling by Judge Robert E. Maxwell stated that the USFS was in violation of the Organic Act of 1897, which stipulated that only "dead, physiologically mature, and large growth" trees that had been marked individually for cutting could be sold (Weitzman, 1977:1). Judge Maxwell placed a restraining order on timber harvests on the MNF (Berman and Howe, 1992).</p>	<p>The NEPA process is being followed and the public input is valued and followed for this project. There was a scoping lettered dated January 23, 2015 mailed to interested parties of the Enoree Ranger District NEPA Public Mailing List. Public comments are responded to and are part of the project file.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
33	<p>In August 1975, the "Maxwell Decision" was upheld by the Fourth Circuit Court of Appeals, and the restrictions on timber harvesting were applied to the National Forests in the area served by the Fourth Circuit--West Virginia, Virginia, North Carolina and South Carolina (Weitzman, 1977; Berman and Howe, 1992). One week after the "Monongahela Decision" had been handed down, the Chief of the USFS ordered that timber sales on the nine National Forests in the four states be stopped. The Monongahela Decision set a precedent that could be cited in other appellate courts, and therefore posed a threat to timbering on the entire National Forest System (Berman and Howe, 1992).</p>	<p>The NEPA process is being followed and the public input is valued and followed for this project. There was a scoping lettered dated January 23, 2015 mailed to interested parties of the Enoree Ranger District NEPA Public Mailing List. Public comments are responded to and are part of the project file.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

34	<p>This national challenge to the basic authority of the USFS began as a conflict between local interests and the USFS staff over how clearcutting practices were being applied in the MNF. Local hunters and residents were concerned with the aesthetic impacts the massive clearcuts had on the land, as well as the effects they had on turkey and squirrel habitat for hunting. As Weitzman (1977:13) observed, "In few states is there the same historical enthusiasm for hunting squirrel and turkey as in West Virginia." Squirrel and turkey hunters prefer a dense understory, old enough to produce mast (edible seeds) and abundant den trees-- conditions that contradicted the timber management policies favored by the USFS at that time.</p>	<p>The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
35	<p><u>Clearcutting Opposing View #15</u> - "Clear-cutting has a very big impact on the water cycle. Trees hold water and topsoil. Clear-cutting in forests removes the trees which would otherwise have been transpiring large volumes of water and also physically damages the grasses, mosses, lichens, and ferns populating the understory. All this bio-mass normally retains water during rainfall. Removal or damage of the biota reduces the local capacity to retain water, which can exacerbate flooding and lead to increased leaching of nutrients from the soil. The maximum nutrient loss occurs around year two, and returns to pre-clearcutting levels by year four."<sup>[11]</sup></p>	<p>Effects to aquatic communities are discussed on pages 100-108 of the EA. BMP monitoring is conducted on an annual basis on randomly selected projects across the forests. Effects on aquatic communities are reported in annually completed forest wide monitoring reports. Best Management Practices are monitored and evaluated on randomly selected projects on an annual basis across the forests as required by national and regional direction. This is an interdisciplinary review following established procedures and protocols. . Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

36	<p>Clear-cutting also prevents trees from shading riverbanks, which raises the temperature of riverbanks and rivers, contributing to the extinction of some fish and amphibian species.<sup>[where?]</sup> Because the trees no longer hold down the soil, riverbanks increasingly erode as sediment into the water, creating excess nutrients which exacerbate the changes in the river and create problems miles away, in the sea.<sup>[10]</sup> All of the extra sediment and nutrients that leach into the streams cause the acidity of the stream to increase, which can kill marine life if the increase is great enough.<sup>[11]</sup> The nutrient content of the soil was found to return to five percent of pre-clearcutting levels after 64 years, which demonstrates how clearcutting affects the environment for many years.<sup>[12]</sup></p>	<p>There are buffers left along all water bodies that are maintained where logging is excluded which is a design criteria found in chapter 2. Other soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. The effects on aquatic communities are disclosed in section 3.2.7 of the EA.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
37	<p>Clearcutting can destroy an area's ecological integrity in a number of ways, including: the destruction of buffer zones which reduce the severity of flooding by absorbing and holding water; the immediate removal of forest canopy, which destroys the habitat for many rainforest-dependent insects and bacteria; the removal of forest carbon sinks, leading to global warming through the increased human-induced and natural carbon dioxide build-up in the atmosphere; the elimination of fish and wildlife species due to soil erosion and habitat loss; the removal of underground worms, fungi and bacteria that condition soil and protect plants growing in it from disease; the loss of small-scale economic opportunities, such as fruit-picking, sap extraction, and rubber tapping; and the destruction of aesthetic values and recreational opportunities.</p>	<p>The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
38	<p><a href="#">Negative impacts[edit]</a></p>	<p>reference, no response needed</p>

