



January 27, 2020

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VIA ONLINE PORTAL

RE: QMS Scoping Project

Background

Please consider these comments regarding the Quartzville Middle-Santiam (QMS) project, located about 20 miles northeast of the town of Sweet Home in a project area of just under 90,000 acres. The project is huge, proposing treatment on just under 8,000 acres, roadwork on 275 miles of road work and 32 miles of new road access. Estimated volume is 60 – 80 mmbf.

Cascadia Wildlands is a public interest nonprofit organization with 10,000 members and supporters throughout the Cascadia bioregion. Our mission is to defend and restore Cascadia's wild ecosystems in the forests, in the courts, and in the streets. We envision vast old-growth forests, rivers full of wild salmon, wolves howling in the backcountry, and vibrant communities sustained by the unique landscapes of the Cascadia bioregion.

In a nutshell, we are (pending site-specific development of course) strongly supportive of the transportation-minimization and the proposed treatments of younger, dense plantations. We are very concerned, on the other hand, with the proposed logging of older, native forests on the matrix. Ideally the controversial mature native forest logging can be split out into another project, or dropped altogether, so as to enable the best aspects to move forward in a timely way.

Public input

The scoping notice asks for site-specific recommendations, but the project scheme does not allow for that. Preparation of only an EA, rather than an EIS, leaves little room for site-specific work or alternatives. Being geographically huge, the maps are very wide-angle, not providing site-specific information or lending themselves to site-specific insights. The scoping period occurs during winter, when much of the project area is inaccessible by road. The range of

landscapes and of treatments is also very large and diverse— everything from culvert repairs on fish streams to clearcuts in the back-country to restoration thinning on late-successional reserves. The scale of operations is far too large to enable a close, hard look by nonprofits or local citizens in a timely way.

To remedy this situation, we request that

- an EIS rather than an EA be prepared, and that
- the restoration and timber generation projects be divided.

Short of those steps, additional maps, public field trips and/or open houses, and project information posted on the website would be helpful and appreciated. We have appreciated the pre-scoping public outreach done for this project. Cascadia has a team of citizen volunteers who are active field-checking projects such as this, as we have found this to be the best method to facilitate meaningful participation. Efforts by USFS to facilitate such involvement throughout the project will be appreciated.

Whatever methods you use, it is very important that additional opportunity for site-specific review and comment be provided. We expect the Forest Service will be a willing partner in encouraging active public participation in planning here.

We agree with the comment of Friends of Douglas Fir National Monument regarding site-specific suggestions. First, they have shared several site-specific suggestions and unit-specific ideas, which are all good considerations that we also endorse. Second, we concur that this project is just too big, and too complex, to enable a meaningful site-specific review and comment at this phase, and that an EIS is clearly required for such a huge project.

Purpose & Need

The scoping notice gives three purposes, (1) promoting the local economy by contributing timber products, (2) promoting late-successional conditions in young plantations on LSR, and (3) identifying a minimum road system.

Conflict between purposes

The purposes of contributing timber volume on matrix, and of promoting late-successional conditions on LSR, seem distinct to us, both logically and geographically. Why are these distinct actions in distinct places being planned under a single project?

This project would be greatly improved by focusing only on younger plantations, including in the Matrix. This way the places where timber-generation are pursued can also help fulfill environmental goals, and vice-versa, LSR thinning can help provide volume to mills. Great! As it stands however we have a laudable restoration-oriented plan, but with a thousand acres of 100+ year-old native forest on the matrix targeted for exploitation. Those older stands stick out in this project like a sore thumb, and should be dropped from the project.

An additional, practical reason to cut out the native forest logging is the likely desire to use stewardship contracting on the project. It would be a mistake to tie destructive native forest logging, which is going to be highly controversial, to a source of funding for restoration activities. Cascadia Wildlands tries very very hard to avoid the moral hazard of trading one

place for another, and we would not be willing to forego objections to harmful logging of native forests in order to facilitate stewardship funding. Better to treat each action on its own merits.

Purpose 1: contribute predictable, sustainable supply of forest products to help maintain stability of local and regional economies and markets

The timber industry is not stable, and local economies that rely on it are not either. Please consider the effects of promoting this boom-bust economy and consider implications to more stable economic roles of the forest.

Please clearly disclose the role of Congressional timber targets, and specifically disclose what you are relying on and why. It is not obvious to us how appropriations bills drive the decisions as to how much logging ought to take place on the forest. Nor is it obvious how a timber volume target, even assuming there is one, is or should be related to project planning. Simple reference to out-dated matrix objectives of the NW Forest Plan aren't sufficient.

