GOAT MOUNTAIN THIN
Appendix B Response to Comments

The proposed action along with a preliminary assessment (which in addition to proposed action included the need for the proposal, the alternatives considered, and the environmental consequences) was made available for public comment. Letters and e-mails were received during the 30-day comment period, which ended on February 29, 2016.

The responsible official has considered comments received and has developed the Goat Mountain Thin Environmental Assessment in response to those comments.

This appendix responds to the specific comments received. Specific written comments are comments that are within the scope of the proposed action, have a direct relationship to the proposed action, and include supporting reasons for the responsible official to consider (36 CFR 219.2).

The emails and letters are in the analysis file; the following is a summary. In the responses, section numbers refer to the Environmental Assessment unless otherwise specified.

30-Day Comment Period Summary

	Comment	**Response**
Clackamas Stewardship Partners	1. CSP members are concerned that temporary roads and skid trails necessary for implementation of the Goat Mountain Thin could unintentionally result in the expansion of the network of user-created OHV routes. While the potential for this has been recognized in section 2.2.4 of the PA, CSP suggests that more specific discussion of how this concern will be addressed in project design and implementation should be added to the Environmental Analysis. In order to highlight concerns about potential development of additional unauthorized OHV routes, CSP suggests the inclusion of the following elements in Goat Mountain project design criteria and project implementation contracts:	The primary purpose and need for this project is to enhance health and growth and to keep forests productive to sustainably provide forest products now and in the future. While it is recognized that unauthorized Off-Highway Vehicle (OHV) use may be exacerbated by some logging related roads or skid trails, the opportunity to minimize OHV impacts is limited to feasible and prudent measures (s. 1.8.1.1). The proposed action is not designed to prevent all illegal actions. The Forest's response to OHV use is contained in the 2010 Off-Highway Vehicle Management Plan. For the west side of the Forest, this plan established the LaDee OHV area and restricted off road uses elsewhere. The Forest's Motor Vehicle Use Map identifies where it is legal and appropriate to use OHVs.

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		Unauthorized uses may gradually decline as the LaDee area becomes fully developed and meets more of the demand for motorized recreation.
	1a. Locating some skips along established roads that are to remain open following logging activity to provide vegetative screens that could prevent easy access by OHVs. CSP does not intend for the amount of skips already incorporated into project design criteria to increase in size or number, but simply asks that some of them to be placed next to roads that will remain open post-logging instead of somewhere else in the harvest unit. While this design feature is already mentioned in 2.2.1.1, adding it to section 2.2.4 would serve to emphasize it.	This element is already included as part of the proposed action. We have added some clarification to the EA at s. 2.2.4. Even though it is proposed, it should not be presumed that a skip by itself would deter potential user created OHV trails if the rider is determined.
	1b. Including requirements in the stewardship or timber sale contract for the purchaser/logger to complete the blocking (piling slash, de-compacting soils, etc.) of those temporary roads and skids trails which connect to roads that will remain open upon completion of logging activity as each harvest unit is finished and prior to moving equipment away from the area. 1c. Requiring that blocking of temporary roads and skid trails which could be easily accessed by OHVs from open roads be done in conjunction with normal "winterization" activities such as installing waterbars in harvest units that are not completed prior to end-of-the-season equipment move-out. 1d. Ensuring that the Sale Administrator coordinates closely with the purchaser and contractors to achieve timely blocking of temporary roads and skid trails to prevent OHV use and inspects harvest areas to certify that adequate blockages have been created prior to authorization of equipment move-out.	A contractor is responsible for resolving issues that are created by their operations. They are not responsible to take action to stop the illegal actions of others. They are responsible for closing temporary roads and doing erosion control work. But the types of actions proposed in the EA such as bringing in large quantities of slash to obscure roads and skid trails, are much more intense than would be required of a timber sale operator. The intention is to do this work after logging, either by issuing separate contracts funded by KV receipts, or through separate stewardship contract bid items. In either case it is very difficult to coordinate the timing of the actions as closely as suggested here. Contractors have the latitude to decide where and when to move their equipment. Depending on site-specific circumstances, the equipment present at the time of logging such as log loaders may not be the appropriate piece of equipment to perform road restoration; an excavator may need to be brought in. If equipment is needed for winterization, they may have to move equipment back in to complete that work. Again, it is not the timber contractor's responsibility to prevent unauthorized OHV use.

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		The proposed action is to take prudent measures after logging that are paid for in the appropriate manner.
Clackamas Stewardship Partners	2. CSP may also be able to work with the USFS to monitor the effectiveness of these closures in preventing the development of new user-created OHV routes. We look forward to further discussion about this potential opportunity.	The District is interested in a potential formal volunteer program that could monitor OHV uses and disseminate information about appropriate areas to recreate.
Clackamas Stewardship Partners	3. CSP is also concerned about increasing frequency of wildlife poaching. The proximity of the Goat Mountain area to population centers means this is likely occurring within the project area. In addition to deterring OHV use of some areas, locating skips along open roads would also provide visual screens that may deter some poaching activity. Again, the intent is not to increase the amount of vegetation retained in skips but simply to locate some of them along open roads. This added benefit could be mentioned in section 2.2.1.1 by adding the words "or deter poaching of big game" to the end of the third bullet. It would read: "Skips may be placed where there are special features such as clumps of minor species, large snags, wet areas, locations of rare or uncommon species, or where needed to reduce user created OHV routes or deter poaching of big game.'	The skips created along open roads to help deter user created OHV trails, would likely have additional benefits such as making poaching more difficult. While this may be a side benefit, it is not likely that skips could be intentionally designed to thwart poaching.
Bark	4. Bark requests that extra attention be given to unauthorized road access during the time of project implementation and effectiveness of proposed road closures in the long-term. While Goat Mtn. is under contract, roads constructed for the project could provide unregulated motorized access over the course of multiple years, as the PA discloses that the roads will likely be needed for more than one season. Bark requests a commitment from the agency to enforce effective barricades on roads built or rebuilt for this project when operations are not occurring. *This includes time when the area is still under contract but outside the normal operating season.* We suggest that any final decision should mitigate potential risks associated with future road development by, 1) continuing to firmly limit construction of new roads; 2) ensuring controlled access during the project implementation; and 3) ensuring timely & secure road closure upon the project's completion.	See response to comment #1.

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	Recommendations for reducing impacts from unauthorized recreational: In order to restrict access to temporary roads and skid trails built or rebuilt for this project when operations are not occurring (including between the normal operating seasons if work in sale unit in question is not complete in one season), please consider the following recommendations:	
	Between operating seasons *and* at the conclusion of the contract, include seasonal erosion control measures such as waterbar placement, and diversion ditch creation	This is standard procedure required by the contract.
	Between operating seasons *and* at the conclusion of the contract, include piling slash on the first few hundred feet of temporary road or skid trail, and placing boulders at the entrance to units from main road.	It is not prudent to place the slash and boulders if the operator is coming back. The work will occur when operations are complete.
	Incorporate skips to help obstruct unauthorized OHV use in thinned units. Leave a thick, "vegetated screen" along roads in areas where OHV use is expected based on past and current use. If there are areas within the units in question that would benefit ecologically from skips (such as seeps or other riparian areas), *do not* remove these in exchange for the vegetated screens, but look to achieve both the visual and ecological goals of the skips in these units.	See response to comment #1a.
	Provide adequate Sale Administration staffing for workload, so that coverage is available when the assigned Sale Administrator is not working.	While staffing is appropriate for the Forest's workload; this issue is outside the scope of this environmental assessment.
	Require the Sale Administrator to discuss all requirements with contractor at pre-work meeting, review all pre-work discussions with contract representatives on site, and reemphasize as unit completion is eminent.	Pre-work meetings are standard practice.
	Require inspection by Sale Administrator before contractor's equipment is moved offsite.	See response to comment #1.