39	<p>Clearcutting can have major negative impacts, both for humans and local flora and fauna.<sup>[14]</sup> A study from the University of Oregon found that in certain zones, areas that were clear cut had nearly three times the amount of erosion due to slides. When the roads required by the clearcutting were factored in, the increase in slide activity appeared to be about 5 times greater compared to nearby forested areas. The roads built for clearcutting interrupt normal surface drainage because the roads are not as permeable as the normal ground cover. The roads also change subsurface water movement due to the redistribution of soil and rock.<sup>[15]</sup> Clearcutting may lead to increased stream flow during storms, loss of habitat and species diversity, opportunities for invasive and weedy species, and negative impacts on scenery,<sup>[16]</sup> as well as a decrease in property values; diminished recreation, hunting, and fishing opportunities.<sup>[17]</sup> Clearcutting decreases the occurrence of natural disturbances like forest fires and natural uprooting. Over time, this can deplete the local seed bank.<sup>[18]</sup> An example of what clearcutting did in Ontario before 1900 can be found in Edmund Zavitz.</p>	<p>The effects of logging are disclosed in Chapter 3 of the EA. Diversity in the project area is provided by design criteria listed in Chapter 2 of the EA and Forest Plan standards. In addition, Forest Plan standards (FW-18, FW-21, FW-22 and FW-24) require: retention of snags, bird peck trees, den trees; existing oak forests on mesic sites; two or more snags per acre, live den trees and hardwood inclusions. This provides habitat diversity for a variety of wildlife species including ants other insects and birds. Hardwood inclusions would be protected. Soil and water design criteria reduce erosion and sedimentation to streams helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. Early successional habitat would be created and at the compartment and landscape level diversity increased. Older mature trees both hardwood and softwoods exist on the landscape in the area and across the District. Adequate habitat currently exists in the project area and is likely to be there in the future.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
40	<p>In temperate and boreal climates, clearcutting can have an effect on the depth of snow, which is usually greater in a clearcut area than in the forest, due to a lack of interception and evapotranspiration. This results in less soil frost, which in combination with higher levels of direct sunlight results in snowmelt occurring earlier in the spring and earlier peak runoff.”</p>	<p>The effects on climate change from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
41	<p>A Wikipedia definition of clearcutting</p>	<p>reference, no response needed</p>
42	<p>Wikipedia is a trusted source for accurate information</p>	<p>reference, no response needed</p>
43	<p><a href="https://en.wikipedia.org/wiki/Clearcutting">https://en.wikipedia.org/wiki/Clearcutting</a></p>	<p>reference, no response needed</p>

44	<p><u>Clearcutting Opposing View #16</u> - “Williams, lead author of the study, explains, “Forest harvest alters a host of processes important to the local and global climate system, such as carbon storage and uptake, water use, and absorption of solar radiation.” Carbon was a major focus of the study because of its important role in controlling the climate. In stark contrast to a clearcut area, intact forests are able to pull carbon dioxide from the atmosphere and store it in trees, creating a carbon “sink” that helps to offset greenhouse gas emissions released by fossil fuel combustion and other sources. The clearcut area studied gave off more carbon dioxide than it stored, with nearly half of the CO2 rising from exposed, disturbed soils and an additional 18 percent from decomposing wood. Williams adds, “The cleared area will only become a significant sink for atmospheric carbon after a decade or more, and full recovery of forest carbon stocks requires many decades of regrowth.” “ Carbon was a major focus of the study because of its important role in controlling the climate. In stark contrast to a clearcut area, intact forests are able to pull carbon dioxide from the atmosphere and store it in trees, creating a carbon “sink” that helps to offset greenhouse gas emissions released by fossil fuel combustion and other sources. The clearcut area studied gave off more carbon dioxide than it stored, with nearly half of the CO2 rising from exposed, disturbed soils and an additional 18 percent from decomposing wood. Williams adds, “The cleared area will only become a significant sink for atmospheric carbon after a decade or more, and full recovery of forest carbon stocks requires many decades of regrowth.” “</p>	<p>The effects on carbon from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
45	<p><u>Clearcutting Opposing View #17</u> – “For decades, citizens have attempted to stop Forest Service destruction of our public forestlands by using the timber sale appeals process, lawsuits, and participation in national forest planning. Despite all these efforts, the Forest Service continues to allow private timber companies to clearcut old growth and roadless forests throughout our national forest system, destroying critical forest habitat, ruining important recreational areas and violating the public trust.</p>	<p>The effects on carbon from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

46	<p>The costs to the American people in environmental damage and wasted tax dollars are staggering. Increased species extinction, flooding and landslides are examples of the destruction resulting from clearcutting in fragile forest watersheds. Natural forests act as giant sponges that regulate the flow of water into streams and rivers. During and after rain, the trees and shrubs hold vast amounts of water in their trunks and leaves, and their roots bind and stabilize the soil. Clearcut areas don't absorb water. Instead, when heavy rains come, clearcut areas allow for rapid runoff, causing flooding and erosion. The floodwater transports tons of silt, clogging waterways. In steep areas, the earth can no longer resist the pull of gravity and pulls away in a landslide. Downstream in the valleys, homes and lives are ruined by a wall of water and mud. Government subsidies are needed to help communities and individuals repair the damage. In recent years, major floods and landslides in the California, Oregon, Washington and Idaho have caused billions of dollars of damage to public and private property. Many people were injured and some were even killed. Some landslides were directly attributable to clearcut forest areas.</p>	<p>Soil and water design criteria reduce erosion and sedimentation to streams and rivers helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. The effects on aquatic communities are disclosed in section 3.2.7 of the EA.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
47	<p>This tragedy of deforestation on our public lands is multiplied by the fact that taxpayer dollars help subsidize the clearcutting of our national forests. Billions of dollars are allocated to the Forest Service to pay the costs of building logging roads and administering timber sales. The timber industry buys the subsidized timber. The result is private profit causing public forest destruction.</p>	<p>The project is not deforesting the land, but replacing older insect and disease susceptible timber with younger more vibrant seedlings. Economical analysis has been done for this project and is found in section 3.3.3.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

48	<p>Natural forests are home to thousands of native plants and animals interconnected in a delicate web of life. Each organism is interdependent on the other. The spotted owl eats voles, a small rodent. Voles eat fungi and disperse the fungi spores in their waste which then grown in the ground on the roots of the giant trees. The fungi are essential to helping the trees take up vital nutrients through their roots from the soil. Each organism plays a role in the healthy functioning of the forest. The forest is teeming with life, from common insects living in rotting logs on the forest floor to rare moss and lichens that only grow in the branches of trees, high in the forest canopy. Because of massive forest destruction caused by clearcutting, the delicate web of life in our forests is unraveling. Scientists say that the earth is experiencing a wave of extinction. The leading cause of extinction is destruction of native habitat by such human activities as clearcutting and logging roads. Each year of continued clearcutting in the national forests leads to the loss of more species.”</p>	<p>Analysis has been completed for plants and animals in the project area and there are no long term ill-effects to any of the plants and animals in the project area. All project information was sent to the Fish and Wildlife Service for the agency review. Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
49	“The Destruction of America's Last Wild Forests”	reference, no response needed
50	A Save America's Forests publication, 1998	reference, no response needed
51	<a href="http://www.saveamericasforests.org/resources/Destruction.htm">http://www.saveamericasforests.org/resources/Destruction.htm</a>	reference, no response needed
52	<p>Clearcutting Opposing View #18 - “Clearcutting may profoundly alter local rivers. If logging comes close to the banks of the river, as it often does, it eliminates the shady shield of trees, which can cause the temperature of the river to elevate. Even a few degrees can make a huge difference to native plants, fish, and amphibians, and can cause a significant population decrease. Numerous organizations monitor global rivers and have warned that extensive clearcutting could result in the extinction of some fish species, as they are driven out of their native habitats. Clearcutting also softens the banks of the river by enabling erosion, which can cause them to collapse into the water.</p>	<p>There are buffers left along all water bodies that are maintained where logging is excluded which is a design criteria found in chapter 2. Other soil and water design criteria reduce erosion and sedimentation to streams and rivers helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. The effects on aquatic communities are disclosed in section 3.2.7 of the EA.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>