The scoping description (p.3) says that this project would provide from 60 to 80 mmbf. That is a lot of volume. It is unclear if this volume only includes Matrix logging, or if that figure also includes LSR thinning volume. Please clarify this. Please be precise and clear about where timber volume is being sought, and where it might come from.

The scoping description is erroneous and misleading when it says that "a consistent harvest of timber would also keep fuel loading low in high-risk fire areas." QMS Project Description, p.3. If the intended implication is that the project would mitigate fire hazards of some kind, the best available science suggests exactly the opposite. Heavily harvested landscapes tend to burn more severely. *See e.g.* Bradley, C.M., et al. (2016). Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States? *Ecosphere* 7:1-13; Zald, H.S.J., and C. Dunn. 2018. Severe fire weather and intense forest management increase fire severity in a multi-ownership landscape. *Ecol. Applic.* 28:1068-1080. The efficacy of such an approach is suspect, with low co-occurrence of wildfire and fuels-reduction thinning. Schoennagel, T. et al. 2017. Adapt to wildfire in western North America forests as climate changes. *Proceedings of the National Academy of Sciences*. Adapt to more wildfire in western North American forests as climate changes. PNAS www.pnas.org/cgi/doi/10.1073/pnas.1617464114. Additionally, it gives the misleading and simplistic impression that fire is a uniform evil to be fought against (the equation seems to be: more fuel = more fire; fire = bad; therefore fuel = bad). While that simplistic thinking plays well in Washington D.C. and among politicians seeking cheap points, we know that the truth is a great deal more complicated. *See e.g.* DellaSala, D.A., and C.T. Hanson. 2015. *The ecological importance of mixed-severity fires: nature's phoenix*. Elsevier: Boston. Please correct the scoping description statement.

We very strongly object to the use of fire risk reduction as a sort of marketing exercise, evidently designed to fool politicians who hold the purse strings, or perhaps position a project to win grant funding or legal exceptions, but not really an actual driving purposes that are pursued scientifically by the IDT team. Fire ecology and wildfire risk reduction are serious and sophisticated disciplines, not issues that can be thrown in as an afterthought or as window

dressings. If fire risk reduction is part of the purpose of the project, then say so, and do the hard work to plan the project accordingly.

As to fire purposes, Cascadia Wildlands does support taking actions focused on reducing fire hazard to human lives. While we do not see this area as in great need of fire risk reduction, there being no WUI, generally speaking we do support taking forest management action—including tree cutting—for the purpose of protecting human lives (including the lives of firefighters) from wildfire. This translates to quite limited actions, with logging treatments limited to 1) areas immediately adjacent to homes; 2) ensuring safe evacuation routes; and 3) thinning in very dense plantations.

Purpose 2: improve stand growth, diversity and structure in young, dense plantations in LSR to promote late-successional conditions

We greatly appreciate that you have limited this project actions in LSR to plantations that are densely stocked. Great decision!

It is interesting that the project description notes the effect of “overstocked” stands to increase potential for high severity fire. Description p.4. Please take a hard look at that issue, applying the best science. *See e.g. Zald & Dunn (2018); Bradley et al. (2016); DellaSala & Hanson (2015).*

In addition to the effect of stand conditions on potential for high-severity fire, are the implications of stand conditions on the forest resilience to fires of different severities.

Please explain specifically the effects and implications of “high-severity” fire ecologically. The Cascadia bioregion generally is still in a fire debt, and this needs to be considered. Simply “reducing” the risk of high-severity fire might miss the point, if more high-severity fire would actually be beneficial.

Please pay special attention to forest structure as it relates to proper functioning late-successional forests stands. Old clearcuts that were densely planted with Doug Fir clones could benefit from thinning and perhaps even planting to accelerate structural diversity (canopy layers, down wood & snags, etc.) and a natural mix of tree species.

Please pay special attention to forest tree species. Doug fir may be overrepresented, while species of true fir, pine and cedar are less abundant. Do not neglect hardwoods either. Species like big-leaf Maple, or alder, while often overlooked and of little commercial value, play critical roles in the forest.

As to purpose here, please also tie in issue analysis for fish, wildlife, soil and botanical resources in order to craft the most appropriate purpose statement. For instance, Northern Spotted Owl recovery is very directly linked with this purpose, and so it is necessary to consider directly how forest stand conditions impact that species’ recovery (or, its extinction). Also important are fish species,

Riparian thinning?