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	Require implementation and effectiveness monitoring of PDCs by both Sale Administrator and other specialists, including during the harvest activities. After project implementation and before conclusion of the contract, fully implement and monitor effectiveness of Project Design Criteria D7 from Goat Mtn. PA in order to impede further damage from unauthorized motorized access to units after thinning has taken place. However, in addition to berm, consider placement of boulders close to the main road to further deter off-road access.	Monitoring is described at sections 2.2.6.1, 3.3.5.2 and 3.3.5.3. It is possible to coordinate effectiveness monitoring with volunteers. See response to comment #1. It is likely that some of the work such as brining in slash or boulders from off site would be accomplished by a different contractor.
Oregon Wild	5. Many citations and recommendations were included with Oregon Wild's comments. See Oregon Wild's comment letter, which is available in the project record located at the Clackamas River Ranger District in Estacada, Oregon. See also responses to scoping comments below at S56 to S67.	Those statements that relate to scientific research that are relevant to this project have been examined. They are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The proposed action was developed with an understanding of the relevant science. The science behind plantation thinning is sufficiently understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that cited by Oregon Wild. These citations and recommendations were considered and incorporated where appropriate.
Oregon Wild	6. For each road segment, we urge the FS to look at the ratio of acres of road construction to acres accessed for thinning. Where the ratio is high this method can help identify acres that may make sense to leave untreated, or non-commercially treated.	New temporary road construction is not typically proposed to maximize acres accessed. Where new temporary roads are proposed, the site-specific situation is examined and factors such as slope, logging system feasibility and cost are considered. There is no Forest Plan standard for this access ratio. The comment does not include a discussion of what ratio is too high.
Oregon Wild	7. We urge the Forest Service to convert more of the road closures to full road decommissioning.	The roads in the project area have been examined on a case-by-case basis and they were found to have relatively low aquatic risk while providing needed access for future stand management in the

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		matrix. The current plan for closing and stormproofing reduces aquatic impacts while eliminating public use and road maintenance costs.
Oregon Wild	We urge the FS to make carbon storage part of the purpose and need for all forest management projects. In this case, the FS might consider deferring thinning or retaining more residual trees in some of the stands, especially those over 50 years old. Greenhouse gas emissions from fossil fuels, logging, and other land management activities impose significant costs on society, such as the cost of damage caused by climate change and the costs of adapting to climate change and the cost of sequestering carbon to mitigate emissions.	Section 3.17 addresses climate change. The proposed action would result in some carbon emissions and some carbon sequestration. The benefits to forest health and resiliency with the proposed action would allow stands to adapt to the future climate.
Oregon Wild	8. This project involves a lot of thinning in riparian reserves. This activity is less well-supported than many think. Thinning has long-term adverse effects on dead wood recruitment, and at the same time, the alleged benefits to stand complexity are pretty minor and short-lived. In other words, there are trade-offs that need to be considered and mitigated. See more on trade-offs below. We do not oppose thinning in riparian reserves but we think it should be done carefully and only on a subset of the riparian reserves, with generous unthinned patches retained. We think 30 ft. buffer on intermittent streams may not be enough, especially in stands over 50 years old. Please consider 50-60 foot buffers on intermittent streams. The FS should remember that there are still a number of natural processes at work in unmanaged stands that help them develop desired characteristics. We urge the FS to avoid putting gaps in riparian reserves. Gaps near streams have significant trade-offs w/r/t stream temperature, wood recruitment, snag habitat, stand complexity. It's better to let natural processes decide when and where gaps will occur near streams. If the FS thinks it is important to put gaps in riparian reserves, then consider retaining all the wood onsite, by creating a 1/4 acre snag patch. This will better mimic natural processes which is appropriate in riparian reserves.	The EA identifies the differences between dead wood levels with no action and with the proposed action. Dead trees are only one component of late-successional stand conditions that are desired for riparian reserves. The analysis found that there would be sufficient quantities of dead trees and that other elements of diversity would be enhanced through variable density thinning that would promote health and horizontal and vertical diversity in the dry upland portions of riparian reserves (s. 3.4.4). 30-foot protection buffers are proposed in some areas while other buffers are much wider (s. 2.2.6.A). Gaps would be placed outside the primary shade zone. The purpose of creating gaps in the upland portions of riparian reserves is to enhance diversity. The negative effects of gap creation were found to be minimal (s, 3.4.4).

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Oregon Wild	9. Selection of trees for felling into streams should be made by a team that includes both aquatic and terrestrial expertise. All things being equal, it may be useful to retain some streamside trees for unique terrestrial habitat values.	The PDCs at 2.2.6.M and s. 2.2.1.2 address the selection of trees for felling.
Oregon Wild	10. We urge the Forest Service to strive for variability in the spatial distribution of trees retained during thinning. Spacing off of individual trees tends to homogenize stand structure. To supplement the thinning prescription, consider leaving clumps of 2-5 trees on each acre. If gaps are prescribed, please keep gaps small (<1 acre) and retain some live and dead tree structure on each acre. Use small patches of very heavy thinning instead of creating mini-clearcuts. Minimize replanting. It's better to tolerate persistent vegetation diversity within gaps. Thinning tends to set back existing understory development. We urge the FS to avoid using heavy equipment where it will crush desirable understory development of tall shrubs and shade-tolerant trees. Consider thinning these areas non-commercially, or reaching in from the edges. The FS should look for an optimal mix of treated and untreated areas. Leaving unthinned stands and patches within stands helps maintain habitat for species that prefer dense forest conditions and abundant dead wood, including spotted owl prey populations. We urge the FS to allocate more than 10% of each unit to unthinned "skips." This is important (especially in LSRs!) for long-term dead wood recruitment, dense cover for wildlife, soil health, carbon storage, etc. Skips should be well-distributed within units, not just on the edges.	Variability is addressed at s. 2.2.1.1. Features include creating skips, gaps, heavy thins, forage areas, riparian protection buffers, retaining minor species and non-hazardous snags.
Oregon Wild	11. The EA says that "stand simulation modeling has shown sufficient quantities of dead and down wood would occur with the proposed action." This statement is not supported by evidence. First, the current LRMP standards for dead wood are outdated and are known to require too little dead wood.	Snags and down wood are addressed at s. 3.8.7. The analysis projects snag recruitment for many decades into the future. The concept of sufficiency is based on a comparison of the alternatives for large snags and the needs of snag dependent species.

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	The FS has not adopted new standards to replace the discredited old standards. The FS cannot conclude that dead wood will be "sufficient" since it has no credible standard by which to judge sufficiency. The DecAID tools are out there, but they do not tell the FS what tolerance level of snags and dead wood are sufficient. The FS needs to conduct a NEPA process to amend the LRMP to adopt new standards based on best available science. The FS should describe and strive to mitigate trade-offs, including loss of dead wood recruitment, reduced populations of spotted owl prey, reduced carbon storage, etc. Girding and topping trees is great, but the FS must recognize this is very short-term mitigation, while doing little to address the long-term effects of commercial logging that reduces the pool of green trees from which future snags will be recruited.	
Oregon Wild	12. The EA has a misleading description of the role of the timber industry in rural communities. The EA should disclose that dependence on commodity extraction has a destabilizing effect on rural communities. It may be better for the Forest Service to focus on providing non-consumptive ecosystem services like clean water and carbon storage and recreation and quality of life rather than wood products. This will help communities diversity economically and provide a more stabilizing influence.	Forest products are addressed at s. 1.5.5. The EA discusses the utilization of forest products as the main mechanism for funding the thinning and the many important elements of the purpose and need including growth and health, diversity enhancement, restoration of unauthorized recreation, road repair, stream enhancements. There is a need to keep forests productive to sustainably provide forest products now and in the future. The desired condition for the matrix component of the landscape is to have live productive forest stands that can provide wood products now and in the future. The Northwest Forest Plan identified this as a stabilizing element for local and regional economies.
AFRC	13. The project area totals 19,500 acres, yet the Forest Service is planning treatments on only 2,754 acres, or 13%. AFRC believes that management opportunities are being missed or forgone during this entry into the stand. Specifically, there are 6,435 acres of matrix (timber emphasis) in the project area, yet the Forest Service is only planning on treating 1,550 acres. Additionally, there are 6,979 acres of Late-Successional Reserve (LSR)	The Interdisciplinary Team examined all stands in the project area to determine the appropriateness and feasibility of thinning. The stands that were not included were either already thinned recently or were too young to make thinning economically viable. It is likely that many of these young stands