53	<p>In addition to harming rivers, clearcutting also alters the water cycle in general. While trees are growing, they help to trap and retain water, along with precious topsoil. When trees are removed, water runs over the surface of the earth rather than filtering into the aquifer. The water runoff can cause flooding, and take valuable topsoil with it. As the water trickles downhill, it carries the topsoil into the river, turning it brown and muddy and carrying the useful nutrients out to sea. The excess of nutrients in the marine environment can be harmful to marine organisms, and cause further population damage, which can sometimes extend for several miles offshore.</p>	<p>Soil and water design criteria reduce erosion and sedimentation to streams and rivers helping to reduce impacts to soil and aquatic biota. Erosion control seeding provides micro-sites beneficial to insects and birds. In addition, use of riparian buffers would provide habitat for riparian-dependent flora and fauna. The effects on aquatic communities are disclosed in section 3.2.7 of the EA.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
54	<p>Clearcutting also destroys habitat for a wide variety of animals, including many endangered species. Birds, reptiles, and mammals all face habitat destruction due to clearcutting. Many of these animals have difficulty seeking out new habitats because the surrounding areas may be clearcut or filled with human inhabitants. Some animals have adverse interactions with humans, especially large predator species and animals such as raccoons which adapt readily to human encroachment on their habitat. Others are simply incapable of adapting and quietly die off. The effects often extend into the surrounding ecosystem as well, by removing a link in the local food chain.”</p>	<p>Analysis has been completed for plants and animals in the project area and there are no long term ill-effects to any of the plants and animals in the project area. All project information was sent to the Fish and Wildlife Service for the agency review. Effects of project activities are disclosed in Chapter 3 of the EA and in the Biological assessment/Biological Evaluation. The project is consistent with the Forest Plan and the Final Environmental Impact Statement for the Forest Plan.</p> <p>See comment 1, 2<sup>nd</sup> paragraph.</p>
55	<p>Note to USFS employees who have just read this attachment: I spent 31 years in the USFS. I was routinely subjected to agency attempts to instill dislike and distrust of environmentalists and conservationists. The USFS refers to these American citizens “enviros,” and “crazed radicals.” What the USFS does not teach is according to several recent national surveys, the majority of Americans selected at random identify themselves as “environmentalists” and wish the people employed to manage public land would do the same.</p>	<p>This represents a statement of opinion. See comment 1.</p>

56	You might be a forester and you might not. Please understand foresters were educated to be industrial foresters. They are taught to plant, grow, tend and log conifer tree species at the least cost assuming they will be employed to manage private industrial tree farms owned by timber producing corporations like Weyerhaeuser, Boise Cascade, Potlatch and many other smaller companies.	This represents a statement of opinion. See comment 1.
57	Forestry is an honorable profession, however the information taught to most foresters must be tempered and adjusted by those who are employed by public land management agencies like the BLM and USFS.	This represents a statement of opinion. See comment 1.
58	Pease have the maturity to understand the vast majority of national forest visitors are recreationists who seek to spend their leisure time in beautiful places experiencing Nature in an unaltered state. .	This represents a statement of opinion. See comment 1.
59	Harvesting trees on national forest land is not required. It's allowed. It's allowed to occur if it enhances forest health. In this case a forest is defined to include the countless natural resources in the forest ... not just trees.	This represents a statement of opinion. See comment 1.
60	<i>"Post-World War II, we entered a new period characterized by timber production. From the 1960s to the 1980s, every administration, with strong congressional support, called for more timber harvest from the national forests, with the goal of replacing the depleted stocks of private and state timber as a result of the war effort. We measured success largely in terms of producing timber and providing multiple uses, including outdoor recreation and fish and wildlife.</i>	This represents a statement of opinion. See comment 1.
61	<i>In the early 1990s, that changed again. Today, we're in a new period focused primarily on ecological restoration and recreation. Maybe more than ever before, we are focusing on delivering values and services like clean air and water, scenic beauty, habitat for wildlife, and opportunities for outdoor recreation. Not only do Americans want these things from their national forests, but this shift is also essential to cope with some huge threats to the sustainability of these forests."</i> (pp 8-9)	This represents a statement of opinion. The effects on vegetation from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths as well as protecting and maintaining clean air and water, scenic beauty, and habitat for wildlife.  See comment 1, 2 <sup>nd</sup> paragraph.