The description says riparian reserves in LSR would be treated when needed to achieve ACS objectives. Description, p.4. Yet, the project does not have riparian purpose & need. If you are

considering entering riparian areas, then please incorporate a purpose & need to restore riparian function so that the issue receives the attention it warrants.

Action in riparian areas should be very carefully designed, should specifically weigh the tradeoffs involved, and should grow out of the best available watershed analyses and other scientific information. We have been heartened by the increasing quantity and quality of riparian restoration occurring in our bioregion and would be delighted to see that growing expertise applied here. It would be disappointing if riparian thinning is conducted only opportunistically to get timber volume, where a closer look might reveal other restoration actions as well (e.g. in-stream wood; road obliteration).

Purpose 3: minimum road system

Thank you for including this as a significant project purpose. The over-grown and under-maintained road system here is causing several kinds of damage, and is properly called out as a pressing priority.

It is apparent that there is a huge backlog of deferred maintenance on the 542 miles of road in the project area. Thank you for admitting that the lack of maintenance is contributing to erosion and sediment loading in waterways, and is negatively impacting on fish. Description p.5.

Please take a hard look at effects of road construction in terms of maintenance burden and impacts to deferred maintenance.

Roads that are critical for firefighting could also be evaluated for shaded fuel breaks or road maintenance regimes that mitigate the safety risks to firefighters. Please specifically look at and reveal what roads are “needed for high risk fire areas.” Description p.5. What roads are they? How is that system arrived at? Consideration of emergency planning and cumulative effects will be important for this issue. We strongly encourage proactive and collaborative engagement with other stakeholders on this issue.

For high-risk fire areas, generally it makes a lot more sense to effectively close roads to motorized use, so as to reduce the chances of fire starts. For such roads, please consider methods of closure that would mitigate the risk of human-caused fire ignitions, while still leaving the roads in place for use when necessary by emergency personnel. These roads can also be an amazing asset for dispersed recreation. Closed segments and loops would be ideal for mountain-biking.

Alternatives

The scoping notice asks for alternatives, so we request that you take a hard look and consider a conservation alternative that:

- Limits commercial logging to plantations;
- Does not include clearcutting (aka regeneration harvest);
- Does variable density thinning of young, dense plantations to promote late-successional characteristics;
- Does not construct or reconstruct any new road;

- Does maintain existing roads, repair conditions causing resource damage, and seek out opportunities for road decommissioning and closure;

Matrix Alternatives

The project looks to log about 2,300 acres of matrix, generally located on the southern part of the sale area. The scoping notice says these include both plantations that are 25 – 50 years old, and fire-regenerated stands from 100 to 150 years old.

On matrix, thinning would ideally be compatible both with promoting at least some late-successional characteristics, as well as long-term economic productivity of the stand. This goal should be easily achieved on the plantations proposed for treatment.

Please take a hard look at available alternative methods of harvesting the older, fire-regenerated stands, apparently all over 100 years old. The scoping notice implies that prescriptions have already be drawn up, but please consider whether there are lighter or heavier thinning alternatives, variable density harvest schemes, small gaps, diameter limits or tree species restrictions that might cause less environmental harm. While we would like to see a conservation alternative that steers clear of the native stands, please also evaluate the least-harmful silvicultural methods that could be applied to the fire-regeneration units. We agree with the comments of Friends of Douglas Fir National Monument, urging analysis and consideration of alternative logging prescriptions as to sustainability in a broader sense. It is a useful and appropriate role for the US Forest Service to study different ways of doing business, and to develop improved, gentler logging methods.

LSR Alternatives

The project proposes logging on about 5,600 acres of LSR. All stands are under 80 years old, ranging from 25 – 60, and no shelterwood is being considered in LSR.

Please look at a range of Alternatives as to LSR treatments. There are various ways this could be done. Perhaps this could be done with a more ambitious, and less ambitious alternative in terms of acreage treated. It could make sense to have an alternative limited to places with existing road access, tied in with a no-new-roads alternative. An alternative that considered treating all of the LSR land that is in need of silvicultural intervention would be useful to consider, even if it is not ultimately selected. That this project is also looking at the entire transportation system is a strong argument in favor of also considering silviculture needs for the entire LSR landscape. If all treatments are determined, then we can tell when each road will no longer be needed for administrative access and so can be decommissioned. If any of the LSR landscape is not being evaluated for treatment here, please at minimum explain the rationale for whatever choices were made clearly.