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	lands in the project area which need thinning to support their ecological function, but treatments are only planned on 765 acres. Since the main purpose and need for this project is to increase health and growth of stands in mid age classes and to provide forest products, AFRC believes the Forest Service is not maximizing opportunities to fulfill the purpose and need as proposed.	will be ready for thinning in 10 years and they will be examined at that time for inclusion in a thinning project. The assertion that 6,979 acres of LSR are available for thinning is incorrect. Only stands under 80 years of age can be treated: the planning area contains 2,800 acres of LSR stands under this age, most of which are too young to be ready for thinning.
AFRC	14. AFRC requests that the Forest Service reexamine the matrix lands within the project area to evaluate additional opportunities to harvest in older age classes. AFRC members use a variety of timber ages and sizes and the larger wood component is very important to several members.	The older second-growth stands in the project area have already been thinned.
AFRC	15. Regeneration harvests can be used in matrix lands to help reestablish healthy stands, and to provide early seral habitat which are both goals of this project. However, all of the proposed treatments are described as thinnings with some skips and gaps. AFRC believes the Forest Service needs to more intensively manage the matrix lands including the use of regeneration harvests which will be more likely to achieve silvicultural goals.	Examining options for regeneration harvest would require the agency to restart the planning process at the beginning and would involve survey and manage work, restarting owl consultation, redoing the effects analysis and restarting public scoping. While regeneration harvest is permitted in the matrix, the Forest chose to focus on thinning for this project. It seemed more urgent to deal with the many acres of plantations that need thinning.
AFRC	16. AFRC recommends treating more of the LSR areas within the project area to enhance growth of the remaining trees, reduce the fuels loading, and provide early seral habitat for deer and elk. The Forest Service only plans on treating 11% of the LSR lands within the project area. AFRC also recommends thinning to a crown closure of 40% to accelerate growth. The Northwest Forest Plan Standards and Guidelines recognize that thinning to open the canopy in certain stands is desirable to increase diversity of plants and animals and hasten transition to mature forest. Standards and Guidelines at C-12. AFRC does not support a 20-inch maximum diameter limit for harvest in LSR areas. Tree spacing, species, health and vigor is more important than diameter size. The Northwest Forest Plan does not impose any such diameter limits.	See response to comment #13. The goal for LSR thinning is to retain at least 40% canopy cover (s. 2.2.1.3). This level is desired in LSRs to maintain dispersal habitat for owls (s. 3.7.2). In some stands, the residual canopy cover after thinning will be greater than this due to other silvicultural concerns such as wind damage susceptibility. The retention of trees greater than 20 inches is recommended in the North Willamette LSR Assessment (Appendix A-16).
AFRC	17. AFRC supports thinning in the riparian reserves, however, more can be done within the reserves to reduce fuel loadings. Of the 5,505 acres	Riparian reserves are only considered for treatment where they occur inside thinned plantations. The

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	identified as Riparian Reserves, only 550 acres are scheduled for treatment. Having mechanized equipment working in this area will also allow for better placement of woody debris to achieve Aquatic Conservation Strategy objectives. AFRC strongly suggests the Forest Service review the study "*Variable density management in Riparian Reserves: lessons learned from an operational study in managed forests of western Oregon, USA*." By Samuel Chan, Paul Anderson, John Cissel, Larry Larsen and Charley Thompson; For. Snow Landsc. Res. 78, 1/2: 151–172 (2004).	fuels specialist did not identify a fuel hazard situation in need of treatment in the riparian reserves. Our team is familiar with this and many other research papers that address thinning in riparian reserves.
AFRC	18. AFRC supports the project road plan which includes reconstruction and rehabilitating 8.4 miles of temporary roads, constructing and rehabilitating 1.4 miles of temporary roads, and maintaining 60 miles of system roads. Logging and hauling operations offer a good opportunity for maintaining and enhancing the road system while contractor's equipment is present in the sale area. Conducting this maintenance during the contract period will help keep these system roads in usable condition well into the future. AFRC also supports the closing of 16 miles of system roads using barricades rather than decommissioning. These roads will be needed again for future projects and for fire access.	Thank you for your support.
AFRC	19. AFRC supports the Forest Service's analysis of areas that have been designated as Earthflow land allocations. These areas are quite prevalent on the Forest. The Forest has designed 30 acres for harvest in this land designation, and AFRC believes the plan will prevent reactivation or acceleration of slow-moving earth.	Thank you for your support.
Interfor	20. The planning area consists of 19,500 acres of which 2,754 acres are receiving treatment, 13% of the planning area. The Forest Service is proposing treatment on only 1,550 acres of Matrix Cl Timber Emphasis, while there are 6,435 acres of Matrix in the planning area. Similarly treating only 765 of the 6,979 acres of LSR. Interfor believes the Forest is missing opportunities to harvest more acres in this planning phase than what is being proposed.	See response to comment #13.
Interfor	21. Section 1.5.2 describes the planning area as consisting of 9,065 acres of plantations ranging in age from 20-70 years old. Interfor recommends the Forest Service refer to the Land and Resource Management Plan page Four- 293 line Cl-031 which states. "Vegetation in plantations should be managed for optimum return on investment." Interfor recommends the	This suggestion is inconsistent with several Forest Plan standards and guidelines including FW-306 which guides when it is appropriate to do regeneration harvest based on culmination of mean annual increment. The plantations are still growing

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	Forest Service ensures that regeneration harvest is applied in plantations in order to achieve the optimum return on investment.	and after thinning will continue to grow well into the future.
Interfor	22. The plan proposes to create forage openings 3-5 acres in size for a total of 50 acres across the entire planning area. This is 1.8% of the acres receiving treatment and .2% of the planning area. Interfor believes the Forest is missing opportunities to provide additional early-seral stage habitat for what it describes as the majority of the species on the forest. With the elk and deer being indicator species for early-seral habitat, Interfor recommends increasing the pace and scale of creating early-seral habitat through harvest.	Section 1.3 identified the projects limited ability to provide early-seral habitat. The primary purpose of the project is to enhance health and growth while providing forest products. In many stands the palatable browse plants are not present.
Interfor	23. Section 3.6.8 page 150 of the PA requires the use of skyline or helicopter logging in 60 units that were previously harvest with ground-based equipment. Page 146 of the PA describes the potential impacts to the soil based on logging prescription in a manner that doesn't warrant this design criteria and contract specification. The paragraph has been provided below for reference: "A net increase in disturbed soil condition is predicted particularly where ground-based equipment is used such as mechanical tree fellers and where more skid trails, yarding corridors, landings and roads would be constructed than already exist. This increase is expected to stay below 7% on ground based units due to spacing of designated skid trails at 150' apart, but on many units, where a large number of skid trails are existing from the original clearcut logging and would be reused, the increase may be lower, at 3-4%. On skyline units, the increase is estimated at 2% to 3%, and on helicopter units at 1%." Interfor believes this mandate is too general. As described above many of the units would only see a difference of 1-2% between logging prescriptions. This difference is not large enough in-of-itself to mandate logging prescription.	Logging systems were not selected based on the calculation of detrimental soil condition. A logging system specialist identified logging systems based on road access and slope.
Interfor	24. Interfor encourages the Forest Service to consider regeneration harvest, and deep soil tillage on units with greater than 15% compaction. The PA describes many of the units as over the 15% threshold without any action. Regeneration harvest and deep soil tillage would restore the productive capacity of the soil. Deep soil tillage cannot be used in thinning prescriptions because of potential root damage of residual trees.	This suggestion is inconsistent with several Forest Plan standards and guidelines including FW-306 and FW-349 which guide when it is appropriate to do regeneration harvest. The stands are young and are growing well in spite of the level of detrimental soil condition.