62	National forest trees must never be manipulated to increase growth and vigor. National forest trees must never be manipulated to maximize value.	This represents a statement of opinion. The effects on vegetation from silvicultural treatments are disclosed in Chapter 3 of the EA. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber.  See comment 1, 2 <sup>nd</sup> paragraph.
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ID	Comment	Response
	<p>Opposing Views Attachment #21            Timber Harvest Degrades Forest Health and Restores nothing in a Forested Ecosystem</p>	
1	<p><b>Logging not Restoration Opposing View #1</b> - "We question the validity of thinning as a means both to reduce the threat of wildfire and to restore historic forest structure in the absence of site-specific data collection on past and present landscape conditions."</p>	<p>The purpose and need for the project can be found in Chapter 1 of the EA. The proposed action is to regenerate new stands by the seedtree harvest method. Timber harvesting involves whole tree skidding to the log landing and loading area. Most of the slash from logging winds up at the log landing where material is mechanically broken up by the logging operation. Treating these stands this way, creates conditions where they can be prescribed burned on a period basis once the regeneration is of sufficient size to withstand impacts from burning - this benefits wildlife and reduces wildfire risk. The wildfire history for the Piedmont Region of South Carolina is low given the amount of prescribed burning done on an annual basis and climate conditions that are conducive to rapid decomposition of logging residue. This in combination with the high utilization standards reduces the amount of material available to burn after logging. Refer to the water section for effects from timber harvesting on water runoff. Opening up these dense loblolly pine stands provides increased sunlight and water that is available for growth of grasses, forbs and shrubs which increase water infiltration rates. Skid trails are usually pre-designated and approved by the Forest Service timber sale administrator which also reduces logging damage. Stand exam data is collected and used in making silviculture decisions</p>
2	<p>Platt, Rutherford V. Ph.D., Thomas T. Veblen Ph.D., and Rosemary L. Sherriff <b>"Are Wildfire Mitigation and Restoration of Historic Forest Structure Compatible? A Spatial Modeling Assessment"</b> Published Online: by the Association of American Geographers. Sep. 8, 2006</p>	<p>reference, no response needed</p>
3	<p><b>Logging not Restoration Opposing View #2</b> - "Even 'kinder, gentler' commercial logging still inflicts environmental impacts such as eroded topsoil, degraded water quality, destroyed wildlife habitat, and extirpated species that are every bit as much symptoms of forest health problems as large-scale, severe wildfires."</p>	<p>Chapter 3 of the EA discloses the effects of timber harvesting on soil, water, forest vegetation, plant and rare communities, migratory birds, and aquatic communities respectively in the project area.</p>

4	<p><b>Logging not Restoration Opposing View #3</b> - "Fifth, thinning introduces diseases and pests, wounds the trees left behind, and generally disrupts natural processes, including some that regulate forest health, all the more so if road construction is involved."</p>	<p>Chapter 3 of the EA discloses the effects of timber harvesting on soil, water, forest vegetation, plant and rare communities, migratory birds, and aquatic communities respectively in the project area.</p>
5	<p><b>Logging not Restoration Opposing View #4</b> - "Traditionally, the term 'forest health' has been used in a limited, utilitarian sense by professional foresters to refer to the growth and vigor of trees (see Kolb et al. 1994). For example, according to one Forest Service publication, a forest is healthy when "biotic and abiotic influences on forests do not threaten management objectives now or in the future" (USFS 1993). From this perspective, a forest is healthy if trees are free from insects and pathogens and growing at maximum rates; it is unhealthy if trees are dead or dying. Anything that decreases or threatens to decrease yield (insects, disease, decaying trees, fire) is something to be controlled or eliminated. Managers therefore argue for removal and commercial utilization of trees that are perceived to be in danger from such threats." "However, many conservationists and forest scientists have expressed concern about such thinking. This narrow definition of forest health does not consider the health of the entire ecosystem, such as water and soil quality and the diversity and interactions of other life forms. It does not provide guidance for management of resources other than timber. It has encouraged foresters to simplistically view insects and other non-timber elements of forest ecosystems as good or bad, based only on how they affect the growth rates of commercial tree species." "When viewing forests from an ecosystem health perspective, scientists do not recognize the 'forest health crisis' described by the proponents of salvage logging who are concerned about losing economically valuable timber to fire or insects. To the scientists, insects, disease and fire are normal parts of healthy ecosystems, essential for forest regeneration, cycling of nutrients and maintaining a variety of dead and living trees for wildlife habitat. Attempts to control or eliminate these agents may lead to unforeseen and undesirable consequences. For example, widespread removal of dead and dying trees eliminates habitat required by bird</p>	<p>Forest health issues and proposal have been identified and addressed in the Sumter Forest Plan and included public input during its development. Forest Plan - Goal 17 states " Manage forest stands so they are less susceptible to insects and disease. Forest Plan Objective 17.01 states " Improve forest health on 10,000 – 50,000 acres of pine forests by reducing stand density. Silvicultural treatments are consistent with goals and objectives in the Forest Plan and considered the effects of timber management, species composition and rotation lengths.</p>

	species that feed on insects that attack living trees, with the result that outbreaks of pests may increase in size or frequency (Torgersen et al. 1990).”	
6	<p><b>Logging not Restoration Opposing View #5</b> - “It is well established that logging and roadbuilding often increase both fuel loading and fire risk. For example, the Sierra Nevada Ecosystem Project (SNEP) Science Team (1996) concluded that “timber harvest... has increased fire severity more than any other recent human activity” in the Sierra Nevada. Timber harvest may increase fire hazard by drying of microclimate associated with canopy opening and with roads, by increases in fuel loading by generation of activity fuels, by increases in ignition sources associated with machinery and roads, by changes in species composition due to opening of stands, by the spread of highly flammable non native weeds, insects and disease, and by decreases in forest health associated with damage to soil and residual trees (DellaSala and Frost, 2001; Graham et al., 2001; Weatherspoon et al., 1992; SNEP Science Team, 1996). Indeed a recent literature review reported that some studies have found a positive correlation between the occurrence of past logging and present fire hazard in some forest types in the Interior Columbia Basin (DellaSala and Frost, 2001).”</p>	This quote is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. The Sierra Nevada is a very different ecosystem than the project area. Logging effects are totally different and therefor are not relevant to this project area.
7	<p><b>Logging not Restoration Opposing View #6</b> - “Forest life spans and cycles continue for centuries, while human lives are measured in decades. It seems a bit precocious for managers and scientists to look at the forest through their narrow window in time and announce that the forest is critically unhealthy because it appears to be temporarily out of balance. Fire, insects, and pathogens at various times and intensities are not a "crisis," but rather vital parts of the normal forest life cycle of Western forests. In the absence of fire (nature's "reset button"), insects and pathogens often work together like "slow fire" to restart forest succession or reduce the density of overstocked stands. The scale of their interaction within the forest ecosystem is affected (but not necessarily controlled) by climate changes, existing forest conditions, local weather patterns, and ongoing human manipulation.</p>	This quote is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. The life cycle of Western Forest is not relevant to this project area.