A second way to consider LSR alternatives would be to consider alternative silvicultural approaches— for example to consider heavier or lighter thins; gap creation versus uniform thinning; focusing on particular tree species; or incorporation of prescribed burning.

A third way to approach alternatives in the LSR might be to take a greater and lesser degree of precaution towards things like known owl nest sites, riparian reserves, sensitive soils, and sensitive (e.g. survey & manage, and management indicator) species.

Transportation Alternatives

Coming up with a minimum road system is a major endeavor and we would like to see the Forest Service take it seriously. It is hard to imagine how this can be done for such a big area using only an EA, and alongside a major logging project. An EIS would be warranted.

Site-specific considerations are paramount for generating alternatives. Please consider and disclose each transportation need on the landscape that is now being filled by roads, and evaluate what access alternatives might exist for it.

Please look for and disclose specific locations where road access is required. That analysis necessarily requires looking for any reasonable alternative access methods. Only where there are no other reasonable alternatives should roads be presumed to remain open. Please consider everything else for road closures and decommissioning.

Ecologically it is much better to decommission roads permanently, to demolish them completely, rather than just “close” them to motorized use. While we understand a counter-balance for access needs, please do consider a conservation transportation alternative that maximizes road obliteration and closures.

This is not to say that we necessarily demand every road be decommissioned that can be. Please look for opportunities to close roads seasonally or on periodic basis, leaving them open for non-motorized use. Please consider, with some degree of site-specific analysis, the potential recreational benefits or amenities associated with such road closures, such as cycling routes, picnic areas, berry-picking and other special forest products, or wildlife viewing opportunities. There are many, many beautiful roads in this area that would be a lot of fun to play on if you knew there were no motorized vehicles (and the yahoos and garbage they sometimes carry) coming. Lots of the best views, berry picking, and least-intrusive access to riparian areas, are on legacy logging roads.

Logging Issues

General Silviculture Issues

We are most concerned with proposed logging, including with clear-cut style prescriptions, of fire-regenerated stands that are from 100 to 150 years old. The expected volume from this project, in light of the acreage, implies that very heavy logging of very big trees is expected. Recent years have started to see a return of old-growth logging on federal lands. Please be clear that we do not and will not support commercial exploitation of mature native forests on the Willamette National Forest. The Pioneers had their day already. There seems to be plenty of logging to be done on previously-logged plantations.

Please carefully distinguish between native stands, and previously-logged plantations.

Sometimes even more than “stand age” (which is often a misleading measurement anyway), whether or not a place has been logged or developed previously determines the significance of future actions. In addition to fairly obvious differences between native and non-native forests—such as in soil compaction, forest structure, and invasive species— native forests need to be valued as a hedge against uncertainty. For every thing we know about this forest, there are orders of magnitude more things we don’t know, or can’t measure.

A good, long-term and site-specific understanding of the forest succession history is essential. On “fire-regenerated” stands, please use and disclose the best available information about fire history and fire intensity. As you know, it is very rare that a fire *erases* existing forest stands, leaving nothing at all behind in the forest. Even high-intensity conflagrations tend to leave quite a lot of living biological material— a lot of *forest*— behind.

Economics and Efficiency

We are interested to see information regarding relative economic efficiency of sale units, including on a site-specific basis. Low-volume units that require expensive roads are not the same as high-volume ones that don’t. This issue is especially important to finding the minimum road system, and to evaluating Alternatives in terms of the first purpose & need.

Please include analysis of more recent available socio-economic information about the role of timber volume from federal lands in terms of community prosperity or stability. Times have changed, to put it mildly.

If “stability” of economies and markets is really the goal, then a return to old-growth logging doesn’t get there. We concur with the comment of the Friends of Doug- Fir National Monument, and others, in requesting the Forest Service consider the positive economic and community stability benefits of treating matrix areas more along the lines of the LSR.

Restoration logging & LSRA

Thank you for limited LSR logging to only previously-logged plantations. Great decision!

Ideally, restoration logging can be the best of both worlds, providing volume and profit as well as ecological benefit. We support carefully planned restoration logging. Not every way or everywhere, but logging to put impacted forests back on track is exactly where the Forest Service should be focusing its energy.

The Mid-Willamette LSR Assessment (1998), while a bit old, is being used here as a guide to the desired future condition. Please fully consider that document and the many lessons it holds for this project. Please carefully disclose the basis and assumption used by the agency, which we expect will include quite a lot of more recent science. Where old assumptions are challenged or changed, it is important to say so and explain why. The LSRA itself recommends that it be updated and revised as new conditions and information emerge (LSRA, p.1). It is interesting that no revisions have ever been made. Is that a result of neglect; or does it still reflect current information and conditions? A comparison of the LSRA with the more recent Science Synthesis would be appropriate. Also, the recent BLM management plan changes, which removed huge amount of reserve, has changed the outlook. This concern is magnified even more by the recent D.C. Circuit Court decisions finding that RMP reserves violate the O&C Act.