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Interfor	25. Interfor requests the Forest Service edit the PA to exclude "dry season" from the 3rd bullet point from the top on page 151, which starts with "Ground-based operations would occur during …." Soil condition is the primary indicator of operability.	This bullet is referencing the PDC 2.2.6G1 which restricts ground-based operations to minimize additional impacts to long-term soil productivity.
Interfor	26. Interfor recommends the Forest service treat all LSR designated stands between the ages of 50-80 years of age in addition to the already identified acreage in the PA. LSR designated stands cannot have timber harvest beyond 80 years of age. It has been scientifically proven that thinning accelerates the stand characteristics associated with late-seral habitat. The planning window for re-entry is not stated in the PA. It would be prudent to treat the LSR acres closest to reaching 80 years of age in order to implement the mandate of the Northwest Forest Plan.	See response to comment #16.
Interfor	27. Interfor would like to remind the Forest Service of the variable costs associated with different logging prescriptions. The costs increase dramatically starting with ground-based, then skyline, and finally helicopter harvest methods. Unnecessarily high cost logging prescriptions could jeopardize the economic viability of the project.	The economic analysis shows that the few helicopter units would not likely jeopardize the viability of the project (s. 3.16).
Interfor	28. Interfor commends the Forest Service in addressing the challenges associated with illegal OHV use in the planning area. The PA discusses aspects of managing OHV use, but leaves the on-the-ground implementation to the contract language.	See response to comment #1.

	Comment	Response
Artley	S1. Your proposed action follows the USFS script to expand its timber agenda. The Mt. Hood National Forest is not a private industrial tree farm. Don't treat it like one as you propose here.	Variable density thinning with skips and gaps is designed to enhance diversity in ways that are not commonly practiced on private industrial lands. The project area also contains Wildernesses and Late-Successional Reserves which are not present on private industrial tree farms.
Artley	S2. All healthy groups of living things have sick and dying individuals. This includes conifer trees.	Within thinning units, trees are left dense in riparian protection buffers and skips to allow natural processes of mortality to occur.
Artley	S3. Biodiversity is important.	Variable density thinning with skips and gaps is designed to enhance diversity.
Artley	S4. The Purpose and Need statement is so narrowly focused that it allows the agency to reject all other suggested alternatives that don't involve logging. Remove the portion of the Purpose and Need that discusses forest products.	The Forest Plan provides for multiple uses of the Forest including the removal of wood products. The Forest Plan was developed with extensive public involvement and the project area was determined to be an appropriate place for vegetation management including logging. The purpose and need language for this project was carefully crafted to explain the Agencies goals and objectives which include the harvest of wood products while moving stands toward desired conditions.
Artley	S5. Analyze at least 2 action alternatives in detail.	You have not articulated another action alternative. Alternatives that were suggested by other commenters are discussed in section 2.3.
Artley	S6. Polls have shown that the majority of the public to not want their national forest to be logged for any reason.	Instead of relying on opinion polls, the agency has undertaken a lengthy public involvement process beginning with the development of the Forest Plan and Northwest Forest Plan that set up land allocations and set the stage for potential management options (s. 1.2.1). The publicly elected members of Congress have repeatedly affirmed and directed that logging is an appropriate use of National Forest Lands. A scoping process and field trips gathered more input. Each of these efforts built on the work that had gone on before with ever increasing site specificity. This project is consistent with Forest Plan

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		direction and will move the stands in a desired direction. The No-action Alternative was considered to reflect the views of individuals that prefer that strategy.
Artley	S7. Temporary roads are not really temporary.	The term 'temporary road' is contractually defined and includes roads that are built by the operator and closed out and rehabilitated after use. There is no implication that the effects of these roads are temporary or that the road alignments would not be used again. The effects of the temporary roads are disclosed in many portions of section 3. The roads will have natural water drainage patterns reestablished, will be bermed to prevent public use, and covered with slash or other ground cover, (s. 1.8.1.2, s. 2.2.5.4).
Artley	S8. Logging and road construction do not improve forest health.	The analysis shows that variable density thinning would enhance both diversity and stand health. There are roads on the Forest that are need to access vegetation management.
Artley	S9. Herbicides are carcinogens.	The project does not involve the use of herbicides.
Artley	S10. Attachment #1 contains short statements that critique forest management actions.	Many of the statements critique practices that are not proposed such as clearcutting, salvage, logging in roadless areas or ancient forests. Many of the statements are opinion pieces. Those statements that relate to scientific research that are relevant to this project have been examined and are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The proposed action was developed with an understanding of the relevant science. The science behind variable density plantation thinning with skips and gaps is sufficiently understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that contained in attachments. The No Action alternative responds to critics of forest management.
Artley	S11. Attachment #4 contains short statements about the impacts of roads.	Some of the statements represent opinions. Those statements that relate to scientific research have been

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		examined and are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The proposed action has been found to be consistent with the relevant science. The science behind the description of the effects of roads is understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that contained in attachment 4. The No Action alternative includes no road construction as does other alternatives considered.
AFRC	S12. Tree growth and health is very important to the future of our forests. Vegetative manipulation is required in order to meet needs identified and careful implementation of that manipulation will move stands toward desired conditions.	Variable density thinning is designed to enhance both stand health and diversity. In the matrix, stands would be treated in a way that enhances future productivity.
AFRC	S13. Please review the planning area acres and treat as many acres as possible under this project. Please prepare an alternative that will maximize the volume removed.	The interdisciplinary team examined all of the stands in the project area to determine the ones that were appropriate for thinning.
AFRC	S14. It also is much more economically efficient to have larger thinning unit acreages whenever possible and to locate those units in close proximity to each other. Moving equipment frequently, especially cable equipment, becomes very expensive very rapidly.	With a project focused on plantation thinning, the size and distribution of units was determined by actions many decades ago and by growth rates. At this point, the primary tool we have to minimize equipment movement would be to delete units that are not close to others. Compared to other similar projects, the Goat Mt. project has relatively closely grouped units.
AFRC	S15. Is there any potential for harvesting tree in the 80 to 120 year ages classes in Matrix lands on Goat?	Most of the stands in that age group have already been thinned or are on land allocations where logging is not allowed.
AFRC	S16. The need to create openings to create deer and elk forage and to provide early seral conditions is also paramount.	The project includes some forage openings.
AFRC	S17. What percent of the area will actually receive treatments?	13%
AFRC	S18. The high cost of NEPA necessitates cost efficient projects.	The EA includes thinning and other restoration actions including road work and recreation management actions.
AFRC	S19. Treating riparian areas to enhance riparian vegetation and manage the size of the conifers is critical. Conifers will crowd out other vegetation along streams changing the function of the	The treatment in riparian areas includes an appropriately sized protection buffer and upland thinning to both

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	riparian areas. Riparian areas provide the most valuable habitat for the most species of wildlife and good health, vigor, and diversity is critical.	increase tree size and enhance vertical and horizontal diversity.
AFRC	S20. The forest industry is indeed a partner with the Forest Service on these projects and the industry continues to decline due to the absence of a stable supply of raw materials. Please make a part of the actual "Purpose" of the Goat Thinning project to be providing raw materials to forest industry.	The purpose and need does include a description of the need to sustainably provide forest products now and in the future.
AFRC	S21. With regard to the burned areas resulting from the 36 Pit Fire, your scoping letter describes them as "plantations". What is the definition of a plantation here? What are the age size classes of the affected stands? Would it be better to prepare a CE for the burned areas on the 36 Pit fire and then include the volume (if there is any) with Goat Thinning later?	The plantations in the Goat Mt. planning area are stands between 10 and 60 years of age created by clearcutting. Other than roadside hazard trees, it is not likely that salvage material would be available to add to Goat Mt.
AFRC	S22. Please ensure that any road decommissioning has clearly been analyzed and that you will not be jeopardizing future management needs or access for fire by permanently removing these roads from the system. Road closures may be a better option.	The roads proposed for decommissioning are not needed for future stand management.
AFRC	S23. Please implement some management activity within the LSRs as permitted. As you state in your scoping letter, achieving the diversity needed for the species dependent on this habitat type is not possible without accelerating the development of diverse mature and late-successional stand conditions.	The project does include 765 acres of thinning in LSRs.
Interfor	S24. The Molalla Division currently has 154 full time employees. Interfor is constantly striving to operate at full capacity and improve its facility to adapt to available log supply. Lack of log supply hinders Molalla's ability to operate at its full capacity. Increasing public supply would greatly improve our ability to achieve our goal of full capacity operation, and further allow Interfor to be an even larger provider of local employment for the area.	The purpose and need includes a description of the need to sustainably provide forest products now and in the future.
Interfor	S25. The more acres treated the better the outcome whether it be tree growth and health, forest products, diversity, or big game forage. In addition, we support appropriate management in matrix, riparian and LSR.	These elements have been included in the proposed action.