8	<p>Natural fires, if allowed to burn in the uninhabited realms of our national forests, will not cost taxpayers the hundreds of millions of dollars a year that public logging currently does. In national parks and wilderness areas, fires often burn themselves out without intervention unless they threaten other ownerships or human lives. Fire, like logging, may provide temporary employment, but, unlike logging, does not build roads, remove all the trees from a site, compact soils, or permanently reduce biological diversity. Fire did not eradicate the valuable Western White Pine, logged to remnants and then fatally infected with blister rust from imported and replanted seedlings. Fire has not, over time, methodically decimated forest watersheds. If there is a forest health crisis, a good part of it is due to excessive logging. The most "successful" national forest management might be to retire the Forest Service from an incredibly inefficient career of logging and re-establish our heritage lands to their original status as reserves.</p>	<p>This quote is not relevant to the Purpose and Need, proposed action, or the decision to be made for this project area. Western wildfires are not relevant to this project area.</p>
9	<p><b>Logging not Restoration Opposing View #7</b> - "According to Arthur Partridge (former logger, Forest Service employee, and professor at the University of Idaho), "Claiming harm to forest health is merely an excuse to log.... In terms of disease and insects there has been no difference in true forest health for at least 50 years."</p>	<p>This represents a statement of opinion.</p>
10	<p><b>Logging not Restoration Opposing View #8</b> - "Commercial logging is not a prescription for forest health; it is one of the major causes of unhealthy forest conditions. Until the forest products industry stops trying to insist that clearcutting our public lands is necessary for the health of those lands, we will make no progress in restoring those lands. Equating forest health with timber company profits condemns out forests to either the commercial ravages of the past or the management paralysis of the present. Both are bad for our forests and for those of us who have chosen to live in beautiful, but naturally dangerous, forested landscapes."</p>	<p>This represents a statement of opinion.</p>

11

**Logging not Restoration Opposing View #9** - “Roads and log yards required for logging operations create gaps in the canopy and change the ecology of the forest. A healthy forest depends on a wealth of biodiversity, but operating the heavy equipment necessary to remove large trees from the forest destroys many of the smaller plants, animal habitat and microbiotic organisms that live in the soil.

Section 3.2 of the EA discloses the effects of timber harvesting on forest vegetation, plant and rare communities, migratory birds, and aquatic communities respectively in the project area.

12	<p>The DNR claims that logging promotes forest health, but even a brief visit to a logging site quickly dispels the truth of this claim. The DNR typically marks the large, commercially valuable trees for sale, not the sick or overcrowded smaller trees. Any gardener knows that you do not weed out the largest, healthiest plants for good cultivation.”</p>	<p>This represents a statement of opinion.</p>
13	<p><b>Logging not Restoration Opposing View #10</b> - “Recently, so called "salvage" logging has increased on national forests in response to a timber industry invented "forest health crisis" which points the finger at normal forest processes of fire, fungi, bacteria, insects and other diseases. In fact the crisis in the national forests is habitat destruction caused by too much clearcutting.”</p>	<p>Salvaging is not proposed in this project. The proposed actions are found in section 2.2 of the EA.</p>

Lower Broad Analysis Area – Letter from Dick Artley		
ID	Comment	Response
1	Issue #1 ---- Logging road construction causes significant ecological harm. Please analyze an action alternative in detail that does not construct any new roads (temporary or system).	Alternative 3 was developed to address the concern of new road construction. This alternative can be found in Chapter 2 - Alternatives section of the EA. Chapter 3 of the EA discloses the effects.
2	<p><u>Comment:</u> Ranger LeMaster, road construction is the most ecosystem-destructive action humans take in the forest. Just a few hundred feet of new road causes problems. Did you proof-read this pre-decisional EA before you sent it to the public? The EA at page 17 says “<i>Temporary roads would be needed for access (less than 1 mile).</i>” At page 35 you say “<i>and temporary road (5 miles).</i>” Which is it?</p> <p>At page 17 you say “Approximately 1.6 miles of system roads would be needed.” At page 35 you say “There would be 1.8 miles of road construction with the project.” Which is it? Can you understand how such errors cause the public to doubt the validity of this EA?</p> <p>At page 35 you say “<i>There would be 1.8 miles of road construction with the project. System road maintenance (43.4 miles) and temporary road (5 miles) would produce a sediment source through grading and ditching.</i>” This makes no sense. Do you really believe a temporary road is not a road? Why do you call it a “temporary road.” Temporary roads inflict more aquatic damage than system roads because they have no ditch, are outsloped and are not surfaced, and yet you don’t get it right. Can you understand how such errors cause the public to doubt the validity of this EA?</p>	This has been corrected in the EA. The actual miles of temporary roads are 0.63 miles and there is 1.63 of new road construction (see page 24 of the final EA). All road work has been analyzed and is shown in chapter 3 of the EA.