The LSRA identified the key issues on the Quartzville LSR as being (1) late-succession forest; (2) road density; and (3) connectivity. LSRA, pp.159-60.

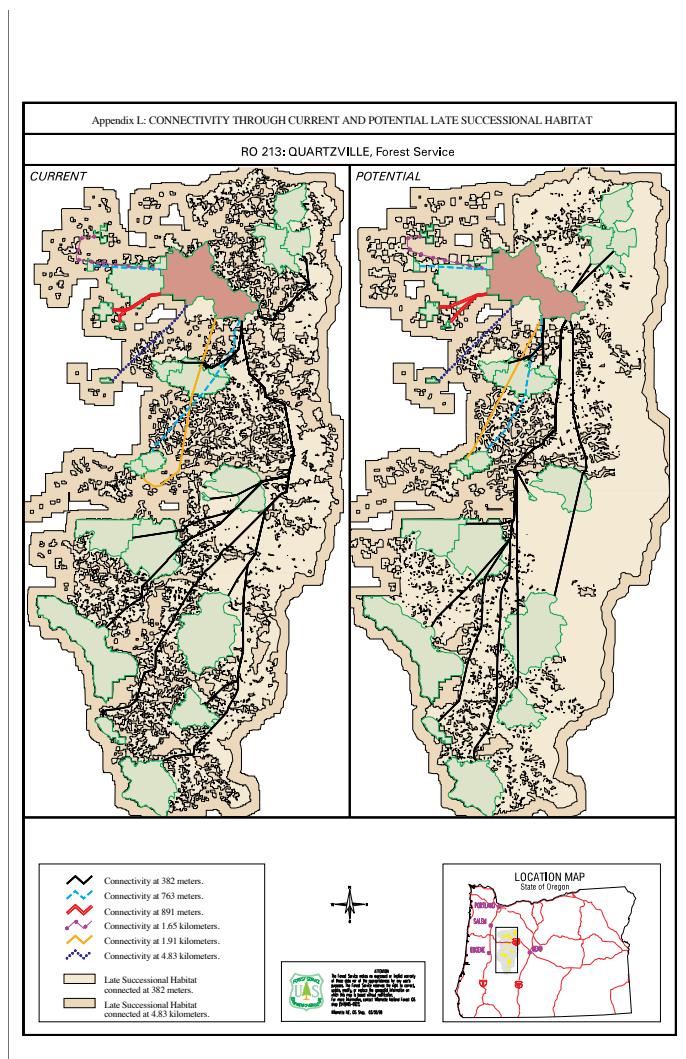
Please be sure to pay attention to **connectivity** especially. The LSRA devotes quite a lot of attention to that issue, reflecting the major assumption of the NW forest plan reserve strategy

that there would be adequate connectivity within and between reserves. The proposed matrix logging appears to be a serious threat to connectivity of the Quartzville LSR with areas to the south. Reserves, including riparian reserves especially, are identified as “exceptionally important as refugia” in the LSRA. LSRA, e.g. pp. 72, 160. The LSRA also identifies private lands to the south as critical for connectivity, so cumulative impact analysis will be central in evaluating that issue. *Id.* (noting that because of the checkerboard, “options for connectivity are limited and federal lands within these watersheds are essential to providing LSR connectivity.”) Also of note, the LSRA is clear and careful about the uncertainty involved with evaluating connectivity. LSRA pp. 67-. Indicator species for the analysis need to be carefully selected. Please consider evaluating connectivity for red tree voles (because they are LSR species, important to owls, themselves imperiled, and information is available and obtainable) as well as one or two aquatic species, perhaps trout and salamander (which can help capture aquatic fish passage through waterways, and more broadly connectivity through riparian areas for a variety of slow-moving species.)

See, for example, this map from the LSRA, which suggests this project would be significantly harmful to connectivity priorities. Please consider that aspect of the LSRA analysis, updating it with more-recent analyses and science.

The LSRA analysis of forest structure and vegetation communities is interesting and helpful, but there is a need for a more modern, up-to-date analysis. Simple ranges of trees-per-acre, and average numbers for coarse-woody debris, are helpful but not sufficient. The vegetation model the LSRA used was not field verified, and the natural diversity among and within stands limits the utility of coarse-grained analysis anyway. See e.g. LSRA, p.29 (noting challenge for measuring and prescribing CWD levels, and need to provide variability over time).