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Bark	S26. Bark is also concerned that many of the system roads accessing Goat Mountain units are inaccurately symbolized on the available project maps, and that they will contribute to increased vehicle access and aquatic risk if this project is implemented as proposed. Currently the majority of short spur roads accessing proposed units off FSR 45 (which are symbolized as being open system roads on the scoping map) are very thoroughly decommissioned. It seems this was done mostly to deter the excessive amounts of illegal activity that occurs in the area – illegal target shooting, ATV use and garbage dumping.	The maps do not show closed roads vs open. They show system roads which include some open and some closed roads. The roads you question such as 4500340 may appear decommissioned but they are not. The entrances of these roads were blocked with slash or other debris to block access for unauthorized shooting. The roads were not decommissioned and remain on the Forest's transportation system.
Bark	S27. If these recently decommissioned roads are re-opened for this timber sale, we are very concerned that illegal activity will increase within the project area. We have seen what temporary roads used for unit access elsewhere in the district look like post-implementation, and can say that using this same kind of road closure/decommissioning would not suffice here.	The roads will be temporarily opened and closed again in a similar manner.
Bark	S28. This could mean that an additional source of funding may be required for redoing the work that's already been done here, which would be unfortunate both economically and ecologically.	The economic analysis shows that the project can fully fund all of the work proposed including reclosing the roads. It is not very expensive to move the material to the side and then place it back in the road upon completion.
Bark	S29. While the Forest Service has completed many road decommissioning projects in the Clackamas since the inception of the Northwest Forest Plan (NFP), we want to request that the Forest Service to reconsider the meaning of the word "decommission" as it was originally intended in the NFP. We do not believe this was a word that was meant to be used to refer to roads that are temporarily put in storage for future use, as seems to be the case for the roads which would need to be re-opened for accessing Goat Mountain units.	The glossary of the Northwest Forest Plan Final Supplemental Environmental Impact Statement defines Decommission as "To remove those elements of a road that reroute hillslope drainage and present slope stability hazards." There is no implied prohibition on future use. The reuse of an old road alignment requires analysis and disclosure through the NEPA process. The roads you question were not decommissioned. Other roads that were decommissioned would be reused as temporary roads during the dry season and rehabilitated after use.
Bark	S30. In the 2005 Aquatic Restoration Strategy from Region 6, areas with road densities above 2.0 miles per square mile were considered to be indicators for watershed restoration prioritization.	The Willamette Basin was rated at a moderate priority for restoration based on road density and many other factors including water quality, land use allocations, native biodiversity, health of fish stocks, channel condition, surface erosion risk and mass failure risk. Many

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		restoration projects in the Willamette Basin have occurred based on this recommendation including road decommissioning. There is no standard and guideline for maximum road density in the Forest Plan. There are deer and elk standards and guidelines for open road density that exclude system roads that are closed.
Bark	S31. Any proposal by the Forest Service in the area must be aggressive with permanently keeping recently closed roads off the map, and actively removing them from the landscape.	The Forest examined all the roads and determined the appropriate treatment based on resource risk and future need.
Bark	S32. Increasing the amount of road decommissioning in the project area would help the agency make progress toward its own national direction to "right size" its current road system to one that can be sustained, from both a fiscal and ecological standpoint, over time. Each project analysis and NEPA decision represents an opportunity to move in that direction.	The Forest examined all the roads and determined the appropriate treatment based on resource risk and future need.
Bark	S33. We do not feel that decommissioning with "entrance management" for the roads used to access Goat Mountain units is adequate to address our concerns of overall risk to soil & water quality in the effected watersheds.	The project does not include any decommissioning with entrance management.
Bark	S34. In the Goat Mountain PA we request that the Forest Service create a clear timeline for road removals so the public can have the assurance that these removals are moving forth (also, if funds are indeed secured for the road decommissioning projects, please make this clear in the PA).	The proposed road closures and decommissioning would likely be included as stewardship projects or funded by retained receipts. It is likely that the Goat Mt. thinning can provide enough value to fund these projects.
Bark	S35. If units within the Goat Mountain project area exceed LRMP standards for detrimental soils, please include criteria used for determining whether or not these stands may be exempted from these plan standards to allow further damage. We do not want to see these exemptions transpire if there is not adequate determination of their benignity.	Many ground-based logging units already have conditions from old skid trails that would require a Forest Plan exception based on detrimental soil condition (s. 3.6.8). Existing skid trails would be reused.
Bark	S36. The Goat Mountain Timber Sale is premised on the assumption that thinning grows bigger trees faster and that this outweighs the ecological impacts of increasing soil compaction, sedimentation, and peak flows while decreasing wildlife habitat, down woody debris and snags.	The EA contains no assertion that growing bigger trees faster outweighs ecological impacts. The benefits of accelerating the development of diverse late-successional stands and the impacts associated with doing this are disclosed, (s. 3.1, s. 3.2, s. 3.7).

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Bark	S37. With a purpose and need that will undoubtedly include a focus on ecosystem restoration, Bark offers the following comments to encourage the Forest Service to develop more reasoned and scientifically supported restoration-based alternative for inclusion in the Preliminary Assessment.	While there are some restorative elements to the proposed action such as creating skips and gaps for vertical and horizontal diversity, the overall goal of the project and the purpose and need for action do not include ecosystem restoration. The overall goal is to enhance the productive capacity of mid-aged stands by thinning and to treat a sufficient number of stands to meet Forest Plan goals related to forest product outputs (s. 1.3). There are also opportunities to deal with unauthorized shooting, OHV use and to make changes to the Forest's road system.
Bark	S38. The agency fails to recognize that dense, heterogeneous Douglas fir dominated forests are very typical in natural succession, as Douglas firs are sun-tolerant, early successional tree species. With this in mind, it is not hard to imagine that many of the younger stands within Goat Mountain lack structural or species diversity, because this is typical for stands of this age. This does not necessarily mean they are unhealthy, unnatural or need to grow up faster. Yet the Forest Service maintains that natural processes cannot and will not ever prevail in such "unnatural" conditions created by past management.	The EA contains no assertion that natural processes cannot and will not ever prevail if stands are left untreated. The benefits of accelerating the development of diverse stands and the impacts associated with doing this are disclosed, as are the projections for stand development under no action.
Bark	S39. There is ample reason to believe that thinning will not actually benefit local deer and elk in terms of forage. It has been found that elk avoid contact with areas associated with human traffic such as recently used forest access and logging roads and main throughways, and preferentially seek out areas with increased topographic complexity and distance from open roads. Unmanaged areas of forest provide better foraging opportunities for elk in summer and into the fall months. What monitoring, if any, has the Forest Service done to determine whether or not elk are using the gaps created in recent projects, like the 2007 Thin?	Recent monitoring has shown high levels of use in areas treated for forage enhancement (s. 1.5.6). The experts have asserted that forage enhancement is important. The project includes the closing of roads and OHV routes, which would reduce harassment by vehicles.
Bark	S40. We are concerned that the proposed logging will have a detrimental impact on the riparian areas, and will not achieve the project's restoration goals.	Variable density thinning with appropriately sized stream protection buffers would protect water temperature and water quality, would provide sufficient levels of dead wood to streams and would enhance the vertical and horizontal diversity.