3	<p>Ranger LeMaster, please don't ignore the Shipley Group NEPA recommendations as you prepare your final EA. The USFS spend millions of dollars to hire this company to teach agency employees how to apply the NEPA process correctly? Are your qualifications comparable to Dr. Freeman who works for the Shipley Group? They must be for you to ignore Dr. Freeman's advice. I am asking you to develop the "no new road" action alternative. Since Dr Freeman says "A single action alternative is a risky agency choice."</p> <p><u>Comment:</u> Please don't claim the No Action alternative satisfies this request to analyze a "no new roads" action alternative in detail. The timber sale contains some actions that will benefit the ecosystem of the area. A "no new roads" alternative would include these actions and it would generate . The P&amp;N will still be met because the P&amp;N does not specify volume or acres harvested. Volume will be available from existing roads. A "no new roads" <u>action</u> alternative is reasonable. It will benefit the forested ecosystem, it produces volume and reduces fuels, and eliminates the ecosystem damage caused by roads that is identified in <u>Opposing Views Attachment #4</u>.</p> <p><u>Comment:</u> Please don't dispose of the "no new roads" alternative in the "alternatives considered but not developed" section. To justify rejecting a reasonable alternative by placing it in this section you must show the public how it does not meet the P&amp;N.</p> <p>One P&amp;N goal is to "produce high quality, valuable sawtimber" (page 8). Since the P&amp;N did not specify a number of acres that must be treated a "no new roads" alternative would meet the P&amp;N because some areas can be treated without new road access.</p>	<p>Alternative 3 addresses the two issues identified in Chapter 1 of this EA. This action was developed in the EA. 2.3 Alternative 3</p> <p><u>Issue 1:</u> This alternative would use the seedtree method of regeneration in place of clearcut with reserves with the exception of the areas proposed for shortleaf pine regeneration.</p> <p><u>Issue 2:</u> Timber harvest would occur from existing system roads.</p>
4	<p>Issue #2 --- The human health and safety disclosures at pages 122 and 123 are hopelessly flawed and border on being criminal.</p>	<p>There was an herbicide risk assessment completed for the project that analyzes the herbicide used on project and is a part of the project file.</p>
6	<p><u>Request for changes to be made to the final NEPA document:</u> Eliminate ALL proposed clearcut units. If you must regenerate the areas explain to the public why and use a silvicultural RX that will not affect the visual character of the area in any way. Clearcuts with reserves are still clearcuts. Please understand private industrial tree farm conditions must never be created in national forests ... even on suitable land.</p>	<p>The reasons for regeneration harvest are explained in the purpose and need section starting on page 5. The visual impacts from the project were analyzed and that information is found chapter 3 starting on page 109.</p> <p>Alternative 3 was developed in response to this key issue. The alternative proposes less cutting and changes the silvicultural prescription to</p>

		seedtree.
7	<p>Issue #4 --- The Interdisciplinary Team listed in the pre-decisional EA does not have a member with the training to assess and divulge the environmental effects of sale implementation in Chapter 3 to human health and safety.</p>	<p>The interdisciplinary team (IDT) was selected by the District Ranger in a letter dated August 19, 2014. The composition of the IDT is consistent with Forest Service Handbook (FSH) 1909.15, Chapter 10, sections 12, 12.2, 12.22, 12.23.</p> <p>An herbicide risk assessment was completed and the analysis is contained in the project file. Herbicides proposed for use and application methods are disclosed in the <i>Revised Land and Resource Management</i> Sumter National Forest and associated Final Environmental Impact Statement. The site-specific EA contains design criteria and discloses the effects of herbicide use to human health and safety.</p>
8	<p>The pre-decisional EA indicates there will be shelterwood prescriptions associated with the proposed action. You prescribe shelterwood as a way to regenerate these forested areas. You fail to include the following information required by NFMA:</p> <p><u>Request for changes to be made to the final NEPA document:</u></p> <ul style="list-style-type: none"> <li>• provide data and text demonstrating that soil, slope, or other watershed conditions will not be irreversibly damaged by shelterwood silvicultural prescriptions.</li> <li>• provide data and text demonstrating that shelterwood silvicultural prescriptions are appropriate to meet the objectives and requirements of the relevant land management plan.</li> </ul>	<p>This data you requested was analyzed and can be found in chapter 3 of the EA. Please refer to sections 3.1.1 and 3.1.2 for effects from the alternatives to soil and water respectively. In addition, the project record contains and analysis of erosion and sedimentation effects from the alternatives.</p>
10	<p>An executive order requires federal agencies to use best available science: “Science and the scientific process must inform and guide decisions of my Administration on a wide range of issues, including improvement of public health, protection of the environment, increased efficiency in the use of energy and other resources, mitigation of the threat of climate change, and protection of national security.</p>	<p>Chapter 3 of the EA provides the scientific and analytical bases for the determination of effects to the physical, biological and social environment. Chapter 4 lists the Forest Service interdisciplinary team and resource specialists who provided input and/or were consulted during analysis. Reference information is also provided in the EA. The US Fish and Wildlife Service and the SC State Historic Preservation Office provided input information during the review period or concurred with determinations made in the BA/BE and in the review of the heritage reports, respectively.</p> <p>A review of the environmental assessment and the project record</p>

		indicates that the best available scientific information was used to inform the environmental analysis. There is no known scientific controversy with respect to the effects of this action. The effects associated with project activities are well understood and documented in scientific literature that is referenced in this EA and the Forest Plan FEIS.
11	<p>The Lower Broad timber sale area contains streams that have year round resident fish. Federal agencies are required by law to use best available science as a basis for their decisions:</p> <p>“(2) Conservation and management measures shall be based upon the best scientific information available.”</p>	<p>Aquatics communities were analyzed in chapter 3 and resident fish are protected through mitigation measure such SMZ (stream management zones) where timber and herbicides practice are limited in these areas. A review of the environmental assessment and the project record indicates that the best available scientific information was used to inform the environmental analysis. There is no known scientific controversy with respect to the effects of this action. The effects associated with project activities are well understood and documented in scientific literature that is referenced in this EA and the Forest Plan FEIS.</p>
13	<p>Issue #7 ---- Please post your responses to public comments on this online as well as maintaining a hardcopy in the Project File.</p> <p><u>Request for changes to be made to the final NEPA document:</u> Post your responses to ALL public comments online so the 322 million Americans\ national forest owners might read them if they choose.</p> <p>Hiding your responses to comments in the Project File clearly violates United States’ law. This is abuse. Will you pay the bills if a person has an accident driving to the district? Its insane to keep the responses off the net. You clearly have something to hide.</p>	<p>There is no requirement to post responses to comments. Responses to comments are located in the project file and will be referenced in the EA and Decision Notice if members of the public want to review them.</p>
14	<p>Issue #8 ----- The pre-decisional EA does not contain <u>recent</u> (emphasis added) stream survey data that is essential to determine whether the stream conditions were harmed by timber sale activities. The only way to determine this is before and after measurements which require survey data before the timber sale is implemented.</p> <p>Any competent fisheries biologist would insist that stream surveys must be taken before logging and road construction occurs to at least measure stream temperature and turbidity. These data would then be compared with measurements at the same locations taken during and after logging and road construction.</p>	<p>Effects to aquatic communities are discussed on pages 101-108 of the EA. BMP monitoring is conducted on an annual basis on randomly selected projects across the forests. Effects on aquatic communities are reported in annually completed forestwide monitoring reports.</p> <p>Best Management Practices are monitored and evaluated on randomly selected projects on an annual basis across the forests as required by national and regional direction. This is an interdisciplinary review following established procedures and protocols.</p> <p>The national BMP Program integrates water resource protection into</p>