The LSRA analysis on fire surely could be updated. This project seems to fall in what is termed the Northeast fire zone, where stand-replacing or low-intensity fires are expected infrequently, every 80 to 200 years. LSRA, p.160.



Interior forest is an important ecological value, and that should be considered here. The LSRA found that a key issue, in light of huge increases in interior forest habitat in the modern era. LSRA pp. 54 – 60. Opportunities for growing interior habitat with road closures should be pursued. Negative effects of logging or roading on interior forest should be revealed and considered. As the LSRA notes, assessing quality of interior habitat requires considering both raw amounts and proportions of such habitat, and requires robust cumulative effects analysis. LSRA p.53. The LSRA notes that, while Quartzville ranks well among LSRs for interior habitat, recovery there is uncertain so “caution” should be used in designing logging adjacent to existing late-successional forest.

The LSRA includes a relative values scheme for LSRs that should be considered here. The relative importance of road density, interior forest, etc. are scored in a way that allows some rational prioritization. Along with other information, that scheme should be considered.

Matrix objectives

The forest plan objectives, standards and guidelines for the matrix are, to put it bluntly, out-of-date. The relative importance of ecological values from forests, especially older fire-regenerated forests such as targeted here, has increased hugely as compared with their value as a commodity in the local economy. We urge you to consider and take to heart the comments submitted by Oregon Wild, which discuss much of the new information requiring modification of matrix objectives, including regarding Barred owls, spotted owl dispersal habitat, carbon storage and climate change, dead wood, complex early-seral forest types, fire hazard, hydrologic effects, Pacific Fisher, and major changes to the local economy.

Wildlife & Wildland Issues

General

Please take a hard look at environmental implications of this action as it relates to specific species (e.g. spotted owl) as well as habitat more generally (e.g. late-successional interior forest). There are lots of different ways the analysis can be done. We know that the Forest Service staff have the expertise to develop a system for evaluating project effects on wildlife, so rather than insist on a specific method, we’d like to instead insist that project effects to wildlife and wildlife habitat be given high priority for analysis. Especially if the native forest logging on matrix is part of this project, then giving wildlife an adequately hard look will surely require a full EIS.

Northern Spotted Owl

We are growing increasingly concerned for the fate of the Northern Spotted Owl. The Quartzville LSR has 23 pairs of nesting owls, and 3 single occupied sites in 1994. LSRA p. 87. How are they doing now? Please take a hard look at known owl sites, and illustrate that information in a useable manner in the NEPA document.

Critical habitat for the owl, especially in the LSR, is an “important consideration” for this project. LSRA p.87.

Please specifically address owl-related surveys, including (1) owl nest presence/absence surveys, (2) habitat surveys (e.g. RA32 habitat), and (3) associated species (e.g. prey like voles, flying squirrels). We are interested to ensure the high-quality surveys are completed in a timely way.

Please consider the latest available scientific evidence, including the still-pending USFWS decision to uplist the owl. Two areas where the latest science is important are (1) information about the status of the owl as an imperiled species (e.g. population level; habitat trends; barred owl), and (2) studies suggesting better and worse owl habitat as a result of logging (e.g. studies regarding effect of canopy closure on quality of owl habitat).

Red Tree Vole

Please take a hard look at potential effects on the Red Tree Vole. We are especially interested in this critter because not only does it warrant concern in its own right (ie. the Survey & Manage requirements), but because it is a useful indicator of habitat connectivity, as well as prey for NSO.

Grey Wolf

What potential effects does this project have on grey wolf? This area is clearly within the historic range of wolves, and nearby areas have seen recent comeback of this majestic top predator. Wolves are hugely important to the ecosystem as a top predator. We support actions that are consistent with long-term wolf recovery and restoration of long-missing predator-prey dynamics. Pending any discovered den sites, the most obvious and direct impact of this project to wolf may be the transportation system. Current high road densities could well hamper wolf recovery.

Pacific Fisher

Please take a look at potential impacts to Pacific Fisher. Analysis of effects to fisher can also be a useful way to look at down woody debris and snags, an issue that is particularly relevant on the proposed thinning units in LSR and riparian reserves. Evaluating long-term sources of coarse woody debris could reveal some of the tradeoffs involved with thinning, and help to arrive at an optimal thinning intensity.