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Bark	S41. The Goat Mountain scoping letter implies that riparian conditions and pathways for recruitment are recovering in much of the action area; however, short-term wood recruitment is limited because most trees are not yet of an age and/or size to fall in great numbers on their own. Bark believes this to be true, but is entirely confused as to why the solution to this problem is to take more trees out of the ecosystem before they reach the age/size to fall on their own. Removing the trees that are most likely to die naturally necessarily decreases the amount of trees in the Riparian Reserves that would become in-stream coarse woody debris.	The trees that would be removed in thinning are not of sufficient size to be considered coarse woody debris. Stream protection buffers would provide sufficient small size wood to supply most of the wood available for recruitment into streams as LWD (s. 3.4.4.1). The stream protection buffers will help meet the Forest Plan standards for the number of desired pieces of LWD. While the trees in the stream buffers currently do not meet the size standard to be counted by stream inventory surveyors, they are still functional and provide needed habitat. While trees would also be felled into streams, the few trees per acre that would be felled would not likely influence the growth trajectory of the remaining trees in the stream protection buffers. Additionally, most trees that die on their own and fall in random directions are not likely to hit the stream, whereas with direction felling, the felled trees are guaranteed to contribute benefits to streams.
Bark	S42. As stated in the NFP, commercial logging in Riparian Reserves is allowed only when necessary to "acquire the desired vegetation characteristics needed to attain Aquatic Conservation Strategy (ACS) objectives" NFP at C-33. The goal of growing bigger trees faster, which in this project will likely be the main justification for logging in the Riparian Reserves, is not necessary to attain any of the ACS objectives.	The EA contains no assertion that the main goal for riparian reserves is growing bigger trees faster. The benefits of accelerating the development of diverse late-successional stands and the impacts associated with doing this are disclosed, (s. 3.4.4.2). The stream protection buffers are wide enough to provide sufficient woody debris in the short term until such time that larger trees grow. The purpose for variable density thinning in the upland portion of riparian reserves is to gain greater variability of structure. Currently, the stands are relatively uniform and the trees are small. The ACS analysis found that, even though there would be some short-term impacts to aquatic resources, the impact would be minimal and in most cases undetectable at the subwatershed scale. The project would lead to improved water quality and enhanced riparian and watershed conditions in the long term (s. 3.4.8.1).
Bark	S43. In this project, Bark is specifically concerned about sediment delivery and loss of wood recruitment to streams, and we believe	The Forest found that sediment and wood recruitment effects would be minimal and that the protections to

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	that riparian thinning in Goat Mountain simply and directly conflicts with any restoration objectives.	streams from PDCs would be adequate to protect aquatic resources. The changes to riparian reserves would be beneficial at both the local and landscape scales.
Bark	S44. The agency acknowledges that snags will be cut during harvest operations and temporary road construction due to safety considerations. Past evidence also suggests that thinning lowers snag density relative to un-harvested stands. Plantation stands contain few large snags, and snag densities in the Goat Mountain project area are likely far below historic levels. Although the agency admits that timber harvest has undisputed negative effects on standing dead trees, it also has the audacity to claim that thinning will produce more structural diversity in the future. This claim is inherently inaccurate in regards to snag habitat.	Snags would be retained wherever safety permits. The thinned stands do not contain large legacy snags but contain dead trees that are very small and provide minimal benefit to snag dependent species. The analysis found that there would be sufficient snag numbers (s. 3.8.7).
Bark	S45. Forest Service should exclude stands with high snag densities from harvest and apply buffers on key snags. Also in the PA, please include a full analysis of this project's effect on snag habitat containing an estimate of snags removed per acre, and design criteria used to reduce the unnecessary taking of these snags.	The thinned stands do not contain high density of key snags but some areas do have some very small dead trees that have minimal value to snag dependent species. Previous monitoring has shown that sufficient snags are retained after thinning (s. 3.8.7).
Bark	S46. There is a pattern and practice of unreliable implementation of BMP/PDCs by timber sale contractors. a. This leads to impacts on the ground that are greater than anticipated in environmental analyses and consultation; and b. Future determinations of significance cannot rely on BMPs/PDCs to effectively mitigate impacts because field data shows that projects are not being implemented as planned.	The water quality specialist considered the effectiveness of Project Design Criteria or Best Management Practices. Monitoring of implementation and effectiveness of best management practices completed on the Clackamas River Ranger District indicated that PDCs were implemented as planned on 85% of the samples and were effective at avoiding impacts to water quality on 94% of the samples (s. s. 3.3.5.3). There is a trend of improving water quality across the forest.
Bark	S47. The action agency does not perform regular post-project monitoring on timber sales to ensure that the BMP/PDCs are implemented and/or effective.	The Forest uses the National BMP protocol for monitoring. The formal BMP monitoring occurs annually (s. 3.3.5.2, s. 3.3.5.3).
Bark	S48. In the Goat Mountain PA, please include enforceable, quantifiable BMPs and PDCs with a categorization of their ability to be implemented. This should be based on lessons learned in past Clackamas timber projects. If there is a higher likelihood of	It is likely that BMPs and PDCs would be effective based on past experience as demonstrated by a trend of improving water quality across the forest.

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	resource damage due to a particular design criteria not being implemented/effective, please make this clear in further analysis.	
Bark	S49. The PDCs did not work in similar projects to Goat Mountain to curb the spread of invasive species, and the Forest Service has given no assurance that in the case of Goat Mountain the outcome will be any different. Therefore any risk, especially a high risk, of spreading noxious weeds should not be discounted by asserting the effectiveness of these PDCs.	Invasive species that are present now got there before the present PDCs were developed.
Bark	S50. We request that Goat Mountain units which border the South Fork Clackamas wilderness area be removed from consideration, and that a full cumulative impacts assessment is included in the Goat Mountain PA which consists of the full suite of local damaging activities existing currently or in the future.	When the wilderness was created, Congress specifically stipulated in the legislation, "Congress does not intend for the designation of wilderness areas in the State under this section to lead to the creation of protective perimeters or buffer zones around each wilderness area." They further asserted, "The fact that nonwilderness activities or uses can be seen or heard from within a wilderness area shall not, of itself, preclude the activities or uses up to the boundary of the wilderness area." Cumulative effects analysis is included in each resource section.
Bark	S51. A key question for Bark and our supporters is the economic viability of this project. The scoping letter acknowledges that trees targeted for thinning are relatively small and of low value. It is the harvest these low value trees that must fund the backlog of road repairs and maintenance needed for this project. Most of the units we've seen in this sale are only accessible by doing significant work to rebuild already decommissioned roads. We would request that in the coming PA, the Forest Service include an accurate economic analysis of this project, including the costs of rebuilding these roads and reclosing these roads, compared to the revenue from selling the timber. Based on roads we have seen that have been given prescriptions of "obliteration" post-logging, we would like some additional assurance that there will be sufficient funding to do quality restoration work on these roads that is akin to work that has already been done here.	The economic analysis has found that there is sufficient value in the removed trees to cover the cost of road repairs and maintenance plus many of the other important elements of the proposed action including reclosing roads that are opened (s. 3.16).