		management activities and consists of: the National Cores BMPs; standardized BMP monitoring protocols; national directives, and a data management structure.
15	<p>Issue #9 ---- The actions required to produce high quality, valuable sawtimber harm the Amenity resources in the forest.</p> <p><b>Comment:</b> One of your purposes listed in the P&amp;N at page 8 if the draft EA for this timber sale is “D. Produce high quality, valuable sawtimber.” You say this is important because the FP says it’s important. Your FP also contains many “must achieve” standards intended to protect other resources. The science in the Opposing Views Attachments show the amenity resources are hammered beyond recognition by actions being proposed under the Lower Broad timber sale. If there are some science statements that don’t apply to the Lower Broad sale please list them and describe why. If you cannot find any, then please provide the page number in your FP that says the need to produce high quality, valuable sawtimber trumps the need to comply with other FP standards.</p>	The production of high quality, valuable sawtimber is an emphasis and desired condition of the forest plan and can be found on page 3-38 of the Forest Plan.
16	<p>The IDT members include this in their P&amp;N because they know it’s a commonly used, approved USFS excuse to log public land. This need is only legitimate if an analysis of the recreation/tourism related businesses in the local communities shows they don’t generate much money or employ many people.</p>	The purpose and need for the project is state on pages 5-8 of the EA and is intended to move resources towards the desire condition as stated in the Forest Plan. A number of forest plan objectives can be achieved. The development of objectives for the Forest Plan included public input an comment during its development.
17	<p>Issue #10 ---- The USFS spends the public’s tax dollars to take action to eliminate <u>beneficial</u> (emphasis added) natural disturbance agents such as insects, disease, and fire that are essential to assure the proper functioning of natural resources in the forest that have evolved to depend on such events.</p> <p><b>Comment:</b> The USFS fails to tell (hides from) the public scientific information showing that many natural resources in the forest not only <u>benefit</u> from tree mortality caused by natural disturbance events, but <u>depend</u> on these natural disturbance events occurring to function properly. This does not serve the public.</p> <p><b>Comment:</b> The forest is infinitely more than conifer trees. A properly functioning forest contains some decadent, dying, unhealthy trees. A logged forest differs dramatically from a natural forest. A healthy, natural</p>	The <i>Revised Land and Resource Management Plan Sumter National Forest</i> (Forest Plan) recognizes the importance of maintaining healthy forests that are less susceptible to insects and disease and has established specific objectives (Objective 17.01, page 2-13) to reduce their impacts on both federal and private lands. Private and federal lands (managed by the Forest Service) are interspersed throughout the analysis area. Considerable investments are made on adjacent private timberlands to keep them healthy therefore; during development of the Forest Plan, it was important to the public that Forest Service management reduces insect and disease activity. Insect activity is a normal ecological process that can and does occur in non-managed forest areas such as wildernesses or research areas. In these areas, insects are considered desired components of a functioning ecosystem. It is our use or objective in

	<p>forest has an abundance of dead trees. All healthy groups of living things have unhealthy and dying individuals. Why do you propose to disrupt this magnificent process for volume?</p>	<p>managing the forest that determines how we view these agents of change as desirable or undesirable. Silvicultural treatments such as thinning and regeneration harvest when used in combination with fire help reduce the risk of insect and disease activity. By treating some stands an interspersing them among areas of untreated stands (stands that are left to provide middle and late successional benefits to wildlife) insect outbreaks are reduced in size and severity. Integrated pest management also utilizes suppression techniques during outbreaks to reduce overall severity and extent of outbreaks when they do occur. One of the purpose and needs as stated in the EA is to reduce risk of insect and disease outbreaks. The proposal is consistent with the Forest Plan and Chapter 3 of the EA contains information on the biological effects of the proposal.</p>
18	<p><u>Opposing Views Attachment #14</u> includes quotes by the experts describing why dead and dying trees are a very important part of a healthy forest. Indeed, forests with mostly healthy vigorous trees (as you are trying to create) is so devoid of biodiversity they are quite unhealthy. To wit: <i>“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.</i></p>	<p>The <i>Revised Land and Resource Management Plan Sumter National Forest</i> (Forest Plan) recognizes the importance of dead and dying trees in forest ecosystem functions. Goals and objectives along with forest-wide standards are in place to leave standing snags, bird peck trees and living den trees for wildlife (FW-18, page 2-7). In addition, goals and objectives have been established (with public involvement during development of the Forest Plan) to provide for forest health (Forest Plan pages 2-11 through 2-13).</p> <p>The management prescriptions 10B (High Quality Forest Products), 9.A.3 (Watershed Restoration Areas) and Management prescription 11 (Riparian Corridors) provide a large majority component of mid to late successional forest habitat containing dead and dying trees. These are usually intermixed with early successional stands adding to biodiversity.</p> <p>The 10B management prescription (comprising 139, 528 acres of federal lands across the Piedmont) desired condition is to maintain a mix of forest successional stages. Though an emphasis is on early successional forests, mid and late successional forests would also be common. The following text is from page 3-39 of the Forest Plan.</p> <p style="padding-left: 40px;">A mix of forest successional stages characterizes these areas, with an emphasis on early-successional forests. Mid- and late successional forests are common, but 10 to</p>