Sensitive Plants, lichens, fungi, moss, etc.

We value very highly site-specific surveys and consideration of the multitude of underappreciated, generally non-commercial, sensitive species of living thing. The bugs, snails, mosses, and mushrooms are valued members of our Cascadia community, too.

Make sure that appropriate surveys have been done—not just the *minimum required* surveys, but the surveys that are adequate and appropriate to the project. There are many species for example on the survey & manage list, for example, where surveys are not required but where protection of known sites is. Please specifically identify all such species. If surveys are not done, please explain why they are not done. Our team of field-checkers is growing and would be keen to help the agency find and identify such species on the land. As has been shown with red tree voles, for example, when the agency actually makes use of information to protect critters, citizens are anxious to help gather it.

The LSRA identifies several sensitive plants in this LSR: mountain moonwort, fir clubmoss, common adder's tongue, Thompson's mistmaiden, and Scheuchzeria clubmoss. Please consider these and other sensitive plants specifically.

Lichens as well should be considered. Some rare, old-growth associated lichens exist in this area, and older native stands tend to be where they are found. See LSRA III-12, p.101. These rare lichens are especially sensitive to microclimate effects, such as caused by roads and thinning, so please guard against that. What survey methods are available and used for surveying lichens on this project? There were several lichens on the survey & manage list that are known to occur in this area back when the LSRA was written, so we hope that even better information can be used today.

Mosses some of which are on the survey & manage list, also warrant consideration. Sort of like lichens, mosses can be sensitive to micro-climate, and be found in very specific areas (e.g. shaded rocks by streams, rotting hardwood logs).

Fungi also warrant a hard look here, especially as it relates to restoration in the LSR, and to avoiding significant negative impacts on the matrix. Two S&M fungi species were known to be in the Quartzville LSR in the LSRA. LSRA, p.103. Groundbreaking new information has been becoming available about the role and importance of mycorrhizal systems to trees in the forest, and we expect to see the best-available information applied here.

Fish & Aquatic species

Particularly as riparian logging is proposed, please take a hard look at watershed health as a significant issue. The applicable watershed analyses should serve as a starting point for analysis, and also help to direct the prioritization decisions. Sedimentation from roads, and deficiencies in in-stream debris, are obvious considerations.

Please disclose the presence or absence of fish in all area streams and rivers. Good maps will be important and helpful. Please don't neglect any wild fish, even though ESA-listed species obviously will take highest priority.

Please take special care with regard to riparian-associated sensitive species. Frogs and salamanders and snails and rare mosses and the like are strongly associated with riparian areas, and site-specific surveys and analysis are important to mitigating harm to them. These site-specific considerations are doubly important where restoration riparian thinning is proposed.

Please evaluate the potential low flow effect on the landscape. There are two distinct ways the Perry & Jones (2017) study and its implications should be applied. First, negative impacts to water flow can follow from regeneration logging. Increased peak flow, as well as reduced low flow, are negative consequences of dense tree plantation forestry that should be avoided.

Second, the legacy of logging suggests that area streams may currently be suffering from reduced low flows. Please evaluate the best information to determine whether or not area watersheds and subwatersheds are, or could be, at reduced lower low flows.

Transportation Issues

Rationalizing legacy logging road system is a high priority

The LSRA found road densities in this area are “very high” and “extremely adverse.” LSRA p.61. “Much restoration” of roads is needed in the LSR. LSRA p.62. Site-specific considerations are key, as some sites are heavily impacted by roads. *Id.* We are very happy to see this aspect of the project going forward.

LSR connectivity and Interior Habitat

Please consider the transportation system as it relates to the connectivity of habitat, in particular connectivity within and between reserves. Also, in a similar way, take a look at the road system as it impacts on interior forest habitat (current and potential). We expect there will be opportunities for road decommissioning that would enhance connectivity, and grow the amount of interior habitat over time. There may even be opportunities to grow functional roadless areas and enhance Wilderness values adjacent to Wilderness.

Hydrologic connectivity

Please specifically consider hydrologic connectivity of roads with streams. Roads that are connected with streams where sedimentation causes harm to fish and aquatic species can and should be identified particularly.

Road Maintenance Backlog

We are interested to see how you seek to apply the 2015 Road Investment Strategy. Please take a hard look at your approach, and provide a clear disclosure and explanation for the public. This is another issue for which an EIS seems warranted, as it involves fairly complex and detailed information.