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Bark	S52. Bark has several suggestions for moving forward with the Goat Mountain timber sale, and request that the agency review these suggestions as separate alternatives which the agency can assess for economic feasibility and ecological benefit: 1. Plan road decommissioning miles in the Goat Mountain project area that do not include already actively decommissioned roads rebuilt for proposed unit access, and provide a clear implementation timeline; 2. Plan a post-implementation restoration project which has a high probability of restricting illegal activities to the degree they are restricted now or greater; 3a. Remove units that would require new road construction; 3b. Remove units that would require rebuilding of actively decommissioned roads; 3c. Remove units that would require log haul over rebuilt/reused stream crossings. 4. Remove units which directly border the South Fork Clackamas Wilderness area.	Consideration of these suggestions is discussed at s. 2.3.
Bark	S53. We cannot go without commenting on the 1.4 miles of new roads that would be built with this project. In a new report titled Conservation of Aquatic and Fishery Resources in the Pacific Northwest: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan, published by the Coast Range Association, the issue of road building is addressed. The report's authors and science panel members not only represent the best available science, but had developed much of the relevant science over the course of their professional careers. The report is the most complete synthesis of aquatic science related to the NFP since the development of the Plan in 1993. One of the authors' recommendations in the report is to "Prohibit the construction of new permanent and "temporary" roads, except in limited instances were construction of a short segment of new road is coupled with and necessary for the decommissioning of longer and more damaging segments".	This paper claims to be a synthesis of the latest science on riparian management and the Aquatic Conservation Strategy. It contains the following conclusion: "We conclude that attempts to reduce protections to watershed, riparian, and freshwater ecosystems by weakening major components of the ACS and other related conservation elements of the Northwest Forest Plan are not justified by new and emerging science." This paper contains opinions and recommendations that do not negate the science that was considered in project development and analysis of effects presented in the EA. The project does not reduce protections or weaken the components of the Aquatic Conservation Strategy: It is fully consistent with the ACS objectives and provides sufficient protections for riparian and aquatic resources (s. 3.4.8.1).

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Bark	S54. This project proposes to stormproof and close 13.8 miles of system road. We would very much like to see these roads permanently removed from the system, the purpose being mostly for protecting wildlife, water and resources from unauthorized and damaging recreational activity and other known ecological impacts associated with roads.	These roads have been examined on a case-by-case basis and they were found to have relatively low aquatic risk while providing needed access for future stand management in the matrix. The current plan for closing and stormproofing reduces aquatic impacts while eliminating public use and road maintenance costs.
Bark	S55. As the Forest Service is considering the optimal method of accomplishing the largely undefined purpose and need for the Goat Mountain Timber Sale, please consider that active management is not always the best avenue to achieve forest health.	The No-action Alternative has been fully evaluated to describe the benefits and impacts of this strategy. The Purpose and Need is not undefined but very specifically addresses health and growth, and keeping forest productive to sustainably provide forest products now and in the future (s. 1.3).
Oregon Wild	S56. The fire created a pulse of snags in the short-term but those snags will fall down soon and the fire killed a large number of green tree replacements. That means that this project should help mitigate for the expected "snag gap" by retaining more unthinned skips where density dependent mortality can express itself over time and create more snags on the landscape affected by fire.	The fire burned in a mosaic of intensity. Some small killed trees will fall soon, but the many large trees that were killed are likely to last for a very long time. Additionally, many areas were skipped or only partially burned and these areas will provide new snags over time as trees die from other causes. There is not likely to be a snag gap.
Oregon Wild	S57. The fire burned protective vegetation, litter, and adversely affected soil cohesion on steep slopes in the watershed. This thinning project should mitigate for adverse watershed effects of the fire by: reducing the amount of proposed road construction, increasing the amount of proposed road decommissioning, and increasing no-cut stream buffers.	The effect of the fire has been included in the analysis of effects for each resource. The fire burned in a mosaic of intensity with many areas only lightly burned or skipped altogether. The effects of the proposed action when combined with the fire were not found to be substantial enough to warrant making the suggested changes.
Oregon Wild	S58. Focus on younger stands. Forests are self-organizing systems and older stands can take care of themselves.	The project focusses on relatively young plantations.
Oregon Wild	S59. Avoid road construction.	Temporary road construction is only proposed where necessary on relatively gentle landforms and will be rehabilitated upon project completion.
Oregon Wild	S60. Protect unroaded areas >1,000 acres (hopefully not an issue here).	Not an issue here.
Oregon Wild	S61. Take this opportunity to rescale the road system and close more roads (and rebuild large blocks of unroaded habitat). With the suspension of the incremental road decommissioning projects across the Mount Hood National Forest the only opportunity to	The roads in the project area have been examined on a case-by-case basis and they were found to have relatively low aquatic risk while providing needed access for future stand management in the matrix. The current plan for

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	address the excessively high road densities is via management projects like this. Given this we strongly encourage the USFS to consider decommissioning additional roads that are having negative impacts to water quality and wildlife.	closing and stormproofing reduces aquatic impacts while eliminating public use and road maintenance costs.
Oregon Wild	S62. Thin variably, with unthinned "skips" and small structure-rich "gaps" embedded in each unit.	The proposed action includes variable density thinning with skips, gaps, heavy thins and forage enhancement areas to enhance diversity.
Oregon Wild	S63. Recognize and mitigate the trade-offs caused by thinning, such as reduced carbon storage, reduced cover for wildlife, reduced wood recruitment, damage to understory vegetation, etc.	Each resource area describes the effects and benefits of the proposed action.
Oregon Wild	S64. Thinning captures mortality and reduces future recruitment of snags and dead wood, this requires a cautious approach, especially in riparian reserves.	Variable density thinning with appropriately sized stream protection buffers would provide sufficient levels of dead wood to streams and would enhance the vertical and horizontal diversity.
Oregon Wild	S65. Do all treatments in moderation: e.g. leave areas untreated. Use the NEPA process to help find the optimal mix of treated and untreated areas.	The proposed mix is described in section 2.2.
Oregon Wild	S66. Many citations and recommendations were included with Oregon Wild's comments. See Oregon Wild's comment letter, which is available in the project record located at the Clackamas River Ranger District in Estacada, Oregon.	Those statements that relate to scientific research that are relevant to this project have been examined. They are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The proposed action was developed with an understanding of the relevant science. The science behind plantation thinning is sufficiently understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that cited by Oregon Wild. These citations and recommendations were considered and incorporated where appropriate.
Oregon Wild	S67. Decommission the following roads: 4500019, 4500055, 4500120, 4500190, 4500200, 4500220 and all the roads tributary to 4500220, 4500262, 4500302, 4500310, 4500316, 4500350, 4500360, 4540140, 4540150, and 4540160.	The roads in the project area have been examined on a case-by-case basis and they were found to have relatively low aquatic risk while providing needed access for future stand management in the matrix. The current plan for decommissioning, closing and stormproofing to reduce

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		aquatic impacts while eliminating public use and road maintenance costs is described in section 2.2.5.
CSP	S68. We support the use of variable density thinning with skips and gaps to enhance forest structural diversity and health. This can be an appropriate treatment given existing stand ages and conditions where these treatments would result in a healthier, more diverse stand with more desired stand characteristics. Thinning can result in stands that are more resistant to damage from wildfires.	Variable density thinning with skips and gaps is an integral part of the proposed action and is described at s. 2.2.1.
CSP	S69. Some CSP members have expressed a desire to manage the forest in a way that would improve forage for big game. We encourage the inclusion of forage openings to improve forage quantity and quality for big game species and provide additional habitat for those species that utilize early-seral stage forests. While the 36 Pit Fire may increase forage availability in some areas in the short term, much of that will occur on steep slopes that are not typically or extensively utilized by deer and elk.	Forage creation is described at s. 2.2.1.4.
CSP	S70. We support the inclusion of culvert replacement projects to improve fish passage and the addition of coarse woody debris to streams to enhance riparian habitat.	Culvert and stream enhancement are described at s. 1.5.9, s. 2.2.5.1.
CSP	S71. We support thinning in riparian reserves in those areas where it has been determined that thinning will meet Aquatic Conservation Strategy objectives of accelerating the development of older stand conditions to provide better shade and woody debris recruitment in the future. We would like the environmental analysis to include a description of how decisions were made about which riparian reserve acres to thin and which riparian reserve acres to exclude from thinning. Thinning within riparian reserves in Pacific Northwest forests has been the subject of several scientific studies in recent years. CSP encourages interdisciplinary team specialists to review some of the recently-published study results and consider new research results when making decisions regarding riparian reserve treatments.	The rationale for riparian thinning is described at s. 1.3, & s. 1.5.4. Site-specific factors and citations of relevant science is in the EA at s. 1.5.4, s. 2.4, s. 3.1, s. 3.2 , s. 3.4 & s. 3.8. While there are likely to be differences in opinion on what to do and what science is best, the agency has made every effort to propose appropriate riparian thinning. The proposed action is a balanced approach that moves the areas toward desired conditions and provides the appropriate width of protection buffer to meet the objectives of the Aquatic Conservation Strategy.
CSP	S72. As discussed throughout the collaborative process, we trust that an effort was made to minimize the construction and use of temporary roads. While we are generally not in favor of new	It is sometimes assumed that because these plantations were clearcut years ago that the thinning proposed now should be able to use the same road network without

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	temporary road construction, the 1.4 miles of new temporary road that would be constructed and the 8.4 miles of existing temporary road that would be reused we believe are necessary to access the stands proposed for treatment in the Proposed Action alternative.	constructing any new roads. This is the case most of the time, but there are instances where thinning results are better with minimal resource impact by logging differently to a different road system. The agency has indeed made every effort to minimize new road construction and to locate the new roads on appropriate terrain.
CSP	S73. We request that the interdisciplinary team analyze an additional alternative that would drop the construction of 1.4 miles of new temporary road, thus excluding the acres of stand treatments that would be accessed by those new temporary roads. We support the re-use of 8.4 miles of temporary roads included in the Proposed Action as long are they will be rehabilitated in such a manner that will restore hydrologic function (such as installation of water bars, decompaction, roughening, etc). We would like all temporary roads used for this project to be closed at the entrance in a timely manner and in a way that will limit unauthorized recreational access and use.	The consideration of this alternative is documented at s. 2.3.1.3. The concept of automatically deleting thinning treatments where new roads have been proposed has not been fully developed because there are often alternative means to thin the units without road construction, including using helicopters or multi-span logging systems. The Forest has chosen to develop a proposed action with the current mix of logging systems and road construction because it was determined to be appropriate to accomplish thinning with minimal resource impact and minimal cost. While each road is shown at s. 2.2.5.4, new roads are generally proposed to get a landing at a better location so that skyline logging can occur with better lift to protect soils and better protect the residual stand. Temporary roads would be rehabilitated after use.
CSP	S74. We support the proposed changes to system roads that will contribute towards the goals of "right-sizing" the road system by decommissioning, closing, and storm proofing both closed and open roads that have been deemed not needed by the USFS. While some member organizations would prefer to see more road closures and other members fewer road closures, we understand that the USFS road maintenance budget is not large enough to adequately maintain all existing system roads.	The Forest has examined each system road in the planning area and made a proposal for each considering factors such as aquatic risk and future needs (s. 2.2.5.3).
CSP	S75. We encourage the inclusion of projects that will better manage and enhance the recreational uses of the area. As was discussed often and particularly during the field trips, the proximity of the Goat Mountain area to the Portland metropolitan area as well as several rural communities means that it is heavily used for both authorized and unauthorized recreational activities.	The projects related to OHV use and shooting are described at s. 2.2.4. We look forward to working with the collaborative group to monitor the effectiveness of these treatments and to develop other adaptive management strategies as needed.

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	FS Road 45 provides a popular loop drive that accesses several trailheads, scenic vistas, rock pits utilized by target shooters, and areas where forest products such as mushrooms, firewood, and landscape rocks can be gathered. Unfortunately this area is also popular for unauthorized recreational activities like destructive target shooting, dumping of household and commercial trash and potentially hazardous materials. Unauthorized use of off-highway vehicles can damage vegetation and cause soil compaction and erosion. We encourage projects designed to mitigate and manage unauthorized recreation by closing access to dangerous user-created target shooting sites, user-created roads and access points, and rehabilitating areas damaged by these activities. We would likely support additional project proposals that would better manage the potentially unsafe recreational activity that currently occurs in the project area such as official designation of specific sites for target shooting (for example rock pits) and closure of other areas to this activity as was implemented along a portion of FS Road 45 on the Memaloose side several years ago.	
CSP	S76. We suggest that the interdisciplinary team consider adding a project to construct more vandalism-resistant information kiosks at both the Memaloose Bridge and the Hillockburn entrance points to the Mt. Hood National Forest along FS Road 45. These kiosks could provide information about recreational uses of the area, show locations of regulated use areas such as shooting area closures, and describe uses that are not permitted such as off-highway vehicles, trash dumping, etc. Vandalism and low budgets for maintenance of these kiosks are certainly issues that would have to be taken into consideration with project design.	It has been our experience that kiosks are marginally effective and too readily vandalized. Please share any design ideas you have.
CSP	S77. We support the proposed stand treatments and additional projects that will provide commercial forest products (such as saw logs, poles, and boughs) and generate retained receipts for additional restoration projects both on and off-forest. These projects will contribute to achieving forest plan goals of providing a sustainable level of products for local and regional economies as well as providing jobs. The Oregon Forest Resources Institutes	One of the project purposes is to provide products and local employment. The economic situation is documented at s. 3.16.

	Comment	Response
	reports that economists estimate that each million board feet of timber harvest creates or retains about 11 full-time forest sector jobs. Currently, the forest sector is responsible for one in 20 Oregon jobs, many paying above average wages. These jobs are particularly important in some of the rural communities that surround the Mt. Hood National Forest.	
CSP	S78. CSP supports the use of stewardship contracting to implement resource management projects included in the Goat Mountain Thinning Project. The exchange of goods for services and the retained receipts generated by stewardship contracting are effective tools for accomplishing resource management projects both on and off-forest which in turn support local and regional economies.	The Forest will likely consider a mix of stewardship and traditional contracting methods to accomplish the proposed projects.
ODFW	S79. ODFW supports forest management activities that create diverse landscape conditions which support greater biological diversity of wildlife species and may promote resiliency of their habitats. Variable density thinning with skips and gaps is a proven technique that can be used to move forest stands toward better overall health and individual tree growth goals. When conducting variable density thinning, the creation of forest openings that are large enough to provide benefits to light-dependent species for an extended time period would be most beneficial. Site selection for forest openings should take into account likely understory vegetation growth after thinning, palatability for big game, and habitat suitability for light dependent species. ODFW suggest retaining as many native shrubs and trees where they exist within thinning units. Hardwood species provide valuable habitat for a variety of species including bats, birds, reptiles and amphibians and their prey (invertebrates).	The proposed action includes variable density thinning with skips, gaps, heavy thins and forage openings. The forage openings have been identified for places where palatable species are likely to be released and are large enough in size to allow full light penetration to the ground.
ODFW	S80. Many wildlife species also benefit from management activities that are often considered beneficial to fish, such as stream culvert design and implementation. In some circumstances, culverts can be barriers to wildlife movement. ODFW recommends that culverts include wildlife passage design features.	Several culverts have been identified for replacement because they are barriers. The proposed action includes adding wood to streams where surveys have found it lacking. Skips and stream protection buffers will provide dense areas where mortality would occur to provide snags and down wood.

	Comment	Response
ODFW	S81. Wildlife also benefit from the addition of woody debris into streams. Downed and standing decaying wood of variety of age classes provide important micro-habitat features and can act as refuge for a variety of insects, amphibians, and small mammals. ODFW recommends retaining woody debris and snags of all sizes on the landscape where they exist and to create such habitat elements where they are lacking. Identifying and protecting any wetland, wet meadow, see, or spring habitat will also support wildlife breeding and dispersal, particularly amphibians.	The project includes adding wood to streams (s. 2.2.1.2) and adding snags and down wood elsewhere (s. 2.2.1.5).
ODFW	S82. When carrying out forest management activities, ODFW recommends doing so in a manner that does not result in the unnecessary take of nongame wildlife protected species, in particular those species that are not easily able to move out of the way of machinery (e.g. amphibians and reptiles) (Oregon Administrative Rule, Division 44 provides a list of protected nongame amphibians and reptiles in Oregon). Big game species like deer and elk also need protection from disturbance activities during critical winter months. Elk winter range covers a portion of the proposed project area.	Ground-based yarding equipment would operate on existing skid trails. Seasonal restrictions are included to minimize impact to wintering animals.