		<p>17 percent of forested land is in early-successional forest conditions. Twenty percent of the forest is in mid-to late-successional forest conditions and within this 20 percent at least 10 percent is in late successional or old growth conditions.</p> <p>Only a portion of the analysis area would become early successional habitat as a result of implementing this proposal. Since the analysis area represents only a fraction of the total 10B prescription, the amount of early succession habitat would still be far less than the desired condition across the whole 10B management prescription. The <i>2014 Monitoring and Evaluation Annual Report Revised Land and Resource Management Plan Sumter National Forest</i> tracks the amount of early, middle and late succession habitat by management prescriptions (page 17, Table 2). The data indicates that ample mid to late habitat exists and provides sources of dead and dying trees in an intermixed mosaic of successional stages. Forest Inventory Analysis is conducted periodically on established plots on the Forests and across the state of South Carolina. Information on forest conditions is provided in the following web links:</p> <p><a href="http://srsfia2.fs.fed.us/states/sc/e-SU-083%20(SC%202012%20Factsheet)_Fina_11Dec2013.pdf">http://srsfia2.fs.fed.us/states/sc/e-SU-083%20(SC%202012%20Factsheet)_Fina_11Dec2013.pdf</a>  <a href="http://srsfia2.fs.fed.us/states/south_carolina.shtml">http://srsfia2.fs.fed.us/states/south_carolina.shtml</a>  <a href="http://www.srs.fs.usda.gov/pubs/rb/rb_srs158.pdf">http://www.srs.fs.usda.gov/pubs/rb/rb_srs158.pdf</a></p>
19	<p>Issue 11 --- Federal officials who knowingly take action that will place public health and safety in jeopardy by “concealing” important information violate 18 U.S.C. § 1001 and are thus subject to up to 8 years in prison.  <u>Comment:</u> It’s sad that Mr. Magniez thinks the Endangered Species Act does not apply to the Sumter NF. He claims that the poison glyphosate will be “practically non-toxic” to bald eagles. Perhaps you and Mr. Magniez would both enjoy drinking a cocktail of “practically non-toxic” Roundup.  <u>Comment:</u> Ranger LeMaster, are you prepared to make an independent, fully-informed Decision using the Precautionary Principle wisdom? Some federal officials use this process routinely.</p>	<p>There was an herbicide risk assessment completed for the project that analyzes the herbicide used on project and is a part of the project file.</p>

	<p><u>Comment:</u> Ranger LeMaster, as you will learn below even casual exposure to herbicides that contain glyphosate is shown in the lab to cause cancer in mammals. Of course now you are wondering what you can do to disprove these science conclusions.</p>	
20	<p>Any USFS line-officer who approves the application of herbicides that contain glyphosate might be killing terrestrial wildlife and fish and <u>human visitors</u> to the forest. How will you wake up each morning knowing you have planted the seed that is likely to start the process that ends with a child dying a painful death from cancer? Glyphosate is a toxic poison and must never be applied to public land where families recreate. Ranger LeMaster, incredibly you propose to apply this poison to vegetation growing on land owned by and used by 317 million Americans.</p>	<p>There was an herbicide risk assessment completed for the project that analyzes the herbicide used on project and is a part of the project file.</p>
21	<p>Ranger LeMaster, if you were really concerned about aquatic species' health you would indicate in the final EA that all newly constructed temporary roads will be obliterated after use and apply the obliteration method that returns the ground to the natural angle of repose and eliminates the running surface. Not doing so clearly indicates you have no intent of using the road temporarily.</p>	<p>Temporary roads as defined in FSM 7705, Definitions, page22:</p> <p style="padding-left: 40px;">Temporary Road or Trail. A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or a forest trail and that is not included in a forest transportation atlas (36 CFR 212.1).</p> <p>Site-specific design criteria have been included with the proposed action to reduce the effects of temporary roads (see items # 3-5 in section 2.5). In addition, BMPs including adherence to <i>National Best Management Practices for Water Quality Management on National forest System Lands</i> (2012) would be followed to reduce adverse effects from temporary roads.</p>
22	<p>The Proposed Action will clearly cause the resource degradation and destruction described in the ATTACHMENTS to these comments. <u>Comment:</u> The Lower Broad timber sale will cause major damage to non-vegetative natural resources described by over 400 scientists in the <u>Opposing Viewpoint Attachments</u>. Forging ahead with the timber sale with full knowledge of the likely resource damage that the sale will cause indicates 1) weighing the relative value of the natural resources in the area against timber outputs has not been done, and 2) they have not been</p>	<p>Effects on natural resources are discussed on chapter 3 of the EA.</p>

<p>harmoniously coordinated. Also, since outdoor recreation, watershed, wildlife and fish are adversely affected by the sale, you obviously consider timber more important than these 4 other resources.</p> <p><u>Request for changes to be made to the final NEPA document:</u> Include the source literature for particularly relevant science quotes contained in the <u>Opposing Viewpoint Attachments</u> in the References section of the final EIS and cite the quotes contained in the attachments in the body of the final EIS. Indeed, it makes sense for a public servant to present the public with the whole story which includes benefits and drawbacks of project implementation.</p>	
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<b>Lower Broad – Response to Comments</b>
<b>Opposing Views Attachment #17 – Mountain Pine Beetle Activity in Lodgepole Pine does not Increase the Fire Risk</b>
<b>Comments Summarized</b>
The comments provide information and cited references on the effects of mountain pine beetles on fire risk.
<b>Response</b>
These comments are not relevant to the project area since the project area is outside the range of lodgepole pine and mountain pine beetle.

<b>Lower Broad – Response to Comments</b>
<b>Post-Fire Treatments Attachment</b>
<b>Comments Summarized</b>
The comments provide information about the beneficial aspects of dead trees following wildland fire
<b>Response</b>
These comments are not relevant to the project area since there is no post-fire salvage proposed.