Road closure methods

There are important considerations at the site-specific and project level for roads that need to be considered in this NEPA document. Methods of closure, for example, have very different effects from one another—obliteration is different from putting up a simple gate. Who is going to accomplish decommissioning, and when, are also important considerations, especially in this context of a major timber sale. We have some concern based on past experience (witness the maintenance backlog) that the promised mitigations to the transportation system might never actually be accomplished, and that long-term maintenance needs will be created without a reasonable expectation they can be filled.

Recreation Issues

There is significant recreational use, and recreational potential, in this area. There are enough recreation issues involved in this project, and significant impacts are likely enough, that recreation ought to be a significant, alternative-generating issue in a full EIS. Potentially recreational opportunities and access should be included in the purpose and need, even though other issues may take priority or demand more attention.

Among other benefits, the recreation issue is a good way to help involve the general public in better understanding land management. Recreation areas are familiar to people and give a useful perspective that isn't addressed by purely ecological, scientific analysis.

The LSRA, decades ago, noted the recreational corridor in Quartzville, with 10 trails in the LSR, a back-country scenic byway, recreational mining, and a National Wild & Scenic River. Our members and supporters use and enjoy these places and more.

Please consider potential effects to recreation use at the known recreation areas (e.g. by evaluating viewsheds and recreation-opportunities), also considering dispersed recreation. Units with trails or valuable recreational features should be dropped, unless the treatment is consistent or beneficial to the recreational use.

Please provide the best available numbers regarding recreational uses and trends. How used are the trails? How much hunting occurs in these places? Fishing? Are campgrounds full? Are dispersed recreation opportunities available, being taken advantage of, and/or causing resource damage? Where at?

Please consider the site-specific recreational values of roads as part of minimum road system determination. We support providing ample non-motorized public access to recreation sites, including dispersed recreation.

Part of the value of recreation here is economic, and that needs to be considered alongside timber production as having a role for community stability. A shift away from commodity timber generation, and towards a recreation and quality-of-life economy, is evident in this area. That means that the recreation amenities here are playing an increasing role in the local economy, and that negative (or positive) impacts to them have correspondingly increased significance.

Fire Issues

Wildfire hazard, if it is called out as a specific issue for this project, should be considered foremost with regard to direct threat to human life and safety.

Wildfire has very important ecological roles to the forest ecosystem as well, of course, but those are better considered in the overall context of ecosystem health and function, and should probably not be driving this project. We are very concerned with persistent, misguided attempts to rationalize backcountry logging as a method of "fighting fire" in a generalized way. It is dangerous to try to plan logging for such a vague purpose, because it gives voice to two powerful and persistent biases: the notion that if we cut out fire-wood, there will be less wildfire, or less smoke; and the simplistic view that less fire is necessarily a good thing.

Please apply the best available science as to the ecological implications of fire on this landscape, as it relates to the effects of proposed actions. This landscape is generally in a low-frequency, high-intensity fire zone, which is very very different from the high-frequency, low-intensity fire zones in drier forests. As explained above regarding purpose & need, we are concerned that this project seems to have bought-in to a simplistic, old-fashioned view that

treats forests as firewood and fires as catastrophes. We have every confidence that USFS staff can pull together the best-available science and plan this project around it.

Motorized use of roads entails increased risk of human-started fires. That should be considered when evaluating the minimum road system. The transportation system, and in particular recreational sites along it, could be usefully looked at in terms of fire ignition risk and fire ignition risk avoidance. Particularly problematic areas (e.g. unofficial campfire rings in dense plantations on windy ridges) could be targeted for closure or decommissioning. Conversely, dispersed recreation opportunities could be directed towards locations with less risk.

Climate Change

Climate change is a pressing concern that was not seriously addressed in the Forest Plan. The days have passed where this issue can be dismissed as too controversial, or too difficult to meaningfully consider. Climate change will have to be incorporated into all of the environmental issue analysis, as it is directly relevant to the existing condition and predicted impacts of proposed actions. Ecosystem conservation today necessarily implies consideration for resiliency to climate chaos.

In addition, we encourage analysis of project implications for carbon storage in the forest. There are tradeoffs involved when forests are logged in different ways that can be objectively measured and compared. We know that the Willamette National Forest has incredible untapped potential for carbon storage and climate mitigation. Please make use of this project to move that conversation forward and provide a meaningful choice between alternatives.

Soil

Please take care to map and avoid any particularly sensitive soils, such as mycorrhizal mats in native forests that are sensitive to compaction, and steep slopes that are prone to landslides.

Thank you for thoughtfully considering these comments.

Sincerely,



Gabriel Scott